

The M. A. C. RECORD.

MICHIGAN STATE AGRICULTURAL COLLEGE.

VOL. 15.

LANSING, MICHIGAN, TUESDAY, FEBRUARY 15, 1910.

No. 20.

'VARSITY WINS BOTH GAMES.

The basketball team made the trip to Armour Institute and Lake Forest Friday and Saturday of last week and took the scalps of both these fast teams.

Armour was defeated Friday night 26 to 11 in a comparatively easy game, good team work and fine guarding winning for the team. On Saturday evening Lake Forest University was played on their floor and were finally defeated 14 to 13 in a sensational game. Lake Forest led until the middle of the second half, at one time having the score 7 to 0 in their favor. A fine rally in the second half, however, won the victory for our team. The team had a fine trip and were well received at both places. Saturday forenoon a visit was made to the Union stock yards and the packing plants of Swift and Co. and Libby, McNeil and Libby, while the afternoon was spent in enjoying the "Man of the Hour" at McVicar's theatre.

LINE UP.

ARMOUR.	M. A. C.
Vynne.....	l. f.Busch
Hamilton.....	r. f.Barnett
Cheney.....	c.Campbell
Simpson.....	l. g.Chamberlin
Neufeld.....	r. g.Hanish

Baskets—Busch 3, Barnett 3, Campbell 3, Chamberlin 2, Cheney 1, Hamilton 4. Score, first half, M. A. C. 12, Armour 3; final, M. A. C. 26, Armour 11.

LAKE FOREST.	M. A. C.
Thomas.....	l. f.Busch
Dunsmore.....	r. f.Barnett
Mather.....	c.Duthie
West.....	l. g.Chamberlin
Osborne.....	r. g.Hanish

Baskets—Busch 2, Barnett 1, Hanish 2, Thomas 2, Mather 2, West 1. Score, first half, Lake Forest 7, M. A. C. 6; final, M. A. C. 14, Lake Forest 13.

THE POULTRY SHOW.

The second annual poultry show has come and gone. It passes into history as one of the educational movements of the year and will be remembered as the first regular exhibition ever held in the pavilion of the New Agricultural Building. It was a success for both its exhibit and instruction, much of which is credited to the city of Lansing.

The entire list of entries numbered forty-nine with about three hundred chickens, ducks and geese. The classes of white Leghorns and black Orpingtons were particularly strong with a fair quality of barred Plymouth Rocks and a few fine black Langshangs. There was also an excellent variety of Wyandottes.

Visitors were constantly coming in during the entire three days, and Mr. J. W. Mulnix, of Toledo, who did the awarding of prizes, was kept busy answering questions. As a judge of poultry there is none better in the country, and both visitors and exhibitors were very well satis-



Top Row—Spencer, Campbell, Chamberlain.
Bottom Row—McKenna, Hanish, Busch, Barnett.

fied with the way he gave the firsts, seconds and thirds. There were no cash prizes offered, but the first, second and third qualities were designated by colored ribbons.

HORTICULTURAL CLUB.

The Horticultural club was addressed Wednesday evening by Dr. D. M. Nottingham, formerly a successful practitioner of Lansing, but now a very successful fruit grower of Grand Junction, Colo. He took as his subject, "Fruit Growing on the Pacific Slope," speaking in particular of the Grand Valley, Colo., located 400 miles southwest of Denver. The valley consists of 100,000 acres, with 20,000 under irrigation. The remainder is rapidly being irrigated and when completed will cost the government between three and four million dollars. The elevation is about 43,000 ft. above sea level. The soil is a good sandy loam, very easily cultivated, for the most part.

The apple, pear and peach are grown, together with the cherry and other small fruits. The principal varieties of apples are the Jonathan, Winesap, Rome Beauty, Gano and Arkansas Black. Among pears, the Kieffer and Bartletts are the standards.

