

THE SPECULUM.

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The State Dairy School.

Whatever may be said of the Agricultural College as a training school for farmers, or whatever doubts may be entertained concerning its proper fulfillment of the great object for which it was established, there can be no question that its latest addition, the dairy course, is doing all in its power to further the interests of this important branch of husbandry. The dairy school has just finished its second session, and the success which it has attained fully warrants the statement, that it will not finish its last as long as the State Agricultural College is a factor in industrial education.

The Dairy School, as most of the SPECULUM readers undoubtedly know, is in session during the last six weeks of the regular winter vacation. The course offered is intensely practical in every particular, and is open to both sexes. Co-education, however, has not as yet become a popular part of the course. The typical dairy student comes from the young farming class. He takes the course for the benefit he can get from it in the management of his own farm, or perhaps he has a view toward obtaining a position as manager of a co-operative or private creamery. At any rate he comes for business. It is needless to say that he leaves his evening suit and patent leather shoes at home—presumably; at least he does not show them at the college. Nor do the young ladies of Lansing see a great deal of this interesting type. In these two respects he differs quite materially from the regular student.

When the would-be dairyist arrives, at the opening of the course, he is at once ushered into the presence of Prof. C. D. Smith, the amiable and efficient head of the Agricultural department. After the

usual routine of enrollment the work begins at once. The first thing to master is the Babcock test. To those not familiar with this important adjunct of the creamery it would be well to state that the "Babcock test" is a contrivance for ascertaining the amount of butter fat in a given quantity of milk, cream, skim-milk or buttermilk. By its use the milk purchased by the creamery can be rated according to its value in producing butter, the relative efficiency of the power "separators" and the "creameries" can be ascertained, and the amount of butter fat lost in churning determined. The principle of the Babcock test is practically the same as that of the separators, namely, the fact that in a rapid revolution of a cylinder the fats being lighter than the other ingredients of milk will remain at the center of the cylinder, while the portions having a greater specific gravity are thrown toward the outside.

Having practiced awhile on the Babcock test (usually an hour every day is spent at it during the course) the student next tries his hand at either separating or churning. In the former case he may operate either the hand separator, called the "Baby," or the power separator, operated during the last session by an electric motor, but during the first session of the school, in 1894, by a steam engine, the running of which formed a part of the course of each member of the class. The principle of all separators is practically the same as that of the Babcock test—an application of the law of centrifugal force.

The churning is done by power or by hand. The power churn is a recent introduction, having been used only during the last session. In 1894 the churning was done altogether by hand. Each student is told how much

cream to take, how much coloring matter to put in and how much salt to add before the "working" commences. Especial pains are taken by the instructors to instill the fact that the greatest possible amount of care must be exercised by the student in these operations, as success or failure in butter-making is largely dependent on these two ingredients. The next point which the novitiate masters is the art of churning just long enough and not too long. A delicate sense of touch and sound is developed, so that the churner learns to tell just when to stop. Then the same principle is used in working the butter. The success which attended the efforts of the instructors was well attested during the first session in 1894, when M. A. C. butter sold in the Detroit markets for two cents per pound higher than any other brand.

Having become familiar with these more important duties the young dairyman starts to master the minor points—what may be called the routine work of the creamery. He receives the milk as it comes in the morning, weighs it, records the weight, and takes a sample of the contents of each can for testing. Then he puts a portion of the milk in a vat where it is heated to the required temperature for separating. The remainder he places in the creameries, which separate the cream from the milk upon the same principle which our grandmothers made use of, only, of course, improved and modernized. Next he sees to ripening the cream and preparing it for the next day's churning. Then comes the final drudgery—cleaning up. The cans must be washed, the churns scalded, the floor scrubbed, and everything made as sweet and clean as the kitchen of a model housewife.

The theoretical work of the dairy course consists in lectures on dairy chemistry, stock breeding, care and management of stock, and judging and scoring of butter.

Besides by Professor Smith, the students are helped along the thorny path by Prof.

F. S. Kedzie, Assistant Professor Mumford and Instructors VanNorman and True. The latter gentleman is the latest addition to the teaching force of the college. He comes from the University of Wisconsin, of which institution he is a graduate.

With the equipment which the building of a suitable laboratory for this work would add to the dairy school it could be easily made to double its present sphere of usefulness. It is to be hoped that the legislature will see fit to appropriate the amount necessary to construct such a building. The pioneer of industrial education in the country should not fail through want of sufficient appropriations to do all in its power to further the interests of so important an industrial science as dairy husbandry.

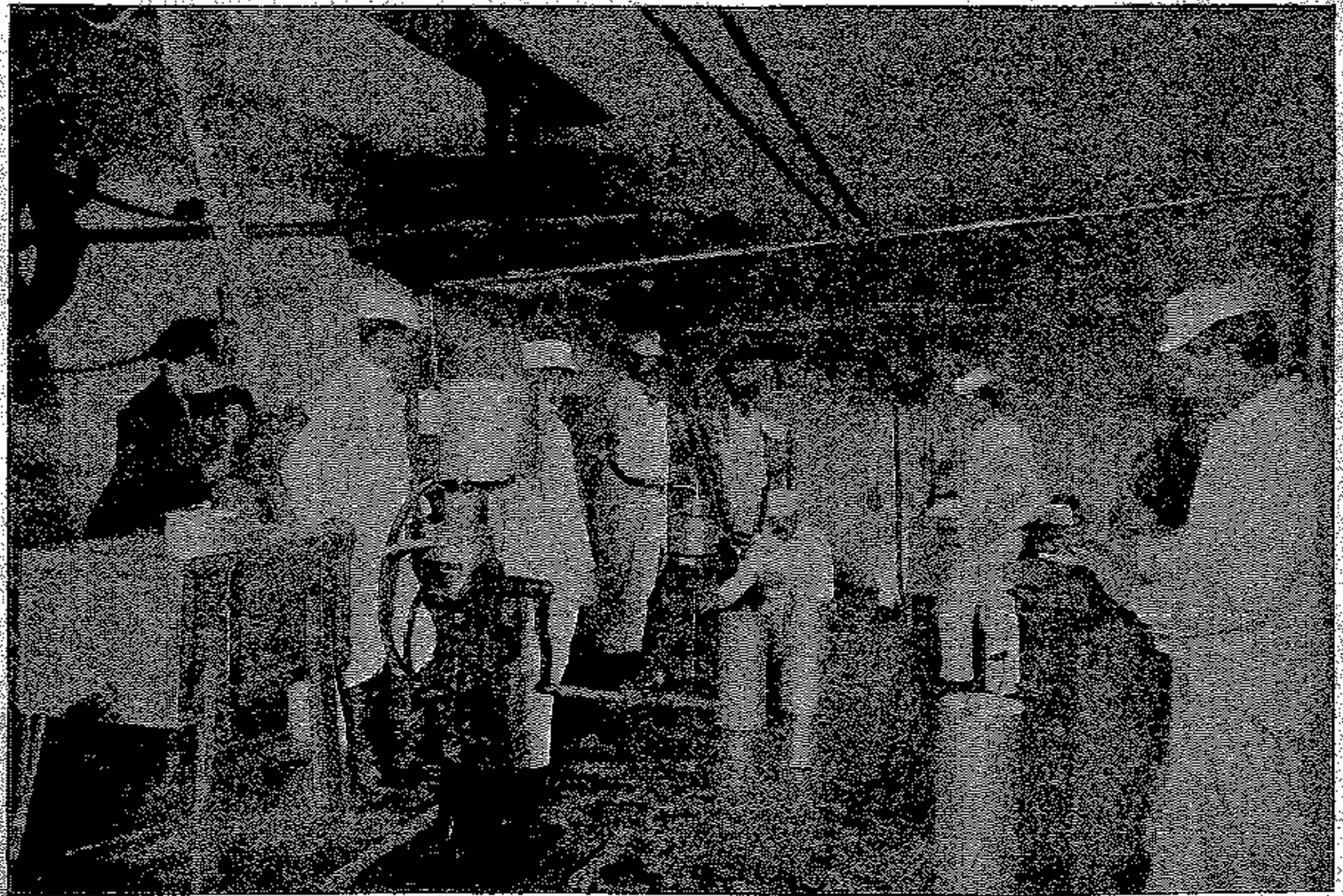
The Crisis in Athletics.

