

THE
O. A. C. REVIEW.



Published in the Interests of the Literary Society of the O. A. C.
... GUELPH. ...

NOVEMBER, 1889.



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The Dignity of a Calling is its Utility.

VOL. I.

GUELPH, ONT., NOVEMBER, 1889.

No. 1.

THE O. A. C. REVIEW,

PUBLISHED MONTHLY, DURING THE COLLEGE YEAR, BY THE
LITERARY SOCIETY OF THE ONTARIO AGRICULTURAL
COLLEGE, GUELPH.

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SUBSCRIPTION RATES.

Annual subscription, 75 cents; \$1.00 if not paid before 1st February; Single copies, 10 cents.

Advertising rates on application.

THE O. A. C. REVIEW will spare no endeavor to furnish reliable news and information to those interested in farming operations.

Ex-students will confer a great favor on the Editors of this Journal by sending news, particularly experiences of practical value.

EDITORIAL.

After several unsuccessful attempts to issue a paper in connection with the O. A. C., at last dawns the day when our maiden number is to be published. That this event will be hailed with delight by students, ex-students and friends of the College is what we expect. In case it does not receive the hearty support which it ought to receive we shall not be discouraged, but in time we shall surmount all obstacles. In fact we mean business and do not intend that our efforts shall end in failure. We have eagerly looked forward to the day when a paper managed and edited by students of the only college which has for its avowed object the training and uplifting of the agricultural classes, should be sent out from the walls of so noble an institution as this which graces our fair Province.

Our stout little craft is launched upon the sea of criticism with some misgivings as to the success of its voyage. There is no doubt it will pass through many a fight and gale. Possibly, it may ship water at some points, yet we would ask of its readers that they be not too harsh or severe in their criticisms—"sleep gentle winds before the prow." You must not expect raw recruits to be as good marines as veteran tars. After some of the bullets have flattened against our good ship's sides—or possibly some may pierce her bulwarks—her occupants will then look about to see

where she is lacking in strength and remedy the defects as far as possible. Meanwhile, every precaution has been taken to ensure success and a prosperous trip. Over areas wide, by land and sea, she must go reminding absent ones that they are not forgotten and those present that a new field is opening before them. Ex-students and friends we wish to shake hands with you through the columns of our paper. Do you feel discouraged with yourself and your work? We wish to give you encouragement by letting you know of the good work that is being done here and the good effect it is having on the agriculture of the Province. Would you like to visit the scenes of bygone days? We extend to you a hearty welcome, and if you have never paid us a visit, do so, and see the place for yourself and the work that is being accomplished. Does the project of a paper in connection with the College meet with your approval? If so, we should be pleased to note it and any suggestions you may make in regard to improvement shall receive fair consideration. Although her sons are scattered in almost every land where the rays of the sun fall, yet the O. A. C. has a maternal interest in the welfare of all of them. Nothing pleases her better than to have her children gather round the "festal board" once a year at the annual reunion of the family. If you cannot be here in person send your greetings and we shall be pleased to acknowledge them for the young dame who may be too busy with her present family to attend to the wants of absent ones.

It will ever be the aim of our paper to stimulate the interest of the students in the institution of which they form a part. To the ex-students we wish it to be a bond of union between them and their *alma mater*. Like a letter from home or from a friend, we wish the REVIEW to be to them telling them all the news of their once temporary home and what events have occurred on the farm, in the halls, class-rooms, and different societies during each month of the College year. Old faces and scenes will be brought to remembrance and life will be more pleasant after a perusal of its columns. By means of the Professors attending a great many Farmers' Institutes the farming communities have been made acquainted with the men who are in charge of the Farmers' College and the work which is being done; and by means of the paper we hope to make them acquainted with the class of students who attend here. A new era is now beginning to dawn—more bright, more illustrious, and more productive of real and lasting good than any which the College has yet seen. To aid on the good work and to gain for it a standing of merit among the many institutions of learning will be a cardinal principle in the management of the REVIEW. We shall always be pleased to publish news in regard to any one who has been connected with the College, and any person who may possess information concerning ex-students, as to their whereabouts and occupation, will be conferring a favor by sending us the same. We shall also be pleased to receive from students and alumni short, racy articles on any popular subject.