Their methods of handling the orchards are of the very best. They get the land in perfect condition before setting out the trees. Good drainage is secured. The land is cultivated as soon after irrigation as possible so as to preserve the soil moisture. The trees are

headed low and are pruned each year. The water sprouts are allowed to grow, being cut back a little so as to cause them to branch. In a few years they will come into bearing. This gives new wood in the center of the tree and permits the older, dormant outside branches to be cut away.

They practice heating their orchards in the spring to save them from late frosts. The smudge pots which are used are of various styles, but usually one holding about a gallon is used. It requires about seventy of this size per acre. Dr. Nottingham has a 3000 gallon concrete cistern in the center of his orchard which he keeps filled with crude petroleum. Whenever the temperature runs too low, the smudge pots are filled and lighted, thus saving several thousand dollars in the apple crop.

The fruit goes almost entirely to eastern markets. The past season it brought from \$1.70 to \$2.25 per box.

Winter banana apples were served to the club and visitors with a history and description by Mr. G. C. Wagner. The club adjourned by giving Dr. Nottingham a rising vote of thanks.

'06

R. C. Potts, '06, is head of the dairy department of the Agricultural and Mechanical College at Stillwater, Okla. There are about 40 students taking the regular and 14 short course men. That department will soon have a new barn and dairy herd. The barn will be erected at a cost of \$10,000.

ALUMNI

'90

Mr. Howard Hall, '90, Assistant Professor of English in Leland Stanford Junior University contemplates spending his sabbatical year in Europe. He will visit with friends of the college en route about the middle of May.

'04.

A. R. Alger, '04, is in the civil engineering department of the University of Illinois. He writes that he is enjoying his just share of happiness and prosperity and that he often hears the names of "Sam" Hadden and L. A. Waterbury mentioned among the men with whom he works.

'06.

George P. Boomsliiter, '06, is with the department of theoretical and applied mechanics at the University of Illinois at Champaign.

'07.

"It affords me great pleasure to send you the name of a young man who may be interested in M. A. C. I think he would like to enroll with the class of '32. This prospective student, Francis Edwin Robson, came to our home with Santa Claus on Christmas eve."—Earl P. Robson, '07, Morkesan, Wis.

With '07.

B. B. Lumbard, with '07, may be addressed at San Pedro, Isle of Pines, Cuba.

Civil '08.

W. W. Hitchcock, '08, civil, is now with the Illinois Central R. R. and has been assigned to the construction work in New Orleans, La. His address is 848 Carondelet St. He is inspector of building on one of four large freight houses which are being constructed by the railroad company. Such structures in New Orleans seem to be designed on very generous lines. One of the Illinois Central freight sheds is nearly a mile long.

G. H. McVannell, '08, civil, who has been engaged in platting and civil engineering work in Flint since graduation, has abandoned that work and on February first entered the firm of MacKichan & Co., general contractors, as a partner. He will continue to reside in Flint.

'08.

E. S. Martin, '08, is still engaged with C. A. P. Turner, of Minneapolis, contractor and engineer, and inventor of the Turner system of re-enforced concrete. For the past six months Mr. Martin has directed a company of engineering contracting for his firm in Kansas City, Memphis, New Orleans, and other southwestern cities. His duties include finding out where construction work is completed, followed by designing, estimating and bidding on the buildings. He speaks of his employment, and particularly the business experience connected with it, as being most enjoyable.

THE BIG GAME

NOTRE DAME, 7:30 THURS. EVENING

On account of Notre Dame being obliged to come here Thursday instead of Friday, there will be no preliminaries, and the big game will be called at 7:30, sharp.

The M. A. C. RECORD

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CHAS. HENLEY, MANAGING EDITOR

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TUESDAY, FEB. 15, 1910.

PRACTICAL FORESTRY WORK ALL THE TIME.

The fifteen present juniors, who have had the summer term work in forestry, have been accepted for work on the national forests in Wyoming, Montana and Idaho. They will report for duty July 1st. This work will consist of running boundary lines, timber estimating and mapping, with practical fire fighting and camp duty. The men will return when college opens in the fall to take up the regular forestry work.

