

THE SPECULUM.

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Golf—The Latest Addition to Field Athletics.

The recent introduction into this country of the above popular game has brought numerous inquiries, from those who are especially interested in out-door games, and having been repeatedly asked concerning various features of it, but not being familiar with all of them I addressed some questions to a friend of mine, whom I knew to be well informed upon the sport, in reply to which he wrote me the following interesting description of it, to-wit:

"Golf, though not exactly 'as old as the hills,' can boast a very respectable antiquity. Its origin is unknown, but it is probably an evolution from some game of the description of Hockey (or as it is called in this country 'Shinny'), and in the course of centuries of play has reached its present state of development.

"It appears to have been imported into Scotland from Holland (there is a picture in the National Gallery, London, by Van der Veldt representing the game) and from thence taken to England by the Scottish kings, who were wont to recreate themselves after the toils of government by golfing on Blackheath, which adjoins the park of what was then the palace of Greenwich. And on Blackheath it is played till the present day, the records of that club going back even further than those of the famed 'Royal and Ancient' St. Andrews, though the latter is always regarded as the Mecca of the true golfer.

"The game was important enough in those early days to merit the attention of the Scottish parliament, for we find that the authorities considered that it was seriously interfering with the practice of archery (then looked upon as the main defense of the nation) and should be

'utterly cryit down.' On another occasion the importation of Dutch made golf balls was prohibited as injurious to native industry, while the morals of the country were cared for by an enactment which forbid anyone playing golf on Sunday unless he had been to church in the morning. But golf, like other things, thrives on persecution, and extended its bounds throughout Scotland. It was a long time getting across the border into England, but now from Lands End even as far north as Kirkwall, in the Orkneys, the name of the links is legion. And not only in England, but wherever Scotchmen have penetrated, golf has gone with them. In the last quarter of a century it has flourished in India, in Australia, in Canada, and for the past few years the St. Andrews' Club at Yonkers, N. Y., has perpetuated the name of their great Alma Mater.

"The golf boom appears now to have fairly set in in America, and links without number have been opened. The report of the National Golf Association of the United States to 31st December, 1894, shows an affiliation of 76 clubs, with a membership of 15,000, and this in the first year of existence. There will be found to be much reason in this boom, too, as the game becomes more widely known, for it supplies a greatly felt want, providing as it does healthful, but by no means violent exercise, and such as may be taken by men and women, and old and young. And, at the risk of being considered frivolous, it might be suggested that, so far as the fair sex is concerned, the game affords an opportunity for the display of remarkably becoming costumes. Like all games, the players must begin young to become thoroughly proficient, but the man of middle age, though he will probably never get into the first rank, will al-

ways be able to extract as much amusement as well as exercise from golf, as will more than repay all his cost and trouble.

"A bare description of golf does not appear to make it very interesting. The object of the game is to put a small, hard gutta-percha ball into a series of holes in the ground, at varying distances apart, in the fewest number of strokes. The distances and the position of the holes depend upon the nature and extent of the available ground. There should not be less than 100 yards between them, and from that up to 500 or 600 yards. A full course is eighteen holes, but if space does not admit of that number, then nine holes played twice over will constitute a round. Level or prepared ground is not necessary, except for 20 square yards round each hole (known as the 'putting green'), which should be of as good turf and as well kept as can be. The rest of the course is the better for being rough, and having such natural obstacles as fences, streams, stone walls, sand pits and bushes, all of which are termed generally 'hazards,' and add much to the interest of the game.

"Golf may be played by two or three persons, each having a ball, or by four—two on each side—in which case each side has a ball, the players taking alternate strokes. Of course an indefinite number of players may be on the links at the same time, each party following the other, but not so closely as to interfere with the play or endanger the players, for it must be borne in mind that a golf ball can be driven with great force, and possibly may inflict serious injury. The rules, however, are very explicit on this point, and no harm can result if they are carried out.

"The implements of golf, the clubs, required on an ordinary course are not many. The 'driver,' a club with a wooden head and long shaft, with which the ball can be driven a long distance, is used for the opening shot for each hole, when the player is allowed to 'tee' his ball, that is, put something, such as a little earth, or sand, so as to raise it clear

from the ground and afford a fair stroke. This 'tee' is only allowed for the driving off, and afterwards the ball must be played wherever it lies. The 'cleek,' a club with an iron head, to be used when the distance to be covered is shorter, or where the ground does not admit of the use of a wooden club; the 'lofting iron,' or 'lofter,' when some high obstacle is to be got over or on approaching the hole. The face of this club is much more laid back than that of the cleek, with the result that the ball is lifted high in the air and does not run along the ground when it falls. The 'putter,' either of iron or wood, is used when on or nearly on the 'putting green' in which the hole is placed (see above), and is a club with a short, stiff handle and perfectly straight face. It is with this club that the fine, accurate play of the game is made, and it is in the approach shots with the lofter and on the putting green that the lady's opportunity arrives.

"As a rule want of equal physical strength prevents her competing with men in driving long distances, but she can, and often does, best them in the fine play. There are also a variety of wooden headed clubs shod with brass, commonly known as 'brassies,' such as 'brassie driver,' 'brassie spoon,' 'brassie niblick,' for use when the condition of the course is against the simple wooden club; an iron headed club with a small round face used to extract the ball from a rut or heavy sand, but the four first named clubs will be found sufficient for the ordinary course, and the player can invest in the others as he may find it necessary or convenient.

"Golf need not be an expensive game. There is generally to be found in the immediate neighborhood of American cities sufficient land for the links which can be rented, and no damage is done to the ground, by the holes which are only $4\frac{1}{2}$ inches in diameter, by three inches in depth. The outlay for putting greens depends on the cost of turving on the different localities, and the price of clubs, balls, and other accessories is by no means excessive.

"While it can be played by old and young, by men and women, golf is no child's play. On a varied course the best all round man will find it necessary to concentrate all his attention to the negotiation of the different 'hazards,' and any player will find the interest in the game becomes more absorbing as he gradually overcomes his difficulties. Other games come and go, but golf, once begun holds its votary to the end of his life."

E. A. A. GRANGE.

The New Features of Commencement.

W. C. STEBBINS, ECLECTIC SOCIETY.

Everything new and untried is subject to criticism and investigation. It is turned over, held up to the light, pulled apart, and stuck together again. If possible it is misunderstood and misapplied, twisted and contorted to fit the particular grooves of each cerebrum. Criticism is liable to be hasty unmerited and biased, to degenerate into mere fault finding, or grumbling at imaginary faults. Hastiness, to say the least, is only too apt to characterize the efforts of members of a student body to criticise the regulations laid down for their guidance. A fair minded unbiased criticism can do no harm, and it may possibly lead to improvement.

The plan for the coming commencement, having several new features, will probably come in for its share of criticism.

Two orators are chosen, one from each course, with references to their class standings in mechanical subjects, and in horticultural and agricultural subjects respectively. These speakers with an outside lecturer are to furnish the exercises. Of this plan, little that is new is to be said, although it is a great improvement upon the old plan, it is still open to the objections which have been urged against class marks as a standard for the selections of class speakers. I think that I am voicing the sentiment of the entire senior class when I say that this feature should be entirely done away with.