BY CHAS. H. ALVORD, REPRESENTATIVE TO THE
M. I. A. A.

At the beginning of the present collegiate year THE SPECULUM had occasion to speak of a resolution brought before the State Board of Agriculture prohibiting M. A. C. students from participating in inter-collegiate sports. It is now rumored that the matter is soon to receive serious consideration and that the chances are not unfavorable to its passage. While it is not our wish to cry out before we are hurt, we cannot afford to ignore so vital a matter, even though it has not yet taken a definite form.

To place our opinion against that of men whose wider experience and more mature judgement gives their arguments a weight which must demand attention, would be preposterous. We have no wish to do this; yet we believe that if the ground proposed is taken, it will work untold injury to the college, and we base our belief, not on any unwarranted presumption of our own, but on the opinions of those whose authority cannot be questioned.

The necessity for physical culture is



SCENES AT THE DAIRY SCHOOL.

tersely expressed by President Warfield of Lafayette College, in the following words: "College life is as important as college learning. The teaching which instructs the mind but leaves the man a misformed and half-developed being, is radically wrong somewhere." This principle is everywhere conceded and the matter resolves itself into the question, How is this training best to be accomplished?

Mr. A. B. Hart, a master in the art of physical training, says: "College authorities everywhere acknowledge, willingly or unwillingly, that athletic sports must be allowed and even encouraged." This is Nature's method of building up the body. But as another well-known educator says, "exercising for the mere sake of exercise is so uninteresting a procedure that few people will follow it out, whatever its ultimate rewards. An element of interest must be introduced if the best results are to be obtained. This element of interest is furnished by the various competitive sports, and this is one essential point of difference between perfunctory development of one's muscles and the development through entering into games. But there is another and equally important point of difference in favor of games against mere calisthenics. This is that the full value of physical development is only to be secured through competitive exercise. Proper physical development implies vastly more than mere muscular development. It requires a trained muscular co-ordination that is essential to brain development. Each group of muscles can contract only in a single way, but different groups of muscles may contract in an endless series of combinations. The brain, whose controlling influence makes such co-ordinate action possible, must be trained by contact with other brains. Hence physical development through athletic games has an educational value that is not approached by development through mere perfunctory exercises."

The force of this writer's logic is irresistible. But to clinch the argument

let us quote from another person whose authority as an expert is everywhere recognized,—Prof. N. S. Shaler:

"The intelligence of man," says Prof. Shaler, "and the keen, sympathetic understanding of his fellows which arises from that intelligence, awaken the desire to conquer for conquering's sake. * * * From this peculiar form of the contending motives comes the impulse to win in contentions of any sort. Whoever has gained a sense of the contentions on which all human advance depends must value the development of this motive. * * * Looking upon athletic sports in this way, considering them as a branch of natural education, the true trainer of youth will hesitate before he rashly ventures to interfere with the motives which lead to such directions. He will see that he must reckon with this nature in his effort to impose the newer and as yet less natural arts of the higher intellectual culture. He will see that the form and quality of man took their ancestral shape in just such pleasant activities as are manifest in our sports, and not in the grim work of the money-getting world for which he is endeavoring to fit the being. He will, moreover, see that the moral status of the youth which it is his first duty to affirm, has a certain gain from these modes of action. The habits of command, of co-operation and of laboring under defeat, qualities of the utmost value in maturer life, on which, indeed, the very successes of the race may depend, are cultivated in sportive contention as they cannot be in any mere artificial training. The teacher may prescribe the conditions of success in all modes of battle, with the amplest illustrations from history without giving the youth a tenth part of the masterful quality, which wins victories that he might obtain in a game of football. Therefore, I say that the first duty of the educator is to look carefully to his processes when he begins to interfere with this ancient mode of culture."

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person than anything else, and yet, when a young person is placed in this college for four years to fit himself for excellent work in life, the care and development of the body is left almost entirely to the caprice of each student. Is it strange that under this system—or want of system, rather—that so many break down or fail of high attainments?

Hard study is conducive to good health, provided it be accompanied by the right kind and amount of physical exercise. Athletic sports are very valuable, and should be encouraged among all students, under careful restrictions.

At our college it is often said that the compulsory manual labor and military drill fully take the place of physical exercise, but this is far from the truth. There are a great many kinds of work on the farm, garden, or in the shops, where certain students, term in and term out, hardly exercise enough to start the perspiration. The feeble students get the easy jobs, are sometimes excused from military drill, and if they appear on the playground, simply stand about watching the sports.

In my opinion no person is able to attend college for study who would not be much benefitted by certain kinds of exercise that could be prescribed by a person well trained to take gymnastics. There is no good reason for neglecting this physical training, only we are not accustomed to it. As a rule a graduate should be in better physical condition than a freshman, and each should be in better trim at the close of a term than at its beginning.

I fully believe that a symmetrically developed athlete, who shall have the education of a physician, and is a Christian gentleman, if employed to give all his time to our students, would do them more good than any man in our faculty. He would give each a most thorough physical examination at least once a year, and carefully prescribe the proper course to develop the defective points, and then by all honorable means stimulate him to perform the right amount of the requisite

exercise. He would restrain students in excesses of all kinds, and stimulate the weak to greater efforts. Such a man would have the hearty support of all college authorities.

The plan here outlined is, to some extent, already practiced with most excellent results in several prominent universities and colleges. Why should not M. A. C. engage in this most important part of an education, and thus keep to the point in this direction as she has in many other respects?

We need not now trouble ourselves about the kind of training, nor the apparatus needed, but unite in a vigorous search for just the right kind of a man, who, when employed, can surpass any of us in plans and their execution along this line.

Might and Right Rule the World: Might Till Right is Ready.

BY C. A. JEWELL, OLYMPIC SOCIETY.

(Delivered at the oratorical contest, Oct. 21, 1894.)

“Man is born on a field of battle.” And from the cradle to the grave our environments are those of a conflict. If we glance along our backward course the smoke of an endless engagement between two mighty forces bedims our vision. At different stages of the conflict they may have been clad in different armors and fought under different banners with different emissaries, but the strife has ever been, from the beginning to this hour, a strife for supremacy between two giant forces. Might, on the one hand, with its weapons of ignorance, superstition and deception, is arrayed against Right, with its weapons of justice, reason and truth. The one has been struggling to maintain its grip on the reins of human affairs; while the other has been endeavoring to wrest them from the grasp of the usurper.

It is interesting to examine the results of these onsets, and from them draw conclusions that are of value for the present and for the future. Let us investigate a few of them.