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In this way we hope to make our paper readable, interesting and instructive. We invite the hearty co-operation of all interested to make the REVIEW a success and worthy of the cause which it champions. While some departments may have been overlooked yet we feel that we would not be justified in undertaking too much at first. As we grow in knowledge, experience and ability the field may be extended; but for the present we shall content ourselves with the more important branches which it may be expected of us to deal with. It is much better to rise on stepping stones to higher planes than to regress, which is a melancholy thing. Ever onward! Keep abreast of the times! Let a contemporary lead you? never! shall be mottoes to inspire us in this struggle for the survival of the fittest. Shall the stigma, that the students of the O. A. C. have not the ability, nor the enterprise, to successfully carry on a paper, longer remain as a blot on their records? Students, ex-Students and friends of the College, answer. The success of the enterprise depends in a measure upon the support which it receives from you. It may be said by some that there is no need for such a paper; that already there are more papers than the public can support and read, and why should they be further taxed? Among other reasons that may be given for the publication of our paper, we would say that every year there are men going from these halls who will one day occupy the foremost places in the country, and it is a fact to be lamented that they receive very little, if any, notice by the press. No word of encouragement is spoken to them; they feel that they are being slighted, and if they are ever to be brought before the public as persons who will accomplish much good they must enter one of the professions, while if they remain on the farm they will generally be passed by in silence. In this way a number of young farmers are discouraged and their affections are weaned from the farm and from the principles of agriculture which have been taught them. All that a great many young men who are starting in life need is a word of praise and they will be incited to persevere until success is theirs, while if it be withheld they become disheartened and instead of making their mark in the world drop into mediocrity. We shall try and remedy this as far as possible; and as to those who have already added fame to themselves and to the institution which gave them training we shall be pleased to note from time to time the progress which they are making and thus we hope to keep up the enthusiasm of all concerned until we reach that plane which it is ours by right of inheritance, but which owing to indifference in the past has been occupied by others. Shall we not arouse ourselves and take our appointed places? Shall we still continue to be door-mats while the men of other colleges are being installed as Lords of the Manor? A. O. A. C.'s, B. S. A.'s, aspirants, and friends, unite your forces with those that are already mustered and grand indeed will be the victories which we shall win. If we march shoulder to shoulder none shall be able to stand before us. Already the heights of fame are being scaled and will you not share in the glory? Lives there a man so base that he will not subscribe for his college paper? If any, speak; for we should like to hear from him. Lives there a man so rude that he cannot contribute to the interest of its columns? If any, we do not expect to hear from him. Lives there a man so vile that he will not love his *alma mater*? If any,—

“Filial ingratitude!
Is it not as this mouth should tear this hand
For lifting food to 't.”

We pause for a reply.



Experiments, with cattle, sheep, and swine, are being arranged for the winter months.

The cheap construction of silos, and the value of silage as a food for farm stock, are subjects receiving much attention at the College during the present year.

We hope in our next issue to give our readers some knowledge of the thoroughbred stock, used for educational purposes, at this Institution. Some of the breeds of cattle are not yet seen in the farm herd, but we understand that in the near future representatives of all the valuable breeds will be procured.

The following table shows the comparative amounts of rain-fall at the College for five summer months during 1887-8-9:—

	1887.	1888.	1889.
	ins.	ins.	ins.
May.....	1.58	1.08	3.59
June.....	2.36	2.92	4.25
July.....	.61	2.21	2.67
August.....	2.71	2.16	1.92
September.....	1.52	1.55	1.04
	8.78	9.92	13.47

Among all the cultivated grasses from Europe, as grown in the experimental plots, there is probably none more promising for Ontario, than the Meadow Fescue. It has held well in our climate for at least seven years, where it was sown with a mixture of other grasses. It is relished well by all kinds of farm stock. The Meadow Fescue is a later growing grass than most others, giving a good quantity of succulent food during July and August, a time so subject to drouth.

NEW FARM BUILDINGS.—Once again has the Government erected barns at this Institution, of which every farmer of Ontario has reason to feel proud. They are at present complete, except a few days work yet remaining to be done in the horse stable. The general outside appearance of the main barn, horse stable, and sheep shed is very similar to the buildings which stood on the same site one year ago. The structure of the bull shed has been much changed. Instead of the old squatty building, which was moved to the south-east side of the cattle yard, now stands a fine building of much the same outside structure as the main barn, but of smaller size. It contains nine box stalls, and has a feed room situated about the center of the building, also a root cellar underneath extending from one end of the shed to the other. There have been some changes made in the horse stable, especially in the arrangement of box stalls. There are now two rows of box stalls with a passage between, while in the former stable there was but a single row of stalls with a passage on either side. This has given opportunity for a greater number of stalls, but of a smaller size. In the main barn the chief improvement noticed is the special provision made for experimental work, previously no rooms were allowed in which to keep and prepare foods for experimental purposes. According to the present arrangement a granary, divided into small bins for holding various kinds of feeding stuff, has been provided, and directly underneath the granary is situated the feed room, conveniently situated to the cattle stalls. Chutes enter the feed rooms from the different grain bins above. Owing to the large amount of experimental work which is being planned for, it was certainly wise to make such provision for the work as has been done. The new silo is more conveniently situated than the old, being at one end of the cattle stable. The filling is done from the barn, and the feeding from the stable underneath, the silage being dropped through a chute from the silo to the lower floor. The shepherd's room, wool room,

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and sheep pens have also been somewhat modified. The farmer who could visit the College during the winter months, examine the buildings, inspect the stock and witness the feeding experiments would, we feel quite sure, be well repaid for time and labor expended.