The present sophomores will take up the work of the summer term as set forth in the catalogue. After the work has been completed places have been secured for those who desire in local lumber camps and yards.

Some of the present freshmen will report for duty with a tree expert company in Ohio July first for three months practical work along the lines of tree surgery and tree planting. These men will cover a large territory in a short time, as the work extends over Ohio, Ind., Illinois, and as far east as Massachusetts. More men are needed along this line of work, but only those will be accepted who have college records above the average. Applications should be made to the Forestry Department.

THE PROFESSION OF ENGINEERING.

Abstract from an address by Prof. G. F. Swain, Harvard University, before Section D of the American Association for the Advancement of Science, Boston, Dec. 29, 1909.

(Continued from last week.)

Notwithstanding all these differentiations, even the field of the civil engineer keeps on increasing in scope. Coasts have to be protected from the sea, swamp and marsh lands reclaimed, large areas irrigated by artificial means, requiring the construction of great dams, the storing of immense quantities of water and the distribution of that water by means of canals into the uplands. Problems of urban transportation present themselves and must be solved by the construction of subways and tunnels, great railroad terminals have to be provided, and skyscrapers constructed.

Also, the development of electrical power, and the increasing scarcity and waste of fuel, has increased enormously the importance and value of water powers. The question of the discharge of rivers, the means of increasing it, storing it so as to make it more regular from

month to month, thus avoiding the damage due to floods, and increasing the power during dry seasons, the construction of dams and of the various works incident to the development of water powers, all these together with other problems now constitute a separate field, that of the hydraulic engineer. Water, at once the most valuable and necessary of the gifts of nature, and at the same time an enemy to be dreaded and feared, must be controlled and governed, so that communities may be supplied adequately with this necessity of life and the power generated by the rivers turned to the service of man. The laws of water flowing in conduits, through pipes and in open channels, must be studied and experimented upon, and the science of the laws of water—hydraulics—is steadily increasing in value and in importance.

But the field of the engineer is not yet exhausted. The increase in transportation by sea, the use of steel for ships, and the ever-increasing size of vessels, led to the profession of the naval architect, itself a large field, dealing with the applications of steel and other materials to the construction of vessels, and the proper equipment of these vessels. The naval architect builds the vessel, the marine engineer equips them with machinery and provides them with ventilating and other apparatus necessary to fit them for their use.

Finally, investigations in the various fields of applied chemistry, as for instance in the production of gas, in the manufacture of rubber, soap, glue and other materials too numerous to mention, have led in recent years to the formation of still another branch of the profession, namely, that of the chemical engineer, who deals with the applications of chemistry to the useful arts. To even enumerate the application of this science would tax your patience.

It will be evident from the foregoing brief review, that the field of engineering is more extensive than that of any of the three so-called learned professions, and that the different branches of the profession differ from each to such an extent as in some cases to have little in common, except a knowledge of the general principles of physics, chemistry, mechanics and other sciences. The profession of the physician, it is true, is divided into many specialties, but while the throat specialists deals with the throat, and the stomach specialist with the stomach, they are all dealing with the human body, in which all the parts and functions are closely interconnected; but even within the field of what is termed civil engineering, the railroad engineer and irrigation engineer, or the railroad engineer and the architectural engineer, have little in common. Assuredly Tredgold was right when he said that the bounds of the profession are unlimited.