Nineteen hundred years ago, in an obscure province of the Roman Empire, an event of profound significance took place. It was the birth of the simple carpenter's son, whose life was a model, whose deeds have been hallowed, and whose teachings are fast becoming the creed of the world. But even before his birth the heavy hand of Might was raised against him; and from that time on, he and his adherents have been the ever present target for persecution and torture. But the funeral pyre of the thousands who suffered, became the torch for the millions who followed, until to-day the simple teachings of the lowly Nazarene are breathed in every tongue and in every zone; and they lend a more perfect lustre to each government and to every civilization. Alexander, Cæsar, and Napoleon, each in his turn had thousands subject to his mighty scepter, but Christ now has more subject to his will than they ever dreamed of having. "Might and Right rule the world; Might till Right is ready."

When our sires planted the seeds of righteous freedom amid the snows of New England, they had placed an ocean between themselves and England's monarch; but his hated emissaries stole after them, completely usurping their legislative halls, their judicial benches and their executive chairs, and when the usurpers' seats were sure they made our poor colonies bleed and groan with persecution, till finally our ancestors rose up in righteous wrath at Saratoga, Valley Forge and Yorktown; and history breathes to us the result when it tells the story of the freest government and the proudest flag the world knows.

The first number of William Lloyd Garrison's "Liberator" found the nation asleep to the wrongs and dangers of slavery. Custom, public opinion and the pulpit upheld the system and laughed, while grim Might held a race in bondage with the one hand and harrassed their champion with the other. But the human heart is rich with human sympathy; and slowly but surely Mr. Garrison was able by his tongue and pen to turn the

tide of public opinion, to overturn the custom of ages and to undermine the influence of the pulpit; he was able to lift a race from bondage and change a million slave pens to homes, and four million slaves to citizens. The world's history does not furnish a better example of the complete ascendancy of justice over error. Washington and Garrison; English tyranny and American slavery; the Declaration of Independence and the Emancipation Proclamation. What striking synonyms these are in the history of American justice. Might and Right rule the world; Might till Right is ready.

Thus we might go the endless round of human activity, and at every turn meet with countless blessings that have resulted from the crushing of error by the champions of truth, who have sacrificed and suffered. They may not have lived to reap their harvest, but they are none the less harvests because the sheaves have been bound by other hands than theirs.

"No truth has to art or to science been given,
But brows have ached for it, and souls toiled and
striven."

In the light of our past history, profuse with events demonstrating the unerring ultimate success of Right, what attitude is it wise for us to assume toward the errors of today? If we are true to ourselves and to the better spirit of our age, then there is but one course for us, and that is the course of simple justice; it is not an easy one, but rather it is attended by scoffs and scorns and toil and pain; but we must expect persecution, if we hope to have our ideas live and our reforms prosper, for persecution brings with it the sympathy of those who survive us. As weeds by their decay enrich the soil for the crop that follows, so Might prepares a rich field for the germination of Right.

Our forefathers wrought nobly, but they did not leave a perfect work. The diamonds of human institutions are still in the rough, and our age and the ages that follow must furnish the workmen who make them gems fit for the king. We

are at the threshold of a golden age of opportunity. It matters not what sphere we move in, we shall be confronted on every hand by evils and errors that need eradication.

Are we associated with religion? Then we may find a work in our own realm. For the capitalist and the politician are permitted to use religion as a cloak for their infamies, and as a key to the confidence and pockets of those with whom they deal, while in many localities the tone of spirituality is so far lowered that it is frequently spoken of railingly; and a broad distinction is made between the religion of the church and the religion of the Christians. Might has crept in and finding the church in lethargy has built an altar to money, to dress or to pleasure in a corner of our temple; and many of us secretly worship there.

If we turn to our social institutions we find conditions quite as bad. Every city in our land presents myriads of circumstances which belie that part of our new Declaration of Independence which says: "All men are created equal." Might, in the form of money, of social prestige, or of "political pull," makes irresistible inroads upon the rights and privileges of the masses. Every hamlet within our borders has a handful of hidden tragedies of every sort and description, in which heavy-handed Might sits enthroned, and extends its scepter of wealth as a token of favor to the few and as a rod of chastisement to the many.

But we do not reach the culmination of Might's pollutions till we enter the realm of politics. A democracy, as exemplified in our own perverted government, seems to have for its sole aim the maintenance of a race-track for financial and political races, with gigantic purses at stake; a race in which justice and morality are hopelessly handicapped. When President Jackson promulgated the doctrine of "rotation in office," he sowed the wind, and today we reap the whirlwind, for by it a whole army of government officers, both State and national, secure their nomination and election by "political pull,"

and not through a superior fitness for the position. And when they are seated they spend their time in paving their way to a re-election, and not in the service of the people.

This sort of corruption reaps its blackest harvest in our municipal government where "ward politician" has become the synonym for "political corruption." Our cities contain one-third of our population, and our municipal governments are the nearest a farce of any in the world. They have become hot-beds of corruption and dens of bribery, where the "bosses" with their "machine" and their "boodle" have gambled and juggled with political issues till "popular government" has become a by-word and a reproach the world over.

The Rev. Dr. Parkhurst and Robert Ross have taken up the gauntlet and begun a noble fight against the enemies of justice in New York. Who will champion the cause in Michigan? We are on the eve of a general election, and at such times these questionable means are always used. Do we seek a field of action? This fight is open, and we may begin with to-morrow's sun. We may begin by demanding pure candidates, fair ballots and an honest count next April, and by demanding positive, practical political reforms in the months that follow. We may not get immediate applause for it, but let us remember with the poet:

"That to side with Truth is noble, when we share
her wretched crust
Ere her cause brings fame and profit, and 't is prosperous
to be just."

And if we engage in such a work we have this encouragement, that though it formerly took many generations and many martyrs to reform an abuse, yet today, with our railroads, our telegraphs, our printing and our education, a score of years are sufficient to accomplish a reformation from its nucleus to its perfect fruit. And furthermore, reforms are accomplished in these days by reason and persuasion, not at the point of the bayonet; by evolution, not by revolution.

Legend tells us there is a sunken city

off the coast of France, and when the wavetroughs are deep the spires of its churches may be seen, and when the calm prevails the music of their bells may be heard. And so it is with a good principle; the waves of Might may submerge it, but in the storm or in the calm its justice may be seen and heard. There is no good principle so deeply sunken but that the plummet line of justice can reach and recover it, for "Might and Right rule the world; Might till Right is ready."

Then let the next century be the graveyard of Might and the building site of Right. Let us erect magnificent humane institutions on the decaying ruins of the mighty evils of our age. God did not create this world by chance, and he does not rule it by chance. There is a method in what seems to us madness, order in what seems chaos, and wisdom in what seems folly; and if our conscience is our prime minister, our works will live and our names will be cherished, and we shall be able to hasten the day when Right shall rule without a rival.

SCIENTIFIC.

Cross-Fertilizing Corn.

The subject of cross-fertilization of plants has long been an interesting one to botanists, and the maize or Indian corn being monœcious and abundantly flowering, has been a favorite plant on which to experiment. Among botanists and corn-growers there has been considerable discussion as to just the extent of influence one variety of corn has upon another in one and two years' crossing; but it has been generally conceded that there is no appreciable change until the second year.