AGRICULTURAL EXPERIMENT STATIONS.

There is probably no matter that will be read with greater interest by those engaged in agricultural pursuits, than that concerning the development of the Experiment Stations. The U. S. Department of Agriculture has recently published a bulletin, from which the following valuable information is gleaned:—

"Farming is a perpetual trying of experiments with soils, manures, and crops; with cattle and cattle food; with milk, butter and cheese; with plows, harrows, and harvesters; with an almost endless list of things. The most successful farmers—those who get the most out of their land, their cattle, their crops, their fertilizers, their implements, and their labor—are those who experiment themselves most industriously, most skillfully, and most intelligently, and who take the fullest advantage of the experiments of others. The best agriculture is that which, in old countries on worn and intractable soils, has learned by long continued and varied experiment to make the gain of farming sure. Within recent times farmers and men of science interested in farming have seen the advantage of using the resources of science to improve the practice of agriculture and have established agricultural experiment stations.

"The object of these stations is to experiment and to teach, to make a regular business of discovery for the use of farming, to promote agriculture by scientific investigation and experiment, and to diffuse as well as increase the knowledge, which improves farm practice and elevates farm life.

"Established for the benefit of agriculture and hence of the community at large, the most of them connected with educational institutions where experience shows their work is most successfully done, these stations seek answers to the questions which agricultural practice is asking as to the tillage of the soil; the nature and action of manures; the culture of crops; the food and nutrition of domestic animals and of man; the production of milk, butter, and cheese; the diseases of plants and animals; and, in general, whatever the agriculturist needs to know and experimental science can discover.

"Nearly forty years ago a company of farmers joined themselves together in the little village of Moechern, near the city, and under the influence of the University of Leipsic, called a chemist to their aid, and with later help from Government, organized the first agricultural experiment station.

"The seed thus sown has brought forth many fold. In 1856 there were five; in 1861, fifteen; in 1866, thirty; and to-day there are more than one hundred experiment stations and kindred institutions in the different countries of Europe. In each of these from one to ten or more investigators are engaged in the discovery of the laws that underlie the practice of farming, and in finding how they are best applied.

"The first agricultural experiment station in America was established at Middletown, Conn., in the chemical laboratory of Wesleyan University in 1875. The example was speedily followed elsewhere; in 1880 four were in operation, and in 1887 there were some seventeen of these institutions in fourteen States. In that year, Congress made the enterprise national, by an appropriation of \$15,000 per annum to each of the States and Territories, which have established agricultural colleges or agricultural departments of colleges. This has led to the establishment of new stations or the increased development of stations previously established under State authority, so that there are to-day forty-six, or, counting branch stations, fifty-seven agricultural experiment stations in the United States. Every State has at least one station, several have two, and one has three.

"These forty-six stations now employ over three hundred and seventy trained men in the prosecution of experimental inquiry. The appropriation by the United States Government for the fiscal year just closing, for them, and for the office of experiment stations in the U. S. Department is \$595,000; for the coming year it

is \$600,000. The several States appropriate about \$125,000 in addition, making the sum total of about \$720,000 given from public funds the present year for the support of agricultural experiment stations in the United States."

The progress of experimental work in Canada as well as a somewhat detailed account of that carried on at present at the Agricultural College, Guelph, will probably appear in the December issue of this paper.

THE FARM AND EDUCATION.

By F. J. Sleightholm, Humber, Ont., Associate of 1887.

The profession of the agriculturist is, of necessity, one of extreme complexity. Its divisions are many and varied in character. To resolve these divisions into one harmonious whole is the farmer's work, and the measure of success to be reached in the profession is gauged by the ability manifested in thus reducing to unification its divisional parts.

To perfect a system of agriculture suitable to a given soil can hardly be called child's play; to breed with ever-increasing success a single class of live stock requires not only a peculiar genius, but also a genius peculiarly developed; the feeding of live stock has in itself become a profession in whose ranks, despite the seeming paradox, are few professionals. Yet all these offices among a host of others, the individual farmer must combine within himself, if he would succeed in his chosen pursuit. From the unnumbered and chaotic minutiae of his profession he must deduce and perfect that combination, which cometh nearest to his ideal farming.