The other new feature of the plan, viz, an inter-society contest for medals to be offered by the College, has arguments both for and against. It is claimed for the plan that it will add to the interest taken in studies in the English Department, that it will stimulate new students to better work, that it will be something toward which they may look, hoping some day to be able to capture one of these prizes. It might be urged against this claim, vindictively perhaps, that it would detract from the interest in Horticultural and Agricultural subjects. But the question is, will it have the desired effect? Four years is a long time, when one looks at it from the beginning of a college course. Will the average student, looking at a medal through the rapidly narrowing perspective of a college life, allow it to obstruct his vision to any considerable extent? If noticed at all, will it not be immediately lost amid a host of relatively more important considerations?

It is also claimed that this feature will be a great addition to commencement and will be an additional inducement to visitors. This, perhaps is a valid claim, but let us inquire as to the feasibility of such a plan. Is commencement the best time for holding such a contest? A number of commencement exercises have become established, among them the class day exercises, the senior farewell banquet and hop, the President's reception, the society reunions, besides commencement proper. At least four of these exercises require literary ability of a high order. A few weeks before occurs the annual Union Society meeting. Three of these exercises are distinctively senior exercises, and they are expected to take the lion's share in the other two. It is probable that every senior, who has no part in the class exercises will be expected to take a prominent part in the society exercises. Every effort is made to make these exercises models of excellence. While it is not necessary that seniors take part in this contest, it is probable that the majority of the contestants will be from that class, because they are generally better fitted

for such work, and the societies will wish to be represented by their best members. With such an amount of work crowded upon the small classes which will graduate, during the coming four years, at least, first-class work cannot be expected. Some of the exercises will necessarily be slighted. It is not to be supposed that the societies will weaken their programs, nor will it be natural for them to weaken the contest. The evil effect will fall upon the class day program, and will probably end in striking class day from the number of commencement exercises. It will result in the choice of the best men in the class to take part in the contest and if class day is continued will open a new field for College politics and wire pulling. It will become a source of discord and will stir up enmity between the members of the different societies at a time when such a state of affairs would be particularly deplorable.

To a patriotic class man the abandonment of class day exercises is a measure which would cause much regret. To replace a distinctively class exercise, which can only be remembered with pleasure by those who take part and by the whole class, by a mere scramble for fame, in the shape of a gold medal, is a change to be avoided if possible.

We already have one contest which is held during the fall term. The new plan would probably replace this, since it is founded upon a broader and more liberal basis. Thus we would replace two College exercises by holding this contest during commencement week. There can be no doubt of the value of such contests and if held at the proper time there can be no valid objections to the plan as it is proposed, but to hold such a contest during commencement week is merely crowding another of the college exercises into an already overcrowded week.

The largest class ever graduated from an American college was graduated at Michigan University, a class of seven hundred and thirty-one.—*Ex.*

The two Brown Swiss calves are to be sold. They are perfect types of bovine vigor and beauty.

Money Matters in the Students' Organization.

M. W. FULTON, COLUMBIAN LITERARY SOCIETY.

Scarcely any subject has caused more dissatisfaction and complaint among the students, yet it would be hard to find a matter that fewer attempts have been made to reform. The method, or rather lack of method, of caring for the finances of the Students' Organization and the various departments under its control—Athletics, THE SPECULUM, etc., would speedily bankrupt any firm that attempted to do business in that way. Yet we have gone on year after year voting taxes and paying subscriptions into a treasury that, it is often stated, does not return in paid bills more than 50 or 75 per cent. of the money paid into it. Fortunately affairs are not as bad as that, and in justice, it must be said that the honesty of the majority of our officers can not be doubted. Yet, for the silencing of such reports as the above, as well as for the prevention of the improper use of entrusted moneys by those who might be dishonest, we should have some system by which every officer could be held strictly accountable for all moneys which pass through his hands.

This is a matter of importance not only to the students, but to the faculty, for every year large amounts are raised for athletics, not a small part of which comes from the faculty. Naturally they wish some assurance that their money has been used for the purpose intended—an assurance they never have under the present system.

To secure a sound and safe method of caring for the money of the Students' Organization would not be at all a difficult task if a sufficient number of students interested themselves in it. In the first place a uniform set of receipt books should be provided, and each officer having the collection of money provided with one. Then he should be obliged to keep a strict account of all moneys received and paid out. His books should be

audited at stated intervals, and under no conditions should this be neglected. The number of officers having the handling and collection of Students' Organization money should be less than it is at present. There is no need of having each officer, who has the spending of money collect and take charge of all the funds he can get for his particular use. Why should the bath-house steward or the base ball manager collect and have charge of money designed for his use when, if he gets behind, the Students' Organization must make up the balance? He knows that he is not responsible for the whole of his obligations, and that fact makes him careless. The treasurer of the Students' Organization should have the collection and disbursement of all moneys for things directly in charge of the organization, and he being the only one responsible for these funds must be held strictly accountable for them.

As it is now the chief opportunity for the misuse of money is in connection with athletics. The base ball manager, football manager, and others, collect all they can for their particular use by subscription, and in most cases those who subscribe know nothing of how their money has been expended. If the students and faculty could be assured that their money had been spent for the purpose intended, and had not gone for things that could in no way benefit athletics, they would be much more willing to subscribe than they are now.

THE SPECULUM is another important protege of the Students' Organization. It is supposed to pay for itself, and rarely fails to do so, but nevertheless its funds should be as strictly looked after as those of anything else. At present there is absolutely nothing known of its expenditures, and no way of finding out. If it pays expenses, all well and good; if not, the Students' Organization is responsible for its deficiencies. As a matter of fact it is seldom called upon to pay these, for THE SPECULUM, if rightly managed, is entirely able to pay its own expenses; and if it is allowed to get behind one year the defi-

ciency is usually made up the next, so that its finances do not often trouble the students as a body. Yet there is no guarantee that expenses will be paid, and in fact no very strong inducement to get its finances straightened up even if there are enough bills and subscriptions outstanding to do this. The only way to make this practically sure is to allow the profits from the paper to go to the editors and business management.

You sometimes hear it said, "What a nice thing it would be if THE SPECULUM would have a surplus at the end of the year to turn over to the Students' Organization," or something to that effect. Now such a thing has never occurred, I believe, nor is it likely to occur. What inducement is there for the business management to put in extra work, when there is enough work that *must* be done, simply to pay a surplus into the treasury of the Students' Organization? The consequence is that just enough is done to keep the paper going, and sometimes it falls a little short of that, while, if the profits could go to those upon whose efforts depends the success of the paper, the expenses would surely be paid and the managers and editors would occasionally receive something beyond scanty commendations for their labors. By making this change the Students' Organization would give up nothing, and at the same time it would offer a reward for good and faithful work that could not fail to benefit THE SPECULUM.

I have simply touched upon some of the defects in the financial management of the Students' Organization for the purpose of drawing the attention of the more thoughtful students to the need of improvement. If they will interest themselves in the matter, and work up a sentiment among the students that will demand a reform, they will confer a benefit upon the institution that will last long after their names have been entered upon the list of alumni of the College.

Noah was the first pitcher. He pitched the ark within and without, and the game was called on account of rain.—*Ex.*

The Crusades, Their Effect on Civilization.

GERRIT MASSELINK, UNION LITERARY SOCIETY.