Last season two experiments were conducted on the farm to determine if possible with some degree of certainty the effect of one and also of two years of crossing. For the first experiment the Davenport White Dent and Hathaway Yellow were selected. These varieties were pure and in distant fields so there

was no chance for accidental crossing. The ears selected for the experiment were enclosed in cotton sacks before the silks had made their appearance. Fertilization was accomplished artificially by taking tassels from one field and inserting them into the sacks in the other as soon as the silks were sufficiently advanced to warrant their being properly fertilized. Much care was exercised that the ears should not be reached by pollen of their own variety.

The results were not startling but quite satisfactory. Of twenty-five ears of Davenport covered, nineteen produced corn; but of these only twelve were properly fertilized. This was easily accounted for by supposing that the pollen was inserted before the silks were in proper condition. Six ears of this lot showed distinct signs of crossing, having numerous yellow kernels, while the variety pure is perfectly white. Of five ears of Hathaway Yellow (Dent) fertilized as above, four produced corn and three of these showed faint traces of the white cross, numerous kernels being considerably lighter than the others, while the pure ears are uniformly of a deep amber color. In neither of the crosses described above was there any perceptible alteration in the cob.

The second experiment was somewhat different, being confined entirely to second year crosses, and in this case artificial fertilizing was not practiced. Twelve varieties were used in this experiment. These had been grown in adjacent rows the previous season with no indication of crossing whatever. The ears selected for seed were typical ones from the different varieties, and in appearance were perfectly pure. Very interesting results were secured by this experiment. The crop produced corn in the greatest variety, in every possible mixture of form and color. There was scarcely a single row that contained enough corn free from crossing to indicate the variety planted. It has been claimed by some that the dent corn has little if any influence upon the flints; and still there were found in

these rows dents and flints in all possible combinations. However, it was observed that the flints were the stronger, and in one instance a pronounced dent—Sheep's Tooth—was entirely obliterated by its neighbor, a flint—Dutton; every ear, excepting one, was apparently a pure Dutton. One remarkable thing noted was that, with all the variations mentioned above, the color and general form of the cob in nearly every case inspected appeared to have been unaffected. The Canada Dent retained its white cob, the Calico Dent its red, and so on.

These experiments go to prove: first, that there is sometimes a perceptible change in corn the first year of crossing; second, that dents may be crossed upon flints; third, that, as a rule, the cob is unaffected the first and apparently the second year; fourth, that radical changes due to crossing are more likely to make their appearance the second year than the first.

L. D. S.

Notes.

The Michigan Academy of Science, which now consists of over 100 members, held its annual winter meeting in the State capitol, December 26 and 27. A valuable program was presented, which we here print as of interest to past and present students of the college:

PROGRAM.

Wednesday, 1:30 P. M.

1. Call to order and introductory remarks by the President.
2. Report of Executive Committee.
3. Determination of the hour for election of officers and other business.

Presentation of Papers.

1. The Mammals of Michigan, Dr. J. B. Steere
2. The Birds of Michigan, Prof. D. C. Worcester
3. Additions to the Flora of Michigan, Mr. C. F. Wheeler
4. The Cryptogamic Flora of Michigan, Mr. L. N. Johnson
5. Work of the Michigan Fish Commission, Prof. H. B. Ward
6. Work of the Michigan Fish Commission, Dr. C. A. Kofoid

Wednesday, 7:30 P. M.

7. Our Society and a State Survey, Prof. W. J. Beal
8. Practical Benefits of Bacteriology, Prof. F. S. Navy
9. Simian Characters of the Human Skeleton, Prof. W. H. Skerzer
10. Date and Development of Michigan Archeology, Mr. H. I. Smith

11. Some Notes on the Michigan Coat of Arms, Prof. W. J. Beal

Thursday, 9:00 A. M.

12. Flora of Michigan Lakes, Prof. Chas. A. Davis
13. Michigan Lepidoptera, Dr. R. H. Wolcott
14. Review of our Present Knowledge of Molluscan Fauna of Michigan, Mr. Bryant Walker
15. Distoma Petalosum: A Parasite of the Crayfish, Mr. C. H. Lander
16. Bacteria and the Dairy, Prof. C. D. Smith
17. Tendencies in Michigan Horticulture, Mr. A. A. Crozier
18. Futile Experiments for the Improvement of Agriculture, Dr. Manly Miles

A bill is already before the legislature to have 3000 copies of the annual report of the society printed for distribution; and another result of the meeting has been the introduction of a bill to authorize a State Natural History survey. Mr. Bryant Walker was elected president for the ensuing year. A summer or field meeting of the society will be held the 30th of May next. It is expected that these meetings, by systematizing the work and appointing committees, will develop it rapidly.

The Botanical Department received lately 147 packages of seeds from the famous Kew Gardens, near London, the most extensive and best managed botanic gardens in the world. These were partly in exchange for specimens furnished from our own gardens. The department has also been receiving plants and seed from several other sources.

A noticeable curiosity is a large specimen of fungi, *Agaricus (Pholiota) Squarrosus*, MULL., found in a basswood log, cut in 1892, sent in the Michigan forestry exhibit to the World's Fair, and deposited afterwards in our Botanical Laboratory. This fungi belongs to the mushroom family, and grew out from between the bark and wood.

Mechanical students should note the discussion now going on as to the relative merits of automatic and throttle governed engines. One of the first and finest high-speed automatic engines was called the Porter-Allen engine, Mr. Porter being chiefly instrumental in its design. It is interesting to discover that Mr. Porter

now proposes to substitute the throttle governed for the automatic. Articles referring to this subject may be found in *Power* and the *American Machinist*. They are mostly abstracts of an article recently read by Mr. Porter before the American Society of Mechanical Engineers.

The State Board of Agriculture, acting as trustees of the State Agricultural College, have decided to stop clearing up the woods of the college farm, since most of the ripe timber has been removed, and have recently placed these lands under the management of the professor of forestry, who is authorized to study them with view to making them models of their kind so far as he may be able.

A Problem in Arithmetic.

If any apology be due the readers of *THE SPECULUM* for obtruding the science of number into this column, let it be a frown on sensational, misdirected charity.

During the present winter many have received sheets variously numbered below fifty and containing this stereotyped statement and request:

"A medical institution in — has offered to treat a young lady who has been a cripple since she was six years old, if she will collect one million cancelled stamps, and we have started a chain of letters in which we ask your aid. Make three copies of this letter, only change the date, and place the next higher number at the top, numbering the three letters the same. Return this letter with ten or more cancelled stamps. * * * The persons getting numbers fifty are merely to return with stamps."

We are not concerned in the question of the existence of such an institution or such a patient. The stipulation calls for 1,000,000 stamps, and the method adopted involves a geometrical ratio.

First, as to the number of cancelled stamps: The first term will be 10, the ratio 3, number of terms 50. Attempt-

ing no greater precision in any computation than is furnished by seven-place logarithmic tables, we have: The number of stamps sent in with letter number one, 10; with numbers two, 30; with numbers six, 2,430, etc. If the numbers were stopped at 11 and each recipient of the request furthered the scheme, there would be returned 885,730 stamps; if at 12, the number would mount up to 2,657,200, two and one-half times the required number. Let the population of the globe, the hosts of heaven and the millions yet to be enlisted in the cause to carry it to completion, and we will have the total stamps returned equal to 3,589,509,999,999,999,999,999,995; every ten stamps require a human to extend the chain, and each victim requires twelve cents for stationery, amounting to \$430,741,100,000,000,000,000,000. These numbers stagger the imagination and bid us stop.