From what has just been said, two facts evolve themselves. The first is, that the profession admits of wonderful elasticity. The expansion and contraction to which it may be subjected are simply astonishing. The greatest astonishment, however, comes from the latter characteristic—contraction. Those of weak minds and weaker energy find a home (?) for their powers in the farmer's occupation. That some of these continue to eke out an existence upon the farm, has done more to injure the profession in the eyes of the masses, as regards the need of an education than any other power. They, the masses, forget that there is success and success, and that the one may be a failure and the other the success that succeeds.

The second fact elicited is, that a business of such extreme complexity requires an extreme of knowledge, relevant to the subject, to perfect it. And yet how many say by voice and by action that "anyone can be a farmer." The professions usually spoken of as such require of their devotees but one bent of mind and, with slight deviations, but one line of study.

It is not so with farming. He will find the foundational principles of a knowledge of his profession in agriculture proper, but agriculture is composed of many arms. Its chief one is live stock, in the breeding, feeding and handling of which the ablest minds of ablest men may find fullest scope. A knowledge of surgery and medicæ becomes a desirable adjunct in the work. An intelligent understanding of the relationship existing between the various foods and the sustenance of animal life presents a field for deepest study, closest observation, and widest experience.

On the other hand who can weld the chain, complete in the number and strength of its links, which connects the inanimate of the earth with the animated organism of plant life? There is embodied in the connection not only a required mechanical ingenuity but a knowledge chemically of mother earth, of air, of water, and of vegetable growths.

A knowledge of practical botany claims attention from him who labors for his own good and the advancement of his profession; an acquaintanceship with insect life is forcing itself upon the agriculturist; local geology is a recognized aid in the profession; a thorough drilling in chemistry is indispensable; arboriculture demands no small share of attention—but why enumerate further? Let him who thinks the educational novice can undertake and successfully carry on the work of this profession ponder these things, and know that mental giants may find herein room for mightiest powers. The farm and education in its deepest sense are as inseparably linked together as the mind and body of the living man.

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To the Corresponding Editor of the O. A. C. Review.

I acknowledge the honor conferred upon me of being asked to contribute an article to the maiden issue of your new enterprise. I am very much taken up with the idea, and hope your efforts may be crowned with unbounded success.

I should have felt better pleased had you indicated a subject for me to discuss. Perhaps, however, a few notes on the projected REVIEW may not be out of place.

In the first place I think you have acted wisely in issuing it under the auspices of the Literary Society, for to my mind you have solved a sometimes knotty problem, viz.:—"What shall be done with the surplus funds?" This will give greater satisfaction all around than any previous proposition for the use of such funds. It will furnish a medium for the encouragement of essay writing to the members of the Literary Society, which, as a rule, is so much neglected by college men to their great regret in after life.

If my own feelings are any criterion there is one class which will be interested in this movement with a vengeance. That class will constitute the graduates and ex-students, who are always interested in college affairs, and the REVIEW will bring us into more direct communication with our *alma mater* than anything else I can think of. The recounting of present events will lend a freshness to the scenes of the past which cannot help but create pleasant sensations in the minds of the readers, unless they are ashamed of their past careers at the college. It will almost make us feel that we are students still, and though never having come in contact with one another, yet we will become friends. Besides this bond of union between the Professors and students on the one hand and the graduates and ex-students on the other, it will furnish us a medium for finding out things which may some times prove invaluable to us.

For instance, I may want a pure bred animal of some breed and class. Through the columns of the REVIEW I may readily be informed where it may be obtained; thus the principle of *reciprocity* may be inculcated. The same might be said respecting applications for situations, recommendations, etc.

As there are students in many parts of the globe, with Guelph as a centre, we may become informed of what is going on in the agricultural world, and by this means form some adequate opinion of what kind of farming will pay; which, by the way, is a vexed question to many an Ontario farmer to-day.

Through its columns may be ventilated a general grievance, and all the wisdom of the past history of the college be brought to bear upon it for its elucidation.

In conclusion, allow me to congratulate the Literary Society upon its selection of the editorial staff, which will, I am sure, go a long way in making the REVIEW a permanent success.

T. RAYNOR, B. S. A.

THE MARITIME EX-STUDENTS OF THE O. A. C.

At the last annual convention of the New Brunswick Farmers' Association, steps were taken by the ex-students of the O. A. C. to organize a society, to be known as the above. At Truro, during the meeting of the Nova Scotia Dairymen, the first regular meeting was held, the constitution drawn up and members enrolled.

The constitution as approved is as follows:—

1. That the Society be known as the Maritime ex-Students of the O. A. C.; the Maritime Provinces to be Nova Scotia, New Brunswick and Prince Edward Island.

2. That the candidate for membership must be at some time a resident of the Maritime Provinces.

3. That the members submit to the levying of assessment, carried by a vote at a regular meeting.

4. That the Society in its deliberations be governed by parliamentary procedure.

The object of the society is to meet annually and discuss those questions bearing upon the higher branches of agriculture, which would escape the programmes of the Institute and Grange, and to strengthen the bond of union between the ex-students and their *alma mater*. It was proposed to unite with the Experimental Union of the O. A. C., and to conduct such experiments as would be of mutual interest to members. The motion was laid aside for future consideration.