The theory of evolution has become the dumping ground of nearly all argument relating to the creation, of the universe, the origin of life, and to the progress of the human race. Everything that can not be explained, or the nature of which is uncertain, is immediately made clear and satisfactory by that charming word evolution. When this term confronts a man, "there is no voice nor language, and his speech is not heard." Argumentation ceases at once, for by evolution everything can be either dodged or proved. But whatever may be the nature or power of this term, if it does not mean the hand of Providence directing the laws of nature, creating system out of chaos, and controlling the influences that have made barbarous man a civilized and enlightened being, if it does not mean this, it is nothing more than "sounding brass or a tinkling cymbal."

Considering evolution as the manifestation of God's power and wisdom, we will apply this term to the development of human society or the progress of civilization, and attempt to trace its methods of operation in one of the most peculiar, as well as interesting events in mediæval history—an event which, when viewed from the surface, seems to have no motive other than ignorant prejudice, and no object further than a blind and malicious revenge.

Society has been in possession of all the elements essential to the formation of a nation and a government for nearly fifteen centuries. It has had kings, citizens, a clergy, civil and religious authority, ever since the fifth century, and yet we hear nothing of a people or of government as we understand them at the present time, until the seventeenth century. During this century the people and the government, the two great actors in the drama of civilization, appear on the stage of the world. Their methods of acting, their

relations, disagreements, alliances and effects, have furnished material for historians, food for poets, and mystery for modern philosophers.

In order to obtain a clear view as to the time when these two forces were developed and gained prominence, let us consider the history of European civilization as divided into three great periods. First, that of origin and formation continuing from the fifth to the twelfth century; second, experimental from the twelfth to the sixteenth; and third, the period of development from the sixteenth century to the present day. The experimental period is the one that especially concerns us at this time. Guizot in speaking of this epoch says "it was a period when monarchy, nobility, clergy, citizens all the elements of social order, seemed to turn round in the same circle, incapable alike of progression and of rest." Humanity seemed to be at a loss to know what to do. Everything was aimless and without apparent direction or control. Men ran wildly about and tried all sorts of schemes to reach an end, the nature of which none knew. Yet it was a period that produced great results; for the people and the government, the two great factors of modern civilization, were unfolded amid the reigning confusion and chaos of the times.

The great event of the experimental period was the crusades. These commenced under the leadership of Peter, the Hermit, in 1096, and ended with that of Louis IX, in 1272. They cost Europe about five millions of lives, besides immense expenditures in treasure and suffering.

The crusades had two great causes. The one of a moral and the other of a social nature. As regards the moral cause, it may be defined as the culmination of the great struggle between Christianity and Mohammedanism. These two religious systems had been at war ever since the seventh century. Success wavered and was really with neither side. The Christians had control of the kingdom of Jerusalem, in Asia, while the

Mohammedans had that of Granada, in Spain. Thus far the main seat of warfare had been in Europe, but it was transferred to Asia by the crusades.

Let us now briefly consider their social cause. Before the fifth century the people of Europe were much inclined to immigration. They constantly moved from place to place, and led a wandering and roving life. Between the fifth and eleventh centuries we notice a great change in the social condition of Europe. The feudal system made everything local and confined men within narrow limits. Men were fenced in, and so were their opinions. This was against their inherited nature, and they were filled with a desire to once more roam over the surface of Europe. Just at this opportune moment came Peter, the Hermit, with his crusade idea. All at once the masses broke down the barriers of feudalism and confinement, and rushed wildly through the plains of Europe, over the Alps, and into death and destruction.

These two causes ceased to exist at the end of the thirteenth century. The main-spring thus broken, the crusades gradually passed from activity into history. Their effects, however, remained as a lasting monument to their existence, and judging by these, we may consider them a grand undertaking.

The first peculiarity of the crusades is that the whole of Europe moved; and not only this, but all classes of society in the various nations joined hands to carry on the work. Up to this time Europe did not exist as a unity. It was fragmentary, and each part acted like an individual merchant in a strictly competitive market. There was no co-operation nor cause for common action. This event, was European in nature, national in character, classical in sentiment, and individual in effect. The movement was for the supremacy of Christian Europe and not for the aggrandizement of any individual man.

There is an old adage which says, "a man must cross the ocean before he can be called liberal-minded." This can be

directly applied to the crusaders. The scenes they saw, the people with whom they came in contact, the manners, customs, opinions and beliefs of these people banished from their minds rusted ideas or absurd prejudices and freed them from that satanic narrowness of spirit which had previously filled them with contempt for the whole world. Their eyes were opened and they saw a world of beauty stretching out before them. Their minds were liberated and they became not only ready, but also willing, to receive new ideas and accept new theories. They expected to meet barbarians of the worst type, but found a civilization far in advance of their own. As a result of communication and trade, the barbarous west gradually adopted the refinement of the east. Traveling commenced, and a desire for discovery and exploration was kindled. The theories of such men as Marco Polo and Dr. Mandeville induced Columbus to act upon the idea that the earth was not a flat failure, but really a round success.

The religious feelings of the people were also greatly modified, if not completely changed. Toleration, the one thing that made the civilization of Europe to differ from that of Asia and Africa, the key-note of modern civilization and the main force that insures the perpetuity of our own nation to-day, gradually became the policy of the people. Rome, the center of religion, was visited by the crusaders. The people became acquainted with the methods of the papal authority and soon came to the conclusion that religious topics should be discussed by the laity as well as by the clergy. The development of this idea finally led to the reformation of the sixteenth century.

The social state of society underwent similar changes. Many feudal lords were obliged to sell their petty fiefs in order to obtain money for the crusades. As a result, property concentrated and the number of lords was greatly reduced. Society became centralized and the serfs were brought in direct contact with their former lords. Commerce sprang up be-

tween the different cities and the remaining feudal lords. While formerly wants were supplied by war and spoliation, they were now satisfied by peaceful exchange. The quarrels that arose between the serfs and lords were settled by the chief ruler or king. The king, who had already gained in power through his wealth, was hereby made very prominent. He nearly always decided in favor of the serfs, and in this manner the king, or the government, and the serfs, or the people, became the stones that gradually ground feudalism out of existence. All the former prominent elements of society were obliterated by these two forces, and they themselves presided over the future destiny of civilization.

In conclusion we may use the words of Cox, who says: "By the mere fact of throwing East and West together the crusades led gradually to that interchange of thought and that awakening of the human intellect to which we owe all that distinguishes our modern civilization from the religious and political systems of the middle ages."

SCIENTIFIC.

Hardy Varieties of Peaches.

In our severe climate perhaps one of the most important questions that confronts the peach grower, is, what varieties shall I plant? It is a live question, since each grower must to a large extent, settle it by actual trial, for his own location and soil. It is important, because the financial success of the grower depends very largely upon the selection of varieties.

During the past 30 years much has been done to secure hardier varieties. This work has been rewarded with success. The peach, originally a semi-tropical fruit, has by the selection of chance seedlings and by careful culture, come to be one of our hardy fruits.

The extreme temperature that peach buds will stand has been a matter of some dispute. Mr. J. H. Hale of Conn.,

a few years ago raised a good crop, the buds being exposed to a temperature of 18° below zero. At other times the buds have all been killed by a temperature of 18° above zero. The general opinion of growers has been, that 15° or 18° below zero would be a fatal temperature for the buds. But this fatal temperature is determined largely by the condition in which the buds entered the winter. Buds entering the winter firm and well ripened will be uninjured by a temperature that would kill the entire tree, if of a soft watery growth.