The work of the engineer as applied to any contemplated project consists essentially of four parts: first, to ascertain whether anything should be done, and if so, what should be done; second, to design and formulate the means to be employed in doing it; third, to select the proper materials; and, fourth, to carry on the actual work into execution. As the engineer's problem is to adapt the materials, the forces, the sources of power in nature to the use and convenience of man, it is clear that in order to fill his call-

ing to the highest extent, the engineer should be scientifically trained, and he should be familiar with the fundamental principles which govern natural phenomena. Different branches of science are required in varying degrees in the different branches of profession, but every engineer should know, and know thoroughly, the fundamentals of chemistry, physics, mathematics and mechanics. The engineer should be possessed of the true scientific spirit, loving the study of science for its own sake as well as for its applications and trained to seek the truth, the whole truth and nothing but the truth. But the work of the engineer deals not with science for its own sake, but with its applications to the practical affairs of men. The engineer must, therefore, be above all, a *practical man*. He must not be a pure theorist, a dreamer, a visionary. He must see in his mathematical formulae a meaning, and not a simple accumulation of letters. The engineer, then, must not only be a scientific man, but he must be first and foremost a practical man. And on the whole, the latter is more important than the former, although it is in the proper combination of the two that the greatest excellence will result.

The engineer, unlike the true scientist or mathematician, does not work in his laboratory or his study; his work is with the affairs of men. Engineering is more than half business, and the successful engineer, therefore, must be to a considerable extent a business man and a financier. As already remarked, the most important problem, and the first he has to solve, is whether anything should be done in a given case, and if so, what? The engineer must not build a fine bridge with costly peculiarities, difficult to execute, for the sake of having a monument behind him. He must continually remember that engineering is not simply adapting the forces of nature to the use of man, but that it is adapting them economically and properly. More important than the question *how* a bridge shall be built is the question *whether* it shall be built. More important than the question how a railroad shall be located is the question whether it shall be located and where it shall be located. The decision of these questions requires financial and business ability of a high order, combined with a clear insight into the practical relations of things. The railroad engineer must study the manufacturing and economic conditions affecting a country through which a proposed railroad is to pass; he must consider the traffic on existing roads through that country, the relative importance of the cities, whether there is a possibility of increasing the agricultural or manufacturing product, whether the road should run in a comparatively straight line between two large towns or whether it should be diverted a number of miles in order to tap a smaller town, or whether that smaller town should be reached by a branch from the main line; and many similar questions. It is clear that Tredgold's definition is faulty because it does not emphasize economy.

It is also evident that the engineer should have the large view. He has the opportunity to waste the money of his employers. The engineer who concentrates his whole attention on details of con-

struction may be a good subordinate—and even good subordinates are rare—but he will lack the essentials of the highest success.

Even after the construction of works is entered upon, the duties of the engineer will largely relate to business. He draws up the contracts for the work, estimates each month how much has been completed, certifies payments to the contractor, settles disputes and in general attends to all the business, except legal matters, connected with the carrying out of the enterprise. He must be an organizer, and must know how large a force is necessary to superintend the work, and how to dispose it to the best advantage and with the greatest economy. It is evident, also, and this is extremely important, that the engineer must be a student of men—not a recluse, but a man among men; and upon his social qualities, upon his ability to get on tactfully with other men and his power of impressing his ideas upon others, will his success largely depend.

One of the most important functions of the engineer is to be able to determine the proper materials to use in his work, to know how to obtain them, and to know how to assure himself that he has obtained them. This function includes a wide range of scientific and practical knowledge. He must not only know the mechanical, chemical and physical properties of materials, such as building stones, timber, steel, iron, cement, paint, asphalt, etc., but he must know what particular material is best adapted to the particular work he has to do, and how to test it and so make sure that the desired qualities are obtained. Probably more engineering failures have been due to faults of material than to any other defect, although it is a common mistake of students to suppose that the work of the engineer is largely the designing of works by the use of mathematical formulae.

It is evident from the foregoing that not only is the profession of the engineer a wide and varied one, but that it requires varied qualifications, and demands pre-eminently an all-round man. It must not be forgotten, however, that without the scientific training, or at least the scientific spirit, the engineer will not attain the highest success. It is also evident that the thoroughly trained and capable engineer will find many opportunities to make himself useful in scientific as well as in administrative positions. He will also find many opportunities for doing general public service to the state or nation. Different men have different ideals of success, but the highest ideal is the one which most involves the idea of public service. We have heard a great deal about our natural resources and, indeed, we, in this land have been favored in an exceptional degree. We have already done much toward the development of these resources. Our industrial progress in the last one hundred years has been unexampled. But with this great development has gone great waste and extravagance.