The enrolled members are:—President, Paul C. Black, A. O. A. C., Falmouth, N. S.; Secretary, B. Eaton Paterson, B. S. A., Sackville, N. B.; W. J. Gilbert, A. O. A. C., Dorchester, N. B.; A. B. Wilmot, A. O. A. C., Oromocto, N. B.; Oscar Chase, A. O. A. C., Port Williams, N. S.; J. A. Hart, A. O. A. C., Berwick, N. S.; J. B. McKay, A. O. A. C., Stellarton, N. S.; Percy C. Poweys, A. O. A. C., Fredericton, N. B.; W. J. Palmer, A. O. A. C., Charlottetown, P. E. I.; C. H. Black, Amherst, N. S.; C. C. Black, Amherst, N. S.; F. E. Page, Amherst, N. S.; H. B. Hall, Gagetown, N. B.; W. W. Hubbard, Burton, N. B.; W. Herbert de Veves, Woodstock, N. B.; John Donaldson, Port Williams, N. S.; F. W. C. Annand, Annandale, N. S.; F. H. Soden, Petitcodiac, N. B.; J. J. Gregory, Antigonish, N. S.; H. H. Beer, Charlottetown, P. E. I.; Geo. Maunsell, Fredericton, N. B.; F. P. Magee, St. John, N. B.

All students eligible for membership are requested to forward their names to the Secretary for enrollment.

The next meeting will be held in Fredericton during the meeting of the Farmers' Association.

MENTAL GROWTH.

By J. R. HUTTON, B. S. A.

"The waves that moan along the shore,
The winds that sigh in blowing,
Are sent to teach a mystic lore
Which men are wise in knowing."

The years roll on, bringing with them an increase in population and wealth. But beneath the prevailing desire for the latter, is a more subtle principle, which impels an enlightened race to seek for something higher. Provision for mental and spiritual needs keeps pace with that for physical. As each generation makes an advance on the preceding, it prepares the way for still higher attainments in the next. To this progressive spirit are due the various institutions, each designed in some way to benefit the human race.

Another college year has been entered on, with a largely increased attendance at very many of these centres of learning. Hither will be gathered for some time to come, youth of all classes, and from places widely separated. The effects of this change of life and scene, considered in the light of the future, cannot be other than great. It is a critical period for every student, and in the case of not a few has proved the turning point in his career. How can it be made to produce the best results?

A symmetrical development of every part is the highest ideal the student can set before him. While the mind is not all that requires attention, its proper development is a consideration that cannot safely be ignored. Whatever line of work he may afterwards pursue, the possession of intellectual strength will distinguish him from his less fortunate co-laborers. It behooves him, therefore, to carefully consider the best means of developing mental power.

At the outset every student should arrive at a clear understanding in regard to the object he has in view in attending college. Is it to get instruction, or education? Does he fully comprehend the difference? To educate is to lead out and train the mental faculties, to bring to light latent powers and develop them to their full strength. To instruct is to impart knowledge, a laudable work in itself, but one which so often degenerates into a mere system of cramming, as depressing to the instructor as it is harmful to the student. While instruction is essential, it should ever be the complement of, not a substitute for, the grander work of education.

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This principle is by no means new. With a birth long before the christian era, it still exists with undiminished strength. Not so with its methods. Through all these centuries the study of the classics and abstract mathematics has been cherished, as affording the best, if not only, means of developing the mental powers. The fruits of this system have certainly been great, as shown in the works of such as Milton and Newton, Gladstone and Thomson.

But a new era has begun, and new methods prevail: The study of nature, in the widest sense of the term, is now receiving that attention which compensates in a measure for its neglect in the past. Here is presented for investigation a field far exceeding in extent and grandeur all others combined. Rightly pursued the results are more fruitful, both mentally and materially, than any obtained in the past.

But in any study, how shall the best results be obtained? From a mere memorizing of facts? Shall the student be content to rely entirely upon the labors of others, and make no effort to search for himself?

Intelligence consists not only in knowing, but also in knowing how. A real and adequate knowledge of things can only be obtained in the presence of the things themselves, where the infinite variety of forms and conditions invites the closest observation. But observation alone will not develop mental power; reason must be cultivated as well. The exercise of any faculty promotes its development; hence the student cannot be too strongly urged to use his own powers, to rely as far as possible upon his individual efforts.

Unfortunately more work is crowded into many courses than can be properly pursued. This, with the injurious system of competition for prizes and medals induces the practice of cramming for examination, instead of laying a sound foundation for future intellectual attainment.