This spring, tests were made of the buds in the college orchard to determine the per cent. of buds killed by the severe winter. The comparisons were made by testing 100 buds of each variety, two buds being taken from a twig; each twig selected being taken from a different part of the tree. In most cases two trees of each variety were selected, 50 buds being taken from each. Of the trees selected some had borne fruit the previous season while others had not, also many were of different ages, for which allowance must be made.

The following table will show the varieties tested with their percentages of uninjured buds:

Alexander,	47%	Brunson,	10%
Amsden,	32 "	Crosby,	96 "
Barnard, E.	62 "	Crawford, E.	20 "
" L.	43 "	" L.	26 "
Corner,	57 "	Gold-drop,	28 "
Conkling,	58 "	Hale,	61 "
Dennis,	84 "	Hill's Chili,	90 "
Diamond,	82 "	Jaques,	56 "
Ellison,	62 "	Kalamazoo,	48 "
Early Rivers,	24 "	Lovett's White,	78 "
Early Louise,	75 "	Lewis Seedling,	86 "
Engles Mammoth,	30 "	Mt. Rose,	36 "
Old Mixon,	5 "	Switzerland,	64 "
Salway,	16 "	Snow's Orange,	50 "
Susquehama,	60 "	Wilder,	36 "
Smock,	52 "	Wager,	65 "
Stanley's Late,	65 "	Wheatland,	51 "
Stump,	30 "	St. John,	16 "

Of the above list Snow's Orange, Gold-drop, Jaques, Early and Late Barnard, Early Rivers, Hale, Crosby, Wager, Brunson, Switzerland, Hill's Chili, Lewis Seedling, St. John or Crane's Yellow

Diamond, Lovett's White, Early Canada, Ellison, Kalamazoo, Stanley's Late and Smock furnish the bulk of the Michigan crop, while the Susquehanna, Old Mixon, Mt. Rose, Stump and Early and Late Crawfords are old varieties which are being driven out by the new and hardier ones.

The Crosby, Elberta, Kalamazoo and Diamond are new varieties that are being pushed by nurserymen. Time alone will tell whether they are what they are claimed to be or not.

The Elberta was not included in the list as only one damaged tree was at hand to secure data from. This tree gave very poor results, but the test was not thorough enough to condemn it.

By a glance at the list you will see that enough buds remain uninjured to furnish a full crop of all the hardy varieties.

When we take into consideration the fact that 15° to 18° below zero has been considered fatal to buds, and remember that the lowest point reached the past winter was 24° below zero, the greatest fall being 50° in from 12 to 18 hours, we see that the buds have come through the winter in extraordinary condition. An explanation for this might be found in the well ripened condition in which the buds entered the winter. From this fact it is shown that in our severe climate growers should study to have their trees enter the winter in the best possible condition.

J. S. MITCHELL.

Phosphate Mining.

In Florida, along the banks of the famous Suwanee River are found rich phosphate mines. For a hundred miles on either side the country is very flat and the top soil a light sand. The surface is quite uniformly covered with the tall pine, the scrub oak and the palmetto. Before the war, this region was famous for extensive cotton plantations. They can be located now by long stretches of deadened pine.

To begin at the top and work down, we will find just below the top soil a thin

limestone formation usually not over a few inches thick. The limestone deposit is supposed to have been made when the State was submerged. In many places just below the limestone is found the phosphate rock, pebble phosphate or bone phosphate as it is called. The presence of this phosphate rock pebble or bone has been explained by a Florida geologist as entirely composed of the bones of the mammoth sea animals. These monsters are supposed to have existed at the same time or just previous to the land forming periods for Florida. The currents from the ocean washed the bones into banks along the then gulf. These banks are now about 60 miles inland. The deposit is from 5 to 30 feet deep and is apparently continuous in places for miles. Rich phosphate land is held at a very nominal sum because the supply is apparently inexhaustible. Shipping facilities and a good water supply, are as important as the presence of the rock.

A worked phosphate mine looks like a deep railroad cut through a flat country. The soil and bone is shoveled into small cars, taken to a mill and all soil is removed by a stream of water. The large pieces are crushed, the bone dried, and it is ready to be shipped. A large mill visited was handling 500 tons of soil daily, from which they were getting about 120 tons phosphate. The bone contains the insoluble phosphate, $(Ca_3, 2P O_4)$ this is treated with sulphuric acid, $(H_2, S O_4)$ and a part is converted into the soluble phosphate, $Ca H_4 2 (P O_4)$. The presence of impurities—iron and alumina, etc., will prevent the formation of the soluble phosphate which is the most valuable form.

Almost all this chemical work is done in Europe. The large mill mentioned is owned, operated and the produce all taken by the French. They employ and work hard in the hot sun negroes and Italians at eight cents per hour. Exceedingly valuable phosphate deposits have been found where a river has cut its way across a phosphate bank, the bottom is often found to consist of bone phosphate

all ready for the market as soon as dried.

PHILIP B. WOODWORTH.

Maple Essence.

The chemical department has been searching maple syrup for the peculiar essence which gives the characteristic odor and taste which distinguish maple from cane and beet sugar. The material is found to be a yellowish oil in fresh maple syrup, becoming a waxy solid in maple sugar, and probably in maple syrup after being exposed to air. This maple ether soon changes by exposure to air. When first prepared it has a most agreeable odor, and reminds one very strongly of the odor of fresh maple syrup. The fact that it rapidly deteriorates by exposure to the air is a satisfactory explanation why maple syrup must be kept from the air in tight cans or jars to preserve the rich maple taste. Syrup deprived of this ether is found to have nearly the odor and taste of cane sugar.

Society Reports.

The first monthly meeting of the Natural History Society for this year was held March 15, with a good attendance. The program consisted first, of a paper by Mr. Wheeler on "Additions to the Flora of Michigan." He spoke of some eighty new species which had been added since 1892, and, among these, nine have not been described in any accessible manual. Their distribution is somewhat as follows: Nine are found in the eastern and northern part of the lower peninsula, four species reach their western limit in Michigan, four others have a southern and eastern range, one of these being *Mikania scandens*, a variety of much interest. The southern and western range is represented by thirteen members, and the northwest section by three. In addition to these there are many European plants, mostly weeds, which are more or less widely distributed, among them being the Russian thistle, Horse-nettle, and *Solanum rostratum*. This *Solanum* is

the plant on which potato bugs originally fed.

The next article was by Prof. Barrows on "A New Bird," the thick-billed murre, or gillimot. This is a sea bird of the auk family, and one appearing very rarely in Michigan. It probably happened here on account of the hard winter.

The rest of the evening was spent in discussions and observations.

At the meeting of the mechanical fraternity of Tau Beta Pi, March 14, the members listened to a highly entertaining and instructive article by Prof. Chamberlain on "Some Engineering Practice as Observed in Europe." We would give a synopsis of the paper, but that we hope shortly to present to our readers, something from Prof. Chamberlain along the same line, dealing with points of interest to the mechanical world observed by him during his winter's trip to Europe.

THE SPECULUM.

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AGRICULTURAL COLLEGE, APRIL 15, 1895.

THE M. A. C. grange of the Patrons of Husbandry, organized March 29, forms another link in the chain which binds the Agricultural College to the farmers of Michigan.