The whole matter might be dismissed as a mighty hoax were it not that business has been impeded, the mails cloyed, passenger and express traffic delayed, while a crafty miss has received wagon-loads of cancelled stamps—mute testimony to her notoriety. Sufficient money to found, equip and maintain a hospital will be expended at the instance of some scheming adventuress.

Nor is this all. A similar method has been used by the organization of Deaconesses for raising money, and it transpires that a debt-ridden Y. M. C. A. in the State contemplates starting such a chain, asking for the contribution of ten cents from each correspondent. Such business methods as these certainly cannot meet the approval of the actuary, while they mock charity and dull the sense of beneficence. C. C. P.

A school of pedagogy will soon be instituted at the University of Chicago. In addition to the special instruction given by the faculty of this school, each department of the University will give more or less attention to the method of teaching its particular subject. The new school will be absolutely unique in this country, and only paralleled at the University of Jena, in Germany.—*Ex.*

THE SPECULUM.

PUBLISHED MONTHLY DURING THE COLLEGE YEAR,
BY THE STUDENTS
OF THE MICHIGAN STATE AGRICULTURAL COLLEGE.

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AGRICULTURAL COLLEGE, MAR. 15, 1895.

THE management of THE SPECULUM takes pleasure in presenting the first March issue of the paper that has ever appeared. THE SPECULUM began as a quarterly, soon expanded to a bi-monthly, and finally made a volume of eight numbers, omitting the March issue. Hereafter the paper will appear every month during the college year.

ANOTHER alumnus of the college has been appointed as a member of the State Board of Agriculture. It is needless to say that such action on the part of the governor will be duly appreciated by the alumni.

A BILL has been introduced in the legislature prohibiting football at State institutions. If the work of our teams last fall is a fair sample of that at the rest of the State colleges we can hardly blame the law-makers for being a little bit ashamed of the way their proteges play the great game.

THE somewhat erratic mayor of Detroit may cause many a broad smile, but

anyone who pays ten cents to ride from the college to Lansing by the present trolley system would be willing to stand the eccentricity if a little quintessence of Pingreeism could be instilled into the officials of the capital city.

AN ounce of prevention is worth a ton of cure. Every Saturday evening the society rooms on the fourth floor of Williams Hall are crowded with students. The rooms below are deserted for a period of three or four hours. A lamp left burning in one of these rooms might ignite a curtain or drapery. Result, a charge of criminal negligence against the college authorities, and all because fire escapes are thought to be useless appurtenances to State buildings.

SPEAKING of the Students' Government, it would be well to bear in mind the success of that system during the last term, and the necessity of a continuance of the hearty support which it received at the hands of the student body. The great fault of the old system lay, not in its weak points, but in the lack of support which it should have received. The new scheme has been tried and proven successful. It should not be allowed to die out.

FROM present appearances, it would seem that we are in danger of losing our place in the M. I. A. A. We do not question the good intentions of the State Board, but we are unable to see what they can substitute that will have half the stimulating influence which field day does. It would be folly to deny that our present athletic system has poor points, but it must be admitted that its good qualities far overbalance its faults. Other colleges have tried to find a substitute and have failed. Will M. A. C. prove an exception?

THE "Rules and Regulations of the Michigan State Agricultural College" is the title of a pamphlet which the students received at their homes shortly before the

opening of the term. The pamphlet contains the usual seventy-odd rules for the righteous conduct of all students, together with miscellaneous information concerning matters of such vital importance as special examinations, class standing, etc. The Students' Government is recognized as a part of the government of the college, but the laws governing that body are not printed. Is the "heartly co-operation plan" falling into disfavor?

BESIDES the athletic question, the subject of commencement exercises will be discussed at the State board meeting March 12. The scheme proposed is to do away with the old plan of eight orators and substitute a "scientist of national reputation" who will deliver the principal address. This will be supplemented by an essay from one graduate in each department, on some topic connected with his course. These last named speakers are to be chosen on the basis of scholarship. Everyone who has had to sit through the tedious exercises of former commencements will heave a sigh of relief if the measure goes through; yet it seems that the vital point of the matter still remains unchanged. To have the honors distributed on the basis of scholarship is practically leaving the matter as it was under the old rule. It was upon this point that all the criticism against that system has been turned. To leave the matter still resting on the basis of "marks," with only one man from each course to receive distinction, is much worse than when the honor was divided among eight. Rather let the faculty choose the speakers, or let them be selected for especial proficiency in some line of original research, the development of which will be of interest to the audience. At any rate, the "scholarship" basis should be discarded as a method so far behind the times that the colleges which retain it are almost unknown in the present day and age.

WHILE it seems that either the library committee or the faculty is hardly doing

the right thing about the government of the library, the students are also undoubtedly at fault in the way they use this important feature of the college. The excuse which the library committee gives for the severity of the fines imposed on delinquency in returning books, is that the privilege of drawing books is much abused. Nor is this all. They claim that books are deliberately stolen from the shelves. If this be true, some of their restrictions upon the use of the library are perhaps warranted, but the question arises, is it just to make the innocent suffer the more for the sins of the few? THE SPECULUM cannot believe that any student would maliciously steal a book from the library; but whether maliciously or not, the effect is the same. Those who are guilty of such theft—if there be such—should consider that their action, whatever motive may inspire it, is inconveniencing everyone who has occasion to use the library. If they look at it in this light they cannot help but see that the harm they do extends very much further than the mere value of the book. The value of the library increases as liberty of its use widens. It is of far greater value to the students, taken as a whole, than any single laboratory; hence every care should be taken that its privileges are not abused. On the other hand, it must be admitted that the severity of the fines imposed is most unjust, and even in the light of the abuse mentioned above, quite uncalled for. It must also be admitted that with the services of two librarians there can be no possible excuse for the library being closed at the time when it can be used to the greatest advantage. THE SPECULUM does not wish to be overzealous in its fault-finding, but in a matter of such vital importance some criticism seems not only warranted, but necessary.

Mr. F. C. Schneider, an old alumnus of the college, is giving great efficiency to the weather service of Michigan. He aims to give full prognostics of the weather to the leading post offices in the State, where farmers will find the information of great value in carrying on their farm operations.

COLLEGE NEWS.

ABOUT THE CAMPUS.

Hon. E. O. Avery, of Alpena, visited the college in January.

The triennial alumni catalogue is completed and ready for distribution.

The second crop of lettuce from the forcing house has just been marketed.

Hon. George B. Horton, of Fruit Ridge, Master of the State Grange, visited the college Feb. 26.

Dr. Grange was unable to meet his class in veterinary science on account of a severe attack of la-grippe.

The total enrollment thus far is 220. Of this number thirteen are "co-eds."—a step nearer co-education, you see.

The hourly passage of the vestibule car adds much to the comfort of travelers between the college and Lansing.

A very neat and artistic souvenir of college views was published during the winter for distribution at farmer's institutes.

An effort is being made on the part of the State Grange to induce the State Board to establish an industrial course for ladies.

The call for information in regard to the prevention of potato scab was so great that it was necessary to reprint the potato scab bulletin.

The Botanical Department has received from the Department of Agriculture at Washington a gift of 4,000 plants, 1,000 of which are parasitic fungi.

There will be on March 12th a joint meeting of the faculty and State board for the purpose of discussing athletics at the college and a new scheme for graduating exercises.