It is not the amount of knowledge a man may possess, but the use he can make of it, that determines the nature of his education. He might know every detail of veterinary science and be no surgeon, for lack of understanding in applying it. He might be able to repeat the name of a thousand bugs or more, and know but little of insect life. He might have at his finger's end every rule of rhetoric, or a whole volume of poetry, and still be unable to present an original thought.

There is one point which I would specially emphasize, and for which there is urgent need in the too frequent practice of dealing with the whole class as one. On no account should the student lose his own individuality. The types of intellect are as various as the forms of faces. Then let each person pursue with special zeal that line of work with which his mind is most in harmony. In that he should receive every encouragement to investigate for himself. We need less competition, but more thoroughness; less of the *what*, but more of the *why*.

"The works of God are fair for naught,
Unless our eyes, in seeing,
See hidden in the thing the thought
That animates its being."

COLLEGE GRADUATES.

From the day a boy enters college as a freshman, with all the verdancy of a rural childhood still upon him, until he leaves the hallowed precincts of his Alma Mater, his one constant thought, his loftiest ambition is to stand before a distinguished audience on commencement day, and receive his diploma from the hands of a Cabinet Minister, or some other equally distinguished gentleman.

During his first year he looks up to the Senior as one placed on an exalted throne, high above him. One who ranks in his mind far ahead of tutor or professor, and he would readily give many years of his life to become a member of the graduating class. But alas, the truth confronts him, that "lowliness is young ambitions ladder," and he must pick his steps and go slowly, before he can reach this beau ideal pinnacle of fame.

As time goes on he sees the upper classes in their turn ascend the rostrum and receive their parchments, and he knows his time is drawing near.

Convocation day at length arrives, and our gallant freshman of former years, marches up the aisle and receives his diploma, amid the loud cheering of his class-mates and fellow-students. He likewise receives a few words of encouragement from his professors,

and some prominent individual who has been called upon to make the presentation, loudly praises his merits and lauds his lofty ambitions. Slowly and with flushed face he passed down to his seat, thus closing the last chapter in his college career.

Commencement is over, and like one in a dream he seeks his room and gathering together his worldly goods, returns to the home of his father. Here he rests and the world hears of him no more. Why? Because he has "attained the upmost round," and now that he has been educated, his imagination leads him to suppose that he knows more than all the country round, and so he is now content to settle down and pass into obscurity.

How often do we hear the question asked, "What has become of that bright boy—who graduated in the class 8—?" And too often comes the answer, "He has gone back home and settled down," or "No one has heard of him since graduation." His college associates, one by one pass from his memory and finally the old institution herself is lost sight of, her place being rapidly filled with the "busy cares of men."

Is this right? Do we owe nothing to the institution that gave us our education? To the old class rooms where we have so often assembled, and the debating hall where we discuss questions of seeming moment, where we have mingled with students from all parts of the globe, and by association, gained new ideas and methods which continually help us in our every day life? For all this we should at least keep up with the working and changes of the old school, correspond with the professors and students, and in every way show our appreciation of that education, which we received within her walls.

The above picture may be somewhat overdrawn and the character depicted therein, beyond the proper limits, but the point I wish to emphasize is none the less apparent, viz:—That on the day a boy receives his degree, that day his practical education should commence, and it is now more than at any subsequent time that he requires all his wits and genius to assist him in obtaining that distinction among his fellow men, which his talents and his Alma Mater have eminently fitted him for. Above all he should bear in mind that any success he may meet with in after life, is due in a great measure to the careful instruction imparted to him by his former professors.

Happily this dormant spirit is not found in all graduates, for there are some, who being born to rule, will make their presence felt in any community. But the question which naturally arises with such individuals is, to what use can I put my talents that they will yield me one hundred fold.

Not to confuse the readers of our humble REVIEW, we will speak to the point, and keep our minds fixed on our own Alma Mater, the O. A. C. Many farmers and others in the Province of Ontario, find fault with the course of instruction, maintaining that it has a strong tendency to divert the minds of the students from practical agriculture as a profession. Is the supposition correct? Partially so, mostly not. The boy who enters the college—and there have been many such—with a proper appreciation of the independent life which the farmer leads, and who at the same time is cognizant of the fact that much hard labor must be expended on every Canadian farm, will select from his course of studies, that which is practical and can be applied at home, and when he graduates will return to his father's homestead and apply such methods. He will thus be a better farmer by putting system into all his work, and by the use of labor-saving machines, which he has learned to manipulate while at college. Soon he will take the lead in his profession and be honored and esteemed by his less fortunate neighbors.

On the other hand, a boy who will not exert himself to obtain information, and expects his teachers to educate him without his assistance, would never have made a good farmer, and a poor farmer is worse than none, for he not only destroys his own farm and lets it go to weeds and waste, but like one decayed potato in a bushel, he soon taints all those with whom he comes in contact.