It is beginning to look as though the College would fare rather badly at the hands of the Legislature. It is reported that the asked-for appropriation will be cut down nearly one-half. Counterbalancing this unfavorable condition, however, is a prospect of the speedy solution of the student-labor problem. Some reforms come high but we must have them.

We publish in another column the scheme of commencement exercises as adopted by the State Board of Agriculture at its March meeting. That part relating to the selection of commencement orators has already been noticed by the SPECULUM. The inter-society oratorical and debating contest seems to us an excellent feature, and one which, by the stimulus it will give to the cultivation of those branches, will tend to improve the character of the literary work in the College to a marked degree. The only point of criticism which presents itself is the fact that this contest is to take place during commencement week. The week is already given up almost entirely to festivities of every sort and it would be well-nigh impossible to crowd it any further. If the affair could take place earlier in the summer term it would doubtless be much more convenient for everyone.

The new rule by which a thesis is required of every student graduating in the Agricultural course goes into effect with the class of '95. That a thesis should be required, indeed should have been made a feature of the course years ago, no one will deny. But a question arises as to the justice of introducing so late in the course a measure requiring such an expenditure of time on the part of the students as this does. The present senior class entered college with a tacit understanding that they were to receive their degrees upon the completion of a definite amount of work then laid down. This work has been increased gradually ever since, the additions being substituted in some instances for other studies, which were dropped from the

course, but in the main the new features have been deliberately added. In the case in hand it was stated that the thesis was to take the place of a third senior essay but investigation showed that no third senior essay had hitherto been required. This is a peculiarity which would seem to demand an explanation, and indeed a little clearer understanding of the matter, on all sides would not be out of place.

COLLEGE NEWS.

PROCEEDINGS OF THE BOARD.

March 12, 1895.—On recommendation of the faculty the degree of Bachelor of Science was conferred on Frank R. Poss, class of '94.

Senator Brundage and Representative Redfern of the State Legislature appeared before the Board in reference to chemical analyses for the State Food and Dairy Commission. It was agreed that the Board would undertake the work, furnishing one chemist at \$1,000 per annum.

It was resolved that the Committee on Weather Service be authorized to prepare and present to the legislature a memorial from this board regarding the re-establishment of the State weather service.

Resolved, That the Poultry Department be entirely managed by the Farm Department, and that after April 1st the services of a separate poultry foreman be dispensed with.

The faculty were requested to present a report at the next meeting of the board outlining a plan of athletics for the college students, and that a minority report be allowed.

Adjourned to April 9th.

April 9.—Besides the resolutions concerning athletics which appears in the athletic department, the following represents the more important business transacted: Committee on land grant reported recommending that the college lands in Manistee county, be placed on the market at prices now established by the Board of Agriculture, and that the commissioner of the State Land Office be requested to take proper steps to place the lands on sale.

It was recommended that the plan for experiments in irrigation as outlined by Prof. Taft, be approved at a cost not to exceed \$1,000.

The committee on buildings reported, recommending that some changes be made in Herdsman's House, and that the president be authorized to assign assistants and others to whom rooms are furnished.

ABOUT THE CAMPUS.

Died, March 13th, Olive, daughter of Professor and Mrs. Weil.

Press bulletin No. 8, on the "Canker Worm" is just out.

Mrs. Moe of Belding will occupy the new hospital as matron.

Mrs. Wheeler's sister, Mrs. Marie Robinson, is visiting here.

Mrs. Taft and children will spend the summer in Massachusetts.

President Dole, of Hawaii, is a near relative of Prof. Barrows' family.

Dr. and Mrs. Edwards have returned to their college residence for the summer.

Miss Pearl Kedzie and Miss Fay Wheeler spent their Olivet vacation here.

The annual report of the secretary of the State Board of Agriculture for 1894 is just out.

Mr. J. H. Brown, of Climax, Associate Editor of the *Michigan Farmer*, was here March 22.

Mrs. Kedzie has a flourishing class in china painting. A few of the bachelors are taking lessons.

Hon. J. M. B. Sill, United States Minister to Korea, has sent President Gorton samples of millet seed.

Hereafter all delinquencies in the Military department will have to be made up by Saturday morning drills.

About 100 specimens of rocks and minerals were added to the geological collection recently by purchase.

Professor and Mrs. Weil are in Asheville, North Carolina. Mrs. Weil's health has improved very much.

The various members of the senate and representative college committees pay frequent visits to the college.

Mrs P. B. Woodworth recently returned to college after spending five months with her parents at Lake City, Florida.

The total number of classification cards taken out up to date is 258. This is an increase of 24 over the same date last year.

The residence of the Professor of Mechanics is being overhauled and many modern improvements and conveniences are being put in.

The spring freshmen are being initiated into the mysteries of preliminary military work. The other students have signaling and company drill.

The Zoological Department has been strengthened by the purchase of two excellent compound microscopes, and some much needed accessories.

The new college catalogue will be ready for distribution in a few days. It contains a dozen new cuts and shows a total enrollment for last year of 396.

Through the efforts of Mr. E. D. Partridge of the junior class, a number of works upon Utah and the church of the Latter Day Saints have been added to the library.

The faculty tendered a reception to the board and members of the Legislature on the evening of March 12. As far as the SPECULUM could ascertain a most enjoyable evening was spent by those who attended.

The rooms in Abbot Hall have been thoroughly cleaned by help furnished by the college. Williams Hall is now being renovated, and in the course of time Wells Hall will receive like treatment. This is one of the beneficial results of military inspection.

The juniors are making elaborate preparations for the annual Junior Hop to be given in the armory Friday evening April 19. In preparation for the event the various societies, and fraternities have held informal "ladies' nights" and all anticipate a most pleasant time.

Dr. E. A. A. Grange, State Veterinarian, has been called to all parts of the State to investigate alleged outbreaks of contagious diseases among live stock. Nothing of a very serious nature has occurred. The report is too long to publish here, but those who are interested in it may receive the same by applying to Dr. Grange at the college.

The senior elections resulted in the following officers: President, G. L. Stewart; vice president, P. V. Ross; secretary, H. R. Parish; treasurer, J. P. Churchill; sergeant-at-arms, Frank Yebena; orator, E. J. Heck; prophet, H. E. Ward; poet, M. G. Kains; toastmaster, W. C. Bagley; historian, C. H. Robison; W. J. Good-enough, editor of class paper.

Rev. M. W. Fairfield, of Ypsilanti, will preach the Easter sermon in the College chapel April 14th. He conducted the Easter service at the College twenty years ago. He was formerly president of Olivet college, and for many years pastor of the Plymouth Congregational church in Lansing. He will be the guest on Easter of Dr. Kedzie, his brother-in-law.

In their election of commencement orators, the Faculty did not give the honors to students with the highest average standing, but rather to students of general ability in their respective course. Howard R. Smith will represent the agricultural course and Robert L. Reynolds will represent the mechanical course at the commencement exercises. The election of these students seems to be satisfactory to the members of the senior class.

An interesting sea bird was added to the collection in the museum during March, as a gift from Mr. Percy Selons of Greenville, Mich. The bird is a thick billed Murres or Guillemot, and this specimen doubtless the first recorded from this State. It is an inhabitant of Arctic and sub-Arctic seas, seldom wandering far inland, and being abundant in the United States only in winter. This specimen was picked up in a dying condition at Greenville, on Dec. 13, 1894.