On Feb. 13th, the last day of the dairy school, the State legislature adjourned and about sixty of the members visited the college. Since then they have been frequent visitors.

On the morning of Feb. 4th the thermometer registered 24° below zero. This was by far the coldest morning of the winter. The next coldest was on Feb. 5th, when it was 17° below.

Professors Smith and Gladden delivered papers before a union meeting of the West Michigan and Grand River Valley Horticultural Societies held at Grand Rapids Feb. 26th and 27th.

Seventeen of the seniors are taking meteorology. Arrangements are being made to supply most of the class with barometers, with which to study the changes of the weather in connection with class work.

Mr. Austin Cary, of Bangor, Maine, made a recent visit to the college to obtain information in regard to the forestry of Michigan. Mr. Cary is in the employ

of the U. S. Forestry Division, and also of the Forest Commission of Maine.

The joint legislative committee on the Agricultural College visited the college Feb. 28th to look after the necessity of appropriations for the next two years. The members who came were: Representatives Linderman, Ware, Kelly, Waldo, Weeks and Rowley, and Senator Briggs.

Hon. E. O. Allen, Assistant Director of the Office of Experiment Stations, and editor of the departments of Chemistry, Foods, Dairying and Animal Production, recently made an official inspection of the station, its equipment, methods of work, and results of work already accomplished.

An Ideal boiler has been put in Abbot Hall in place of the Furman heater. The Ideal is highly recommended and it is believed will soon pay for itself in the saving of coal. The Furman boiler will be repaired at the college shops at small expense and utilized elsewhere. The college authorities will not purchase drop tube heaters in the future.

At 3 o'clock Tuesday morning fire was discovered in the house of Professor Weil. About two hundred students responded to the alarm and with two lines of hose soon had the flames under control. The fire started in the basement from a defective furnace flue. The building was damaged to the extent of \$500. The principal loss was to Prof Weil, about \$1,200, mostly covered by insurance. Words of highest commendation have been heard in regard to the work of the fire department.

Alva T. Stevens, assistant on the farm department, is the Democratic nominee for Commissioner of Schools for Ingham county. Mr. Stevens has been identified with the teachers of the county for twelve years and is one of the best of that profession, always putting life and energy in his work. For two years he was lecturer and is now serving the second term as Master of the Ingham County Grange. It was principally through his efforts and influence that the mammoth Grange picnic was held at the college last summer.

The institutes held in various parts of the State during the winter were attended with marked interest on the part of the farmers. These meetings aroused enthusiasm for the college and its work by demonstrating the usefulness of the college. They were somewhat interfered with by the excessively cold weather and storms, but this did not diminish the enthusiasm except in case of the snow blockade at Manistee. The amount of work done by the officers of the college was a large drain upon their time and strength. While some of the professors at the end of the fall term had simply to close their books, lock their offices and have a good time for the whole vacation, others were compelled to work almost the entire vacation through. President Gorton attended all of the institutes, and by his talks in regard to the college and its work, illustrated with stereopticon views, made a most favorable impression on the farmers of the State.

MECHANICAL DEPARTMENT.

Professor Weil obtained a collection of working drawings of machines during his visit in the larger eastern cities.

The classes in senior and junior designing are crowding the designing room. All of the regular desks are now being utilized, and in addition six temporary desks have been placed in position.

During vacation the engine room was sheathed up on the sides and ceiling. The lathes and machines were overhauled and are now in excellent condition. An extension has been made to the tool room, and the armature on the small dynamo was rewound.

Both the agricultural and mechanical freshmen are working in the wood shop. Although the accommodations have lately been increased, the room is now crowded, and more work-benches are needed. The agricultural sophomores are pounding iron in the blacksmith shop.

IN THE LIBRARY.

The sets of periodicals are being completed, and some new ones are being put in.

Sixty new filing cases have been put in the north gallery to accommodate pamphlets, etc.

An effort is being made to get complete sets of Reports of Agriculture from all of the States.

People from Lansing are making use of the library and express surprise at its extent and convenience.

The magazines and experiment station reports of 1894 are nearly all bound and placed on the shelves.

About seventy-five volumes on biography have been added to the library during the winter, and new books for all departments will be bought as soon as the lists can be made out.

FARM DEPARTMENT NOTES.

Press bulletin No. 7, on Alsike clover, was issued Jan. 15, 1895.

Experiments of fertilizers on muck land will be carried on during the summer.

Numerous forage plants, including alfalfa from Europe are being tested by the experiment station.

Arrangements have been made to have Judge Ramsdell, of Grand Traverse, and others in northern Michigan make tests with the *Lathyrus silvestris*.

On March 13 Prof Smith will speak at a farmers' institute at Stephenson, Menominee Co. This is the first time anything of this kind has been held in that part of the State.

The milk record of Belle Sarcastic, a Holstein heifer for the ten months beginning April 17, 1894, was 18,142 4 pounds. This is undoubtedly the largest record for a four-year-old made within the past year, and one of the largest ever made. The economy of production was good, for at the end of the ten months she was producing a pound of butter fat for every twenty pounds of dry matter consumed.

In pursuance of the resolution of the State Board,

by which the policy of the improvement of the farm forest was outlined, a large part of the forest east of No. 7 has been cleared during the winter. The brush and debris have been removed and the forest put in an ideal shape for illustrating methods of forestry. Later a six rod fire break extending north and south through these woods will be cleared. Specimens of conifers and evergreens not indigenous will be set out and a careful record kept of their location and condition. The land west of the east road is already cleared and later will be offered for sale.

The woods south of the D. L. & N. R. R. are being cut down. The ground will be plowed and planted to regular farm crops for a series of years and finally reforested as an experimental ground for varieties of timber new to this vicinity.

It is the hope of the department to make these forests an additional attraction to the college, and an object lesson in forestry methods.

WHERE OUR FACULTY SPENT THE WINTER.

Mr. and Mrs. Gunson made a trip to Canada.

Professor and Mrs. Babcock were in Ann Arbor.

Prof. Smith visited Washington and other eastern cities.

Prof. Barrows and family spent the winter at Reading, Mass.

Lieutenant Lewis and family were in Baltimore, Maryland.

Dr. Kedzie and family stayed at the college, as did also Dr. Beal and family.

Professor and Mrs. Vedder visited the Professor's people near Ithaca, N. Y.

Dr. Edwards and family lived in the city, so the boys could attend the city school.

Profs. W. O. Hedrick and C. C. Pashby were at Ann Arbor. V. V. Newell was at home.

Prof. Holdsworth and family spent one month at Ft. Smith, Arkansas, and two months in Florida.

Prof. Noble and family stayed at the college, as did also Prof. and Mrs. Wheeler and Mrs. Landon.

Professor and Mrs. Davis traveled through California. Mrs. Davis will not return until May or June.

President Gorton's headquarters were at the Hudson House in Lansing. Mrs. Gorton and son were in Detroit.

Professor Woodworth and family were at Lake City, Florida. The Professor spent considerable time studying the phosphate mines of Florida.

Prof. Taft, accompanied by Hon. C. J. Monroe, of the State Board, made a trip to California in February in order to attend the convention of the American Pomological Society.

Prof. Chamberlain spent the winter in Europe. He visited many engineering establishments and several of the great technical schools, in addition to places of interest to all travelers.

Y. M. C. A. RECEPTION.

Friday evening, March 1, the Y. M. C. A. held its usual term reception. About one hundred and forty persons were in attendance, and the assembly room was filled to overflowing. A short but very interesting program was rendered as follows:

Recitation "The Butterflies' Fad."