(To be continued.)

'01.

Mr. Arthur Dodge, '01, is in the sales department of the Fairbanks Morse Co., of New York City. He will probably be a candidate for an advance degree the coming commencement.

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ABOUT THE CAMPUS

NOTICE.—Student pay day today.

Mr. Chas. Deere, state cheese inspector, will be instructor in the practical work of the cheese course beginning today.

The Central Michigan Poultry Association held its annual meeting here last Thursday evening. The proceedings of the meeting were not open for publication.

The short course creamery men expressed their high appreciation of the work of Instructor W. B. Liv-
erance by presenting him with a fine gold ring, bearing the emblem of the Knights Templar.

The Ionian Literary society had a very interesting meeting Saturday night. Roll call was responded to by giving one of Lincoln's stories. Mr. Spencer talked about "The Origin and customs of St. Valentine's Day." Mr. Myers read a criticism of Mr. Lincoln's character, which was very instructive. A violin solo was rendered by Mr. Bemis. Mr. Ketchum told a story of the rivalry of Lincoln and Douglas. It was about the race for the office of U. S. senator as related in "The Crisis." The program closed with the "Gettysburg Address" by Mr. Kay. Mr. Johnson combined much sound advice with pleasant humor in his critic's report. Several friends of the members were present, and a pleasant hour was spent after the meeting in telling stories and listening to music by Mr. Gardner and Mr. Spencer.

Mr. Simon Hagadorn will stay over another week and teach the boys starter making.

Georgia Stewart is making a short stay with M. A. C. friends. She soon expects to go to Chicago.

Miss Gilchrist royally entertained the Sororians, their guests and old girls who were back for the party Saturday.

Mae Walker who was a special at M. A. C. from '07-'09, is now attending the Normal at Mt. Pleasant. She visited college friends over the week end.

In the Interclass basketball series the freshmen defeated the seniors and the sophomores, the sub-freshmen, the Juniors still lead in the percentage while the Seniors and Sophomores are tied for second.

NOTICE.

The bulletin clerk is very anxious to have a complete file of all experiment station publications of this college for the bulletin room. The following are missing: Board reports for the years 1861, 1864, 1883, 1886, 1894 and 1899; regular bulletins, Nos. 17, 18, 19, 20, 21, 94, 95, 145, 166 and 167; special bulletins, Nos. 1, 3, 6, 7, 12, 19 and 38.

Any person who can supply one or more of the above, will confer a great favor by notifying Secretary A. M. Brown, East Lansing, Mich., who can then make arrangements for their shipment to the college.

HOW STUDENTS BOARD AT M. A. C.

Everybody who has been connected with the college in recent years knows how students live. But for the benefit of those who knew M. A. C. while it was yet in the woods and when it was an insignificant cluster of ordinary brick houses and trees separated from civilization each spring by a body of water which after a while went off down the Cedar river—for the benefit of these we shall attempt to describe the manner in which our students are now fed.

During the short course there were nearly fifteen hundred students enrolled, but, like any other college of its kind, any student is permitted to room and board where he chooses. As a result of this, the city of East Lansing is making a growth about proportionate to that of the College.

During the present term the boarding clubs that are located on the campus, are feeding eight hundred twenty-one students. Club D, which is the largest, is now accommodating three hundred thirty-eight men. This club is located in the basement of Wells' Hall. Its steward is appointed by the President, which makes it free from class legislation and is run for the purpose of reducing the cost of board. Last term the cost averaged \$2.24 per week. The Women's Club was the only other one that was run at a less cost, that being \$2.16 per week, while the next lowest cost was maintained at Club "G,"

which averaged \$2.72 per week. The most expensive board was had at Club "B," that being \$3.15. That rate was partially accounted for by the absence of the steward at the commencement of the term.