FARM DEPARTMENT.

J. M. Park, '98, has charge of the incubators.

Charles Brooks has taken the hens under his fatherly wing.

Two Red Polled cows were purchased at the sale of Col. Roberts at Birmingham, Mich., April 2d.

The experiments for the year have been fully outlined and the preliminary work is nearly completed.

The appearance of the river banks along the cleared fields is being improved by having the dead brush and wood picked up and burned.

Professors Frank Kedzie and A. A. Crozier visited the farm of Clifton B. Charles, '79, of Bangor, Mich., to outline with him experiments on muck land in the line of conservation of soil fertility.

Hon. Wm. Boyden, of the Board, purchased for the department a choice two-year-old shorthorn bull of S. H. Thompson & Son, of Iowa City, Iowa. The prize winner, Volunteer, who has stood at the head of the herd for the past two years, is to be sold.

At the annual meeting of the National Holstein-Friesian Breeders' Association, held in New York city, March 20th, Rosa Bonheur received the fourth prize, Houwije D. the seventh and Belle Sarcastic the ninth. The awards were based on the yield of butter for a single week and took no cognizance of good records for longer periods.

HORTICULTURAL DEPARTMENT.

A spraying bulletin has just been issued. Several other bulletins are in the hands of the printers.

Professor Taft was at South Haven recently to arrange for the summer's work. Considerable will be done in testing chemical fertilizers for fruits, and in use of fungicides and insecticides.

The report of the South Haven sub-station by Mr. T. T. Lyon is just out. The fifteen acres are practically all planted and this season there will be not less than one hundred varieties of peaches in bearing, and other fruits in proportion.

Professor Taft attended the meeting of the Lenawee County Horticultural Society held at Adrian April 10 and 11th. The first day was given to the list of different makes of spraying pumps and the second day to grafting, and propagation and improvement of plants.

MECHANICAL DEPARTMENT.

Patterns are in course of construction for a tumbler to be added to the foundry equipment.

A new hydraulic hoist is being made for use in the foundry, and work is being done on a small eight-light dynamo.

During vacation a Clement double saw table was added to the equipment of the wood shop; also a Perkins eleven inch draw stroke trimmer for facilitating pattern making.

THE M. A. C. GRANGE.

For a long time the feasibility of establishing a grange at the college has been considered by those who are interested along that line of work. The principal objection was the lack of time by professors and students alike. The state Grange has been advocating higher agricultural education and it seemed that

such a step would bring the grange, the farmer, and the college in closer touch. To get the sentiment of agricultural students a paper for signatures was circulated with such a favorable result that the M. A. C. Grange was recently organized with a membership of 40. Nearly all of the offices are filled by seniors, the object being to accustom them to the work that they may be influential in grange work after leaving college. The following is a list of the officers: Master, C. H. Alvord; Secretary, B. A. Bowditch; Overseer, H. R. Smith; Flora, Mrs. Wheeler; Steward, Royal Fisher; Ceres, Mrs. Smith; Assistant Steward, W. C. Bagley; Pomona, Mrs. Taft; Lady Assistant Steward, Mrs. Gunson; Treasurer, W. C. Stebbins.

REGULATIONS FOR COMMENCEMENT EXERCISES.

1. On the fourth Monday of the spring term, the faculty shall proceed to elect speakers for commencement day. Those shall consist of some person of national reputation, and two members of the senior class, one from the agricultural course and the other from the mechanical course. Said students shall be chosen on the basis of proficiency along the lines of education emphasized by the work of the respective courses.

2. The speaker for 1895 shall be some man whose work is more or less closely connected with agriculture or horticulture. For 1896 the choice shall be limited to men whose work bears on some one or more of the mechanic arts; and thereafter the choice shall alternate in regular succession between the two classes of men named above.

3. The two students shall, each for his department, prepare and read papers, not to exceed fifteen minutes in length, treating on some great agricultural or mechanical achievement of the year, or commemorating the life and work of some man to whom one or the other of the two departments owes much.

4. As part of the commencement exercises, one night, within five or six days before commencement day, shall be set apart for a joint celebration of the College societies and fraternities.

5. The exercises of said celebration shall consist of orations, declamations, or a debate, or two or all of those features, as the participants, to be selected as hereinafter provided, shall determine.

6. Each society and fraternity in the College shall be invited to elect one representative to participate in said exercises, and the program of the evening shall name the society or fraternity of each participant. Said election must not be held later than the middle of the spring term, and the name of the representative chosen shall immediately be transmitted to the faculty for approval or disapproval. An average standing of eight on the English studies of the first two years of the college course shall be required for eligibility to to said election.

7. Each year, at said celebration, the College shall offer a gold medal of the value of \$25.00 for the best orator, a gold medal of the value of \$25.00 for the best debater, and a silver medal of the value of \$15.00 for the best declaimer, provided, that if at any celebration

there be less than two contestants for one of the medals herein provided for, said medal shall not be offered for that year. No student shall be eligible to compete for the same medal twice.

8. Three disinterested judges, elected by the faculty and not connected with the College, shall determine the awarding of the medals.

9. Minor details of said celebration shall be regulated by the professor of English literature, and the work done by students at commencement shall count as part of the oration work of the College courses; provided, that declamations must be supplemented by essay work, to be reckoned as equivalent to orations.

PERSONALS.

We desire the earnest co-operation of every person who has ever been connected with the college in trying to make this department an interesting one. Let every alumnus and every person who has been with classes here send in news to the editor of the department, often, thus making his work much easier and the department more interesting to all.

A letter just received from Manhattan, Kansas, brings the news that President Fairchild's house at the Kansas Agricultural College was struck by lightning on the evening of April 5, and burned to the ground, with the loss of nearly all its contents. President and Mrs. Fairchild and a young woman were in the house at the time of the accident, but no one was injured. President Fairchild was a professor in M. A. C. from 1865 to 1879, and left to accept the Presidency of Kansas Agricultural College.

WITH '71.

W. J. Smith is engaged in the loan business and the practice of law at Saginaw, Mich.

'76.

Attorney James Brasington of Hart, Mich., has been engaged to bring suit in the circuit court of the United States for the Eastern District of Pennsylvania. The suit involves a large amount of coal lands and mines worth in the neighborhood of two hundred thousand dollars. Mr. Brasington says it will take about a year to set aside the lease and contract, the subject matter of the contest in the suit.

'79.

C. B. Charles has a large muck farm at Bangor, Mich. He is writing a thesis on muck soils, preparatory to the degree of Master of Agriculture.

WITH '81.

J. B. Ware, of Grand Rapids, represents his district in the present legislature, and is a member of the Agricultural College committee.

'83.

At a meeting of the Tri-County Cycling Club, held in St. Louis, Mich., Mr. John T. Mathews, of Ithaca, was chosen president.

Arthur F. Kinnan has been promoted from second

to first assistant examiner in the United States Patent Office, Washington, D. C. His salary has been increased to \$1,800 per year.

WITH '84.

Marcus A. Frost is an extensive manufacturer of feed and meal in Grand Rapids.

WITH '87.

H. S. Thiers is proprietor of the Florentine Hotel in Mariette, Indian Territory.

'89.