Miss Marguerite Barrows.

Encore "The Boy and the Whale."

Vocal Solo "Alice, Where Art Thou?"

Recitation It shall be nameless.

Prof. A. B. Noble, assisted by Prof. W. S. Holdsworth.

Encore Listening to Rubenstein.

Piano Duet Mrs. Dunning, Miss Moe.

The program was much appreciated and each number was roundly applauded. Following the program a pleasant hour was spent in conversation. The game of "The Senses," conducted by Mrs. Kedzie and Mrs. Landon, and "Parlor Football," under the direction of Mr. Yebeyna, assisted very materially in making the time pass pleasantly. At the close Mr. Yebeyna sang several Japanese songs, which were quite a novelty to most of those present. Finally all united in singing "God be with you till we meet again," and departed declaring it to have been one of the most successful receptions in the history of our college Y. M. C. A.

Among the important measures passed by the State Board during the winter are the following:

Gordon H. True was engaged as assistant in dairy work at \$600.00 per year from Dec. 20th, 1894.—

The resignation of Hon. Edwin Phelps from the Board was accepted, and Hon. W. H. Boyden was elected in his stead.—The present officers were elected for the ensuing year.—The following estimates for apportionment were adopted and the President and Secretary were instructed to prepare a bill embodying such estimates to be introduced in the legislature: Front fence to grounds, \$250.00; dairy building, \$17,500.00; farm and stock barn, \$4,000.00; three water closets for dormitories, \$3,000.00; repair of buildings, steam and water works, \$12,000.00; student labor, \$8,000.00.

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.

'67.

W. W. Daniels is professor of Chemistry in the University of Wisconsin.

W. W. Tracy, Sr., lectured at the Washington institute this winter.

WITH '67.

C. J. Monroe, the newly appointed member of the Board of Agriculture, is a prominent farmer and fruit

grower near South Haven, and president of the First State Bank of the above named city.

'70.

Ex-Secretary H. G. Reynolds has erected a \$10,000 house in the city of Pasadena, the paradise of California. On the outskirts of the city he has a beautiful orange grove comprising ten acres.

'74.

Wm. Cook is superintendent of schools of Marshall Co., South Dakota.

WITH '75.

Thomas F. Rogers, editor of the *Ravenna Times*, was chairman of the institute held at Ravenna, Mich. during the winter vacation.

'76.

Eugene Davenport has been appointed Dean of the College of Agriculture at the Illinois University.

'78.

E. O. Ladd is register of deeds of Grand Traverse county.

'79.

Harry Wilcox is county treasurer of Baraga Co., Mich.—*Union Lit.*

L. G. Carpenter, professor of engineering and physics at the Colorado Agricultural College, is one of the editors of the Standard Dictionary.

Mark Thomas is in the dairy business at Decatur, Mich.

'82.

Dr. W. H. Coffron is medical examiner of the United States Pension Office at Washington, D. C.

E. A. Murphy has been re-nominated by the democrats of Ionia for county commissioner of schools.

John Ewart was unanimously re-nominated for commissioner of schools of St. Joseph Co., Mich.

'83.

H. A. Danville is the republican nominee for superintendent of schools in Manistee Co., Mich.

Ernest P. Clarke has been re-nominated by the democrats of Berrien Co., Mich., for commissioner of schools.

Charles Lindsley is doing excellent work as school commissioner of Elizabeth Co., Colorado.

Carl Bank is superintendent of the Preston School of Industry at Ione, California. The legislative committee were so well pleased with his work that they recommended to increase the asked-for appropriation by the snug sum of \$50,000.

The republicans of Ottawa Co., Mich., have nominated Colon C. Lillie for commissioner of schools.

'85.

C. B. Collingwood, a Lansing lawyer, will build a new residence on Washington Ave.

'86.

John W. Clemons is drain commissioner of Clinton Co., Mich.

'88.

A. B. Cordley took an active part in the institute held at Washington, Mich. H. B. Cannon was secretary of that institute.

W. F. Staley is in the United States Land Office at Washington, D. C.

'89.

Frank M. Seibert is a prominent physician and medical examiner of the Southern Pacific Railroad at Cheno, California. The SPECULUM congratulates him upon his recent marriage.

G. E. Hancorne is teaching in Nashua, Iowa.

P. G. Holden has received the nomination for commissioner of schools in Benzie Co., Mich.

F. J. Niswander is Deputy State Auditor of Wyoming, at a salary of \$1,200 per year.

W. L. Rossman is the proud father of a girl, born Dec. 22, '94.

R. C. Clelland expects to open a law office in Lansing this spring.

George J. Jenks of Sand Beach spent a few days at the college recently, doing some experimental work in physics.

Prof. G. C. Davis has returned from his western trip. The California atmosphere seems to be especially adapted to the development of the imaginative power. Professor Davis did not escape its influence, and is now ready to give any information regarding climate, hunting and natural scenery that may be desired.

'90.

Orlando Turner is with Churchill & Co., commission dealers, of Leipsic, Ohio.

Fred W. Ashton has opened a law office in Grand Island, Neb.

W. J. Breese is in Pittsburg, Pa., drafting for the Carnegie Steel Works.

WITH '90.

W. E. Bond has a pleasant home near Holland City, Mich. He is one of the most successful teachers in Ottawa Co., and spends his summer vacations in the cultivation of fruits and vegetables.

'91.

Gordon—Knott. Married, Nov. 27, '94, at the residence of F. F. Russell, 503 Grand St., Lansing, Mich., Mr. A. F. Gordon to Miss Anna Knott. The SPECULUM extends congratulations.

A. C. Sly has sold his newspaper business and is now deputy treasurer of Roscommon Co., Mich.

Prof. F. B. Mumford is the first one of a long list of bachelor professors and instructors to cross the narrow (?) gulf and enter marrieddom. The event took place Jan. 30, '94, at the home of the bride, Miss Jessamine Kennedy, of Hanover, Mich. The SPECULUM takes occasion to extend hearty congratulations.

C. P. Locke is junior member of the firm Ellis & Locke, attorneys, Ionia, Mich.

W. A. Fox is superintendent of schools in Noble Co., Ind.

K. L. Butterfield, editor of the *Grange Visitor*, lectured at the State institutes this winter, and was the official reporter for the State Board of Agriculture.

'92.

A. N. Bateman has been re-elected surveyor of Eaton Co., Mich.

WITH '92.

Vernon J. Hooper is principal of the Mackinaw City schools, and expects to enter the Detroit College of Medicine next fall.

'93.

R. B. Pickett was the mainspring of an institute held at Springport last winter. Rumors are afloat to the effect that Pickett is "contemplating entering the matrimonial state."

Chas. Leipprandt is spending the winter vacation in Massachusetts studying stock breeding.

Otto H. Pagelson has resigned his position as assistant chemist of the Iowa Agricultural College, and has entered Ypsilanti for the twenty weeks course provided for college graduates.

A. B. Chase is book-keeper in the First State Bank of South Haven, Mich.

W. L. Cummings is land surveyor at Clarksdale, Miss.

E. B. Hale has been nominated for commissioner of schools by the republicans of Ionia county.

Miss Kate Cook will visit M. A. C. during the summer. The California climate does not seem to agree with her.

The Ingham county democratic ticket has greatly increased its chances for success by containing the name of A. T. Stevens as nominee for county commissioner of schools.