Such are the boys by which the standing of the college is judged, and because they themselves had not ambition or brains enough to graduate, they spend their time spreading reports among their neighbors, running down the college and her professors. As "empty vessels make most sound," so a few such ex-students can do more to injure the reputation of an institution, than many hard-working, industrious individuals, can counteract by a simple show of their work.

THE O. A. C. REVIEW.

There is another class of graduates, those who come from towns and cities or from large families in the country. These have no farms to go to and they take an agricultural college course, for the sake of its thorough instruction, or the hope of obtaining a position in some of its departments after graduation. To such I would say, make a specialty of something and stick to it, sink or swim. The day of diversified education is over. Where formerly we had Biologists in our agricultural colleges, now we have Zoologists, Entomologists, Botanists, and Ornithologists. Experimental Stations are employing only competent specialists and where they get a man to suit them, he gets almost any salary demanded. To all students I would say fit yourself for the position and it will be ready for you, and if you cannot find employment in your own broad Dominion, come over to Uncle Sam's territory, where there are already many O. A. C. graduates, all prospering in their several fields of labor.

MISSISSIPPI.



PERSONAL.

G. C. Donald, A. O. A. C., of '87, is in California.

W. Budd, A. O. A. C., of '88, is farming near Delhi, Ont.

A. Nicol, A. O. A. C., of '79, died during the past summer.

A. Lehmann, B. S. A., graduate of '89, is at home running the farm.

The Elton Brothers, associates of '88, are farming in the Northwest.

W. S. Carpenter, A. O. A. C., of '88, is farming near Simcoe, Ont.

H. B. Sharman, A. O. A. C., of '87, is teaching school in Birtle, Man.

J. G. Scrugham, First Silver Medalist of '87, was married recently.

R. M. Soule, B. S. A., graduate of '89, is also working the homestead.

J. W. Hart, A. O. A. C., of '87, is Dairy Instructor in the State of Alabama.

J. J. Sinclair, A. O. A. C., of '88, is working the home farm at Ridgetown, Ont.

John Fee, B. S. A., graduate of '88, is in Toronto engaged in the mercantile line.

F. J. Sleightholm, Gold Medalist of '87, is a thriving farmer near Brampton, Ont.

A. D. Harkness, A. O. A. C., '87, is a prosperous farmer in the Eastern part of the Province.

Geo. Harcourt, B. S. A., graduate of '89, is assistant in the Dairy Department of the O. E. F.

N. J. Clinton, A. O. A. C., of '79, is a prosperous horticulturist and dairyman, near Windsor, Ont.

S. P. Brown, A. O. A. C., of '88, is engaged as dairyman on a dairy farm near Fort Atkinson, Wis.

T. Raynor, B. S. A., graduate of '89, is studying practical agriculture on his farm at Rosehall, Ont.

T. H. Tinny, 2nd Silver Medalist of '89, is demonstrating scientific farming near Oakwood, Ont.

C. A. Zavitz, B. S. A., graduate of '88, is still at the head of the Experimental Department of the O. E. F.

H. B. Jeffs, A. O. A. C., of '83, residing near Bond Head, Ont., is taking the front rank as a sheep breeder.

The following compose the present Third Year, Messrs. Brodie, Dean, Gelling, McEvoy, McCallum, Monteith, and Shantz.

J. A. Craig, B. S. A., of '88, is editor of the *Canadian Live Stock Journal*, which position he has held since his year of graduation.

Wm. Randall, A. O. A. C., of '89, now of Camperdown, was recently injured by his team running away, but is rapidly recovering.

A. Shuttleworth, A. O. A. C., of '82; S. Calvert, of '86, and Mr. L. Paterson, of '88, are in attendance at McGill College, Montreal.

W. G. Birdsall, A. O. A. C., of '88, entered the matrimonial state not long ago. His many friends wish him a happy and prosperous life.

E. Sturge, A. O. A. C., of '86, Gold Medalist in '89 at the Veterinary College, Toronto, is now practising veterinary in Pennsylvania.

H. L. Ridings, a medalist of the Special Class of '85, has bought a 200 acre farm near Stockdale, Hastings County, Ont., and is a successful farmer.

R. F. Holterman, A. O. A. C., of '80, is in the Bee Business at Romney, Ont. He is also Secretary of the International Beekeepers' Association.

W. W. Ballantyne, A. O. A. C., of '81, has a fine herd of Short-horns on his farm near Stratford, Ont., and is counted one of the enterprising farmers of that locality.

B. E. Paterson, B. S. A., of '88, is in the journalistic business being editor and joint proprietor of the *Maritime Agriculturist*, a semi-monthly published at Sackville, N. B.