F. N. Clark, of Milford, Mich., is in the poultry business. His 20 hens and 180 pullets have made the following record: Number of eggs laid in December, 1,062; in January, 1,628; in February, 1,634. Total number, 4,324. Average for three months, 48 per day. Highest number laid, 89; lowest, 36. The average price received was 24 cents per dozen. At this rate there is certainly money in this industry.

E. N. Pagelsen is with the F. Marrison Scale Co., of Nashville, Tenn.

Prof. J. Tourney, of the University of Arizona, formerly assistant in botany at this college, among other things has discovered a new species of oak which Prof. Sargent, in *Garden and Forest* for March, describes as *Quercus Tourney*.

'90.

Robert B. McPherson has returned home from an extensive western trip.

Howard J. Hall, professor in the University of Arizona, was recently married to Miss Kalene Timian, of Tucson, Arizona. THE SPECULUM wishes him much happiness.

WITH '90.

E. A. Stricker is practicing law in Detroit with the firm of Gartner & Baker.

'91.

Married, April 3, 1895, at the home of the bride's parents, Victor H. Lowe and Miss Minnie Keiser, of Lapeer, Mich. THE SPECULUM extends congratulations.

G. C. Monroe is making extensive preparations for his fruit business. He has purchased several improved sprayers and other machinery for use during the coming season.

Koli S. Thabue has succeeded in organizing a native school upon American principles in Burmah, Indo-China. He is working for the interests of the Baptist church, and as an avocation is engaged in the sale of improved American agricultural implements. His school enrolls two hundred pupils and is in a flourishing condition. His many friends at M. A. C. wish him success in his arduous task.

B. A. Holden, of Ford River, has been elected principal of the Hastings school for the coming year.

WITH '91.

Edward Gregory, a prosperous business man in Prescott, Arizona, was lately married to Miss Linda

Melendy, of Howell, Mich. THE SPECULUM wishes them success in their married life.

'92.

Miss Grace Fuller is teacher in Cedar Street School of Lansing.

H. B. Fuller was recently elected county commissioner of schools in Montmorency county, Mich.

George A. Hawley, of Hart, Mich., was married last week to Miss Mattie Bender, of Golden, Oceana county, Mich. The SPECULUM extends congratulations.

A. A. Gillett has finished a successful term of winter school near Bancroft, Shiawassee county. He recently spent a few days at the college and returns to market gardening near Owosso. Mr. Gillett took the civil service examination held in Detroit last September and is eligible to appointment as Supt. in Indian schools.

WITH '92.

Mr. B. Holmes, C. E., U. of M., '93, has an office in the Hammond block, Lansing. He visits the college frequently for professional purposes.

'93.

H. F. Palmer delivers the class oration at the Detroit-Veterinary College. His subject is "American Progress."

O. H. Pagelsen has been appointed assistant professor of chemistry in the medical department of the Northwestern University at Chicago.

E. B. Hale was the successful candidate for commissioner of schools in Ionia county. The election was a close one, and peculiar from the fact that two of the sons of M. A. C. were forced to oppose each other.

E. M. McElroy of the Niles high school, will spend the spring vacation at M. A. C.

F. J. Porter is teaching in South Barre, New York. He spends his summer vacations working in the Batavia nurseries.

WITH '93.

A. M. Meyers and wife of Caledonia, Mich., paid the college a visit March 15.

John Watson is working for the Fletcher Hardware Co. of Detroit.

L. C. Slayton was on the grounds recently, representing the Mutual Benefit Insurance Co., of Newark, N. J.

'94.

D. D. McArthur has accepted a civil service appointment as principal of the Indian school at Yankton, South Dakota. He left for his new field of work on April 2.

Married, March 19, R. S. Welsh, of Stevensburg, to Miss Eleanor E. Gongwer, of Lansing. THE SPECULUM extends congratulations.

WITH '94.

H. L. Pinney is cashier of the Exchange Bank of Cass City, Mich.

Maurice P. Carney, a recent visitor at the college, is engaged in the shoe business at Battle Creek.

WITH '95.

G. B. Craw, of Lowell, Mich., paid the college a visit March 30.

WITH '96.

Mr. J. Boehringer is meeting with much success as proprietor of a greenhouse in Bay City.

Onosuke Hori is on the warship City of Chicago and is at present cruising in the Mediterranean Sea. He took part in the naval review held in New York and has had the satisfaction of seeing Queen Victoria, Emperor William and other sovereigns of Europe.

Miss Nancy McArthur is a successful teacher near Cass City, Mich.

W. E. Finch has a good position in the Stimpson Computing Scale Works, of Tecumseh, Mich. The scale is a new invention and promises to be an excellent article.

Homer A. Frost is clerk in his father's store in Cass City, Mich.

WITH '97.

Charles Uhlik is studying floriculture with a prominent firm in New Jersey.

C. A. Kelley is studying engraving at Winona, Minn.

ATHLETICS.

The delegates from the several colleges composing the M. I. A. A. met at Jackson last Saturday. Much important business was transacted, but the place of holding Field Day has not yet been decided upon. The time has been set as the 6th, 7th and 8th of June. From all indications, it now seems probable that Hillsdale will be selected as the place of meeting. They offer better inducements to the association than Jackson does, and their accommodations are better.

The application of Adrian College for admission to the association was laid on the table.

The fact that the medals will be made by Mr. Brackett of Lansing, is sufficient guarantee to those taking part in the sports, that they will be of first quality and finest workmanship.

The first team is getting ready for the summer campaign. Two practice games have been played with the second nine. The team this season is arranged as follows:

Krentel—c.

Fisher and Reed—p.

McKinnon—1st b.

Ansorge—2nd b.

King and Parish—3d b.

Bateson—s s.

Clute and Newman—l f.

Gorenflo—c f.

Phillips and Eiman—r f.

As will be seen from the above list of names there is

excellent material for this year's team, and there is no reason why with these players, M. A. C. should not have a nine able to capture the silver trophy now held by Albion.

In the box, Fisher will be the stronghold, and again he will cause all the batsmen who face him to tremble with fear at his ferocious curves. He says his arm is in the pink of condition, and just as full of speed as ever.

McKinnon has been promoted from the left garden to the initial bag. "Mac" had an excellent record in the field last season, and we hope he will uphold his reputation at first this year.

Ansorge's familiar face will again be seen at second base, where his steady work of last season has won for him the captaincy of the team of '95.

"Kid" Gorenflo who was such a favorite in last year's team will hold up his reputation this season as the best center fielder in the M. I. A. A.

Bateson is to play short-stop and will materially strengthen the team where she was so weak last season.

M. A. C. has never lacked for good catchers, and this year will be no exception. Behind the bat will be found Krentel, a man of wide experience and good judgment, and in every way capable of filling the position. He and Fisher work well together and will form a star battery.

Reed for change pitcher is developing great speed, and has good control of the ball. He is a promising man.

King at third is showing up well, but should be encouraged to play less "fancy ball." Parish is also striving for a seat on the third bag, and is pushing King hard for the position.

Newman and Eiman in left and right fields, respectively are young and new to the game, but with practice will make good men.

Clute is also a candidate for a position in the out field.

Manager Stewart has arranged for a game with Albion on April 20th at this place. Other colleges have been written to, but have had no definite replies as yet.

The second team is also under the process of organization, but at this time we are unable to give the positions. The election of B. A. Bowditch as manager was ratified at a recent meeting of the Students' Organization.