All of these clubs serve meals promptly at 6:30 a. m., 12:00 m., and 6:00 p. m.

Each club has one cook and several helpers. In the boys' clubs waiters are selected from among the students and receive their board as compensation. One waiter waits upon 25 to 40 persons. Opportunities for students to work for their board is seldom ever open to first year men, as the older ones have always spoken for a place ahead. With the girls it is all different. The girls take turns in waiting on table and receive instructions as a part of their education.

These clubs consume about 14 bushels of potatoes each day, and, collectively, pay a meat bill averaging \$2,000 per month. The club purchasing agent has his office and ware rooms in the basement of College Hall. He uses the utmost care in buying so as to get the best prices.

Miss Martha Van Rensselaer, of Cornell University, the supervisor of the Farm Wives' Reading Course, is to be one of the speakers of the women's congress of the round-up institute. Her address on Wednesday afternoon will be "Woman's Share in Agriculture." On Thursday afternoon she will speak on "Education for Girls."

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CORN GROWERS HERE.

The first of the one-week courses began yesterday, with an enrollment of 24 the first day. The enrollment will probably reach 40. Prof. Jeffery, who has charge of this course, has arranged an excellent program for the week. At 8:00 in the morning of each day Mr. J. Davis of Sheridan, Indiana, will address the meetings on the subject of "Growing the Crops." At 9 o'clock Prof. Shoemith, of the department of agronomy, will speak on "Improving the Crop." W. F. Raven, of the extension work, speaks of "Harvesting the Crop" at 10:00, and Mr. H. A. Winters, of Wenona, Ill., will lecture on "Corn Judging." The afternoons will be given over to corn judging altogether.

There are a large number of short course men hearing these lectures, besides the regular enrollment.

SORORIAN.

The Sororian Literary Society entertained their friends last Friday evening in the new agricultural building.

After a simple grand march, led by the president Miss Copson and Mr. Bidwell, the remainder of the evening was enjoyed with dancing.

The decorations were carried out in the Sororian red and white.

Much pleasure was added to the evening by Lieut. and Mrs. Holly, and Prof. and Mrs. Eustace acting patrons. Music was furnished by the M. A. C. orchestra.

The following old members were back for the party: Mary Allen, Mae Walker, Georgia Stewart, Matie Hendee, Alice Campbell and Lena Morris.

Georgia Cook entertained her brother, and friends, Miss Slocum and Mr. Cilley over the week end.

FORENSIC-DELPHIC.

The Forensic and Delphic literary societies held a joint meeting Saturday night, Feb. 12th, in the Delphic rooms. The following program was given:

Roll call—Quotations From Lincoln, A. C. Hobart.

Reading—"The Upper Peninsula," Geo. Brault.

Oration—R. A. Goodell.

Music—Ford Edwards.

"Lincoln's Love Affairs"—Edward Smith.

Reading—R. F. Delvin.

Critic's Report—F. L. True.

During the recess which followed cocoa and wafers were served.

Y. M. C. A. NOTES.

The athletic stunts being pulled off each Saturday evening in the pavilion of the new Ag. building are calling out large crowds. Boxing and wrestling were the features last Saturday evening. The main bouts took place when a couple of the members of the sub-faculty donned the mitts and gave each other a few upper cuts in the regions of the sub-maxillary. "Jack" Bowditch and Mr. Leffler were the acting participants. Both demonstrated to the entire satisfaction of the audience and each more or less to the disadvantage of his opponent that he had seen the "pads" before.

Remember the treat we are going to have next Saturday and Sunday evenings, when Dr. Winfield S. Hall, Dean of the Northwestern Medical School, will speak to the men in the armory. These lectures come in place of the regular pavilion stunts on Saturday evening and the union meeting on Sunday evening. He has a vital message for all young men. Every man here should hear him. Remember the dates, Saturday and Sunday, Feb. 19th and 20th, in the armory. All men come.

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