W. Paddock paid the college a visit during the winter vacation. He is still connected with the Geneva experiment station, and is doing excellent work.

Fred Clark is studying law in Kalamazoo.

D. J. Crosby and U. P. Hedrick took an extensive trip with the Cleveland Art Association. They visited the leading art galleries of Cleveland, Washington, Baltimore and New York. Judging from recent changes, Mr. Crosby seems to be especially susceptible to influence of nearly all kinds of art.

Justin F. Wight and wife are spending the winter in California. Mr. Wight intends to engage in orange culture.

WITH '93.

Will Cannon, principal of the high school in Eustis, Florida, was married to Miss Milner, Nov. 27, 1894. Mr. Cannon had an exhibit of school work at the State Teachers Association recently held in Orlando, which was the subject of much favorable comment by the teachers. The SPECULUM wishes him success in his married life.

'94.

R. S. Woodworth is rapidly regaining his health. The outdoor exercise necessitated by the superintendence of a large farm is producing the desired effect.

J. W. Rittinger is teaching school near Dayton, Mich., with a salary of \$52 per month.

R. S. Welsh is recovering from a severe attack of the southern fever. Aside from this he reports a very pleasant time and great satisfaction with his work as teacher in Mississippi.

D. D. McArthur graduated from the State Normal in February. A young lady from Cass City had such an influence on his mind that he left Ypsilanti in great confusion, even forgetting an engagement to meet a lecturer from Ann Arbor.

John D. Nies, of Holland City, has been working on an electrical apparatus for several months. He is making rapid progress with his invention, and will soon finish it unless the young ladies of Holland "Rob (erts)" him of the privilege to complete his work.

J. W. Perrigo has been appointed principal of the school of drawing in the Business University of Detroit, to take the place of Dwight Cole, '93, who is chief of the Lansing weather office.

L. A. Wilson is collector for the First National Bank of Kalamazoo.

WITH '94.

Married, December 5, '94, at North Fairfield, Ohio, Mr. Maurice Tilson to Miss Mattie Graham. The SPECULUM extends congratulations.

Mr. B. O. Longyear was the manager of an attractive side show held in connection with the institute work this winter. He showed several fungi, such as wheat smut, besides milk of different breeds of cattle, adulterations in flour, mustard and coffee. His room was well equipped with compound microscopes, and decorated with the principal grasses and weeds of Michigan.

WITH '95.

Henry Colquitt recently paid the college a visit.

J. R. Jones has lately returned from a western trip, and is now taking an active part in a local minstrel company, "just for a change."

WITH '97.

L. C. Smith is assistant cashier of the State Bank at Gaylord.

Miss Marcia Vedder has entered Cornell University.

ATHLETICS.

In pursuance of the rules of the Students' Organization the following report of the finances of that body is hereby submitted:

FOOTBALL.		Dr.
Amount paid by D. H. S. team,	-	\$40 23
Received from faculty:		
Pres. Gorton,	-	1 00
Prof. Smith,	-	1 00
Prof. Barrows,	-	1 00
Prof. Weil,	-	50
Prof. Woodworth,	-	50
Prof. Babcock,	-	50
Prof. Taft,	-	50
Mr. Gladden,	-	50
Mr. Crosby,	-	25
Mr. U. P. Hedrick,	-	25
Mr. Pashby,	-	25
Gate receipts,	-	13 85
		<hr/> \$60 33

BASE BALL.

Contributed by faculty:		
Prof. W. J. Beal,	-	\$5 00
Prof. H. K. Vedder,	-	5 00
Prof. C. D. Smith,	-	5 00
Dr. E. A. A. Grange,	-	5 00
Prof. C. L. Weil,	-	5 00
Prof. W. O. Hedrick,	-	3 50
Pres. L. G. Gorton,	-	5 00
Mr. D. J. Crosby,	-	2 50
Lieut. E. A. Lewis,	-	5 00
Mr. W. D. Groesbeck,	-	2 50
Mr. H. P. Gladden,	-	2 50
Prof. F. B. Mumford,	-	3 50
Mr. Thos. Gunson,	-	2 50
		<hr/> \$52 50
Total receipts,	-	\$112 83
Bal. from treasurer of Students' Organization,	-	210 00
Total,	-	<hr/> \$322 84

GENERAL ATHLETICS. Cr.

For field day,	-	\$11 46
Iron hammer,	-	9 50
Score cards,	-	75
Repairs on mat,	-	3 25
Work on track,	-	4 54
Medals for local field day,	-	7 25
A. H. Emery,	-	28 35
		<hr/> \$65 10
Total of statement published in SPECULUM of July, 1894,	-	156 04
Foot ball:		
R. R. fare,	-	\$79 84
Bus fare,	-	5 70
Meals,	-	4 75
Coach,	-	11 50
		<hr/> 101 79
Total expenditures,	-	156 04 3

In regard to the contributions from the faculty for base ball it would be well to state that a much larger amount was subscribed, but the taxes levied by the Students' Organization and gate receipts amounted to a larger sum than was estimated, hence the subscriptions were never collected. The account with foot ball does not include the game which the junior class played with the Ann Arbor High School team.

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According to careful estimates three hours of close study wear out the body more than a whole day of physical exercise.—*Ex.*

How dear to our heart is
Cash on subscription
When the generous subscriber
Presents it to view;
But the man who don't pay—
We refrain from description,
For perhaps, gentle reader,
That man might be you.—*Ex.*

The University of Missouri will soon establish a department of journalism.—*Ex.*

It is probable that Yale and Harvard will contest only between themselves hereafter, and Princeton and University of Pennsylvania may make similar arrangements.—*Ex.*

The question in the coming debate between the University of Michigan and Northwestern University is: "Resolved, That the United States should build and control Nicaragua canal."—

Michigan sent to Ann Arbor last year 1,400 students, or 52.6 per cent of the whole number in attendance. Illinois sent 304, and Ohio 173. In all, 45 of our States and Territories are represented there.—*Ex.*

Albion College has but two literary societies, with a total enrollment of 128. Its preparatory school has but one, of 35 members; making a total of 153 out of 475 students who do society work.—*Ex.*

The year just completed has been the most successful from the standpoint of athletics that Albion has ever experienced. Our relay, base ball and football teams hold the inter-collegiate championship of the State. Never before was there such an enthusiastic spirit of work as now prevades our athletic contingency.—*Albion Pleiad.*

The students of the Massachusetts Agricultural College have voted that no student shall wear the letters M. A. C. on his sweater, jersey or cap unless he has played on some athletic team or taken a first prize in some athletic event. They also voted to adopt a college pin, patterned after the State seal.



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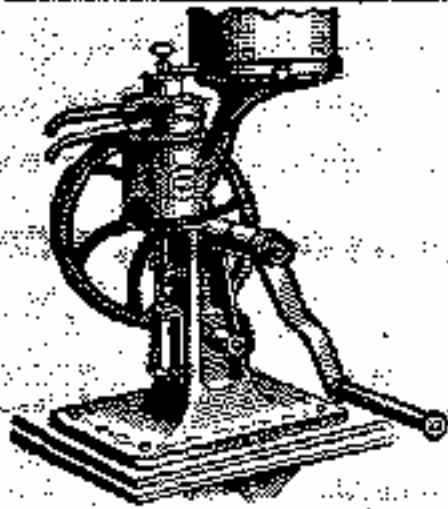
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