This year we hope to make a year of signal success for M. A. C. in the athletic line. Although many of our old "stand-bys" are gone, yet new men are springing up to take their place. The freshman class is quite replete with athletics, and some of them will undoubtedly turn out to be prize winners.

At the board meeting April 8, the following resolutions relative to athletics were adopted.

That the students be allowed to retain membership in the Inter-Collegiate Athletic Association and that they be allowed to participate in the various contests

on the annual Field Day and in games of foot-ball and base-ball on the grounds of this or some other college, under the following conditions:

1. To be eligible to take part in any inter-collegiate contest occurring in any time before the first monthly report, the student must have been in regular attendance upon the college for at least the term next preceeding, and shall have taken in that term the equivalent of three full term studies.

2. To be eligible to enter any inter-collegiate contest a student must have an average standing of eight, on a scale of ten, and shall not be conditioned in more than two studies.

3. The eligibility of a student to enter inter-collegiate tests after the first monthly report for the term in which he enters, shall be determined by special action of the Faculty.

4. No student shall represent this college in the regular annual inter-collegiate Field Day who has not received from the secretary of the Faculty a statement in writing certifying to his eligibility under these rules.

5. These regulations shall go into effect at the beginning of the next college year.

6. It is the sense of this Faculty that some instructions in physical culture would be a desirable provision.

7. That the Faculty shall be represented by a committee at the annual Field Day, and such committee shall report to the Faculty within a month after the Field Day, as to the general conduct of exercises, participants etc. Said committee to consist of two members to be elected for each Field Day.

8. That the Faculty opposes professionalism in athletics, and desires the student body to abstain from anything savoring of the same.

9. Resolved, that the Students Organization be requested to so amend article six of the constitution that it shall not be possible for the organization in any one college year to levy a tax for athletics greater than one dollar per capita.

COLLEGES AND EXCHANGES.

A CHEMICAL MISFORTUNE.

Our Willie passed away to-day,
His face we'll see no more ;
What Willie thought was H₂O
Proved H₂SO₄.

--Anchor, Hope Col.

A Freshman bold and careless and gay,
One afternoon of a winter day
Fixed himself up and went to a play.
I was Richard III and a matinee.
The Freshman sat in the front parquet,
All was serene as in the day of May,
Until King Richard began to pray
"A horse! a horse!" in a faithful way.
When the Freshman sprang from his seat, they say,
And cried, the poor King's fears to allay,
"I'll get you a horse without delay,
I know how it is--I have felt that way."

--Ex.

The farmer likes the robin's song,
He likes all songs so gay ;
But first of all, and best of all,
He likes the chicken's lay.

--Ex.

Captain—Fire at will.

Lady Cadet—At Will who?—*Student Record.*

Knock at the door: "Mr. — in?" "Like to see you a minute. Are you in a table?" "No." "Well, the girls, etc." Result—another mixed table.—*I. A. C. Student.*

Sing a song of touch down,
A pig skin full of air,
Two and twenty sluggers
With long and matted hair.
When the game was opened
The sluggers 'gan to fight,
Wasn't that for tender maids
An edifying sight.

—*Ex.*

The support of the institutions of learning has become a study by itself. The thoughtless outsider might think that \$20, \$60, or \$100 tuition collected from each student is sufficient to meet the necessary running expenses, but this idea is badly shattered by President Coulter, of Lake Forest University, who in a recent address presented the following figures, which had been carefully collected:

Colleges.	Annual expenses for each student over and above receipts from students.	Average equipment for each student.
Weslyan,	\$259	\$2,187
Yale,	231	1,500
Amherst,	175	1,453
Harvard,	305	2,700
Williams,	146	1,410
Princeton,	250	1,800
Hamilton,	135	2,000
Cornell,	242	2,210
Columbia,	1,400	4,530
Lafayette,	60	2,190
Brown,	210	2,630

The above figures show that even that college man who prides himself on paying all his college bills and takes no remitted tuition or scholarship is yet educated by charity and is a great debtor to his *alma mater*. And he is also a debtor in proportion to the size of the institution which he attends.—*Williams Weekly.*

HUMOROUS HAPPENINGS.

One of the honored members of the Faculty became very indignant one night a few weeks ago, when the fire whistle sent forth its warning notes and disturbed his slumbers. He spent a few sleepless hours cudgeling his brain in an effort to invent some means of preventing such disturbances. Of course it never entered his mind that there might be a fire, and he was somewhat startled upon reading the evening papers the next day, to learn that there had been a \$2,000 fire in one of his neighbors houses.

A professor with an agricultural turn of mind, from, no matter where, in escorting some lady friends about the grounds, enquired if they would not like to see the famous College cow, Rosa Bonhuer? Of course

the ladies assented. Thereupon our enterprising friend marched boldly up to a stall, threw open the door, and disclosed to their admiring eyes, not the gentle Rosa, but the indignant countenance of the big Holstein bull, Maurice Clothilde.



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7.00 "	11.30 "	3.30 "	7.00 "
8.00 "	12.00 m.	4.00 "	7.30 "
8.30 "	12.30 p. m.	4.30 "	8.00 "
9.00 "	1.00 "	5.00 "	8.30 "
9.30 "	1.30 "	5.30 "	9.00 "
10.00 "	2.00 "	6.00 "	10.00 "
10.30 "	2.30 "		

Cars Leave College.—Standard Time.

6.30 a. m.	11.30 a. m.	3.30 p. m.	7.00 p. m.
7.30 "	12.00 m.	4.00 "	7.30 "
8.30 "	12.30 p. m.	4.30 "	8.00 "
9.00 "	1.00 "	5.00 "	8.30 "
9.30 "	1.30 "	5.30 "	9.00 "
10.00 "	2.00 "	6.00 "	9.30 "
10.30 "	2.30 "	6.30 "	10.30 "
11.00 "	3.00 "		

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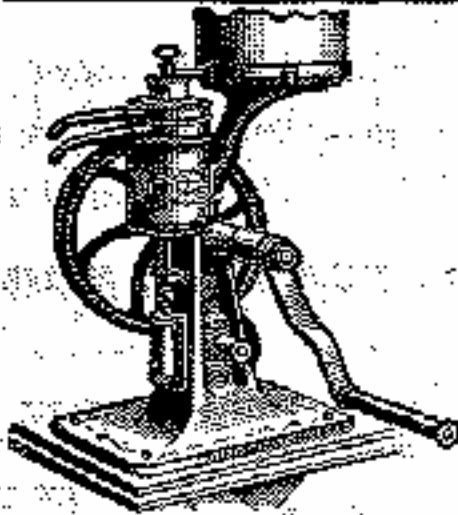
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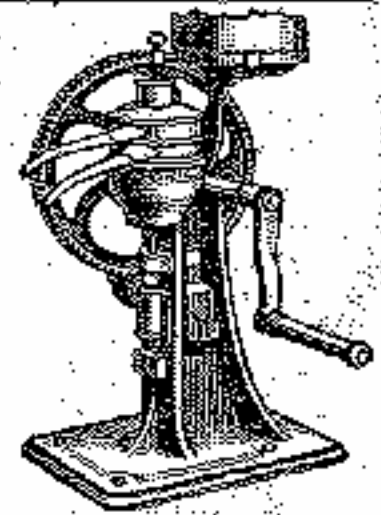
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