The many friends of Prof. Morgan, B. S. A., of '89, will be glad to learn of his success. He is lecturer on Entomology and Horticulture in La. Agricultural College.



Local News.

LECTURES commenced Oct. 3.

LOOK out for Angel after the 4 ft. burners.

THERE was a slight fall of snow on Oct. 6th.

"ONE, two, three—Cowan's had his hair cut!"

How nice it would be to keep to the time-table!

BOYS, read the advertisements and patronize the stores mentioned.

COMMITTEES multiply: some poor fellows were on duty lately from 7 to 11 p.m.

THE battle-cry, "Our Flat," once more resounds through the halls when a "tower" man gets too cheeky.

SOME generous visitor offered the Secretary a quarter the other day for so courteously showing him round.

THERE are 87 students in residence: 51 in the first year, 26 in the second, 7 in the third, and 3 taking a special course.

THE boys appreciate the advent of sauce dishes on the supper tables, and are also glad to have the porridge better cooked.

THE Social at the Congregational Church on the 29th was well attended by the students who are fond both of cake and girls.

THE O. A. C. REVIEW.

SUCH is the improvement in the fare, that we could not resist giving the matron 3 ringing cheers and a rider on a recent occasion.

THE principal doors in the College, through which last winter used to come such searching winds, have now been fitted with strong springs.

THE Englishman, who didn't come to this country to be laughed at, naively enquired one Friday evening, "What time does the President's begin?"

A SECOND football team has been started. The members have been very busy in the early morning going out for a smart run of from one to three miles.

IT is noteworthy that we have here students from Nova Scotia and British Columbia, as well as from France, Switzerland, Spain, England, India, and Japan.

THE new stock is coming by degrees. Two Ayrshires arrived on the 9th, driven by two students who arrived at 9 p.m., footsore and weary after a tramp of 35 miles.

THERE is good musical talent in the first year, and the Literary Society meetings have been enlivened by excellent solos from Messrs. Thomas, Buscarlet, and Worthington.

IT is amusing to see Jack run for the dishes in the dining hall. He gets there in a tremendous hurry, and on one memorable occasion waited quite a while for his fresh supply.

CLUB swinging is now all the rage, for under Captain Clarke's able instruction, the fellows are progressing rapidly. The flats are quite lively at 9-30 with both clubs and gloves.

EARLY morning lectures in the stables have now commenced on the feeding and care of stock generally. We are confident that such a course cannot fail to be of great benefit to all students.

FIRST year boys are exceptionally busy at the Vet. The skeleton is being thoroughly studied, while it is now a common sight to see 7 or 8 boys coming into lectures armed with cannons and sesamoids.

STUDENTS seem to be taking more pride this year in making their rooms pretty. Step round to No. 57 for one of the nicest. Buscarlet and Faithfull are to be congratulated on their artistic furnishing.

THE first meeting of the Y. M. C. A. for the term was held on Thursday, Oct. 3. Several of the old members spoke welcoming the new students. We confidently expect a good series of meetings this year.

A GREAT many of the boys were down at Norfolk St. Social on Thanksgiving Day. A capital programme had been arranged by the young men of the Church, and altogether a very pleasant evening was spent.

LOTS of fun at the camp in the S. W. bush during September, especially when the antediluvian "Doctor" resplendent in overalls, hat, buffalo, and gorgeous railway rug brought back the goods and chattels in a democrat.

The fine weather this fall is enabling us to get along well with outside work. Under Prof. Shaw's keen critical eye road making is progressing rapidly. Granted a little more time and we shall soon be able to boast of really excellent farm lanes.

ON the 23rd Oct. the 2nd and 3rd year boys, through the kindness of Prof. Pantou, had the privilege of seeing some exquisite lantern views of the Mammoth Kentucky Cave and other notable places. A very pleasant hour quickly passed away.

THE gentleman who in sepulchral tones used to announce at 4 o'clock, "School is now abolished," has departed, and our genial friend, Mr. Ellerby, now merrily rattles away over the typewriter and performs the multifarious secretarial duties.

WE were glad to see up here that day Mr. T. B. Willans, an ex-student, who has been working up in Manitoba and touring through the States. As usual he had a hearty, genial word for everybody. He has now returned with his brother to England.

THE annual meeting of the Y. M. C. A. was held on the 6th inst., to elect officers. We are glad to announce that Mr. G. Harcourt, B. S. A., has been elected President, and feel sure we have in him one who is in every way fitted to fill that important position.

THE President recommenced his Bible Class in connection with the Y. M. C. A. on Sunday afternoon, Oct. 6th, with an attendance of 25. The International series of subjects will be followed. Prof. J. W. Robertson led the regular weekly meeting on the 10th.

PROF. SHAW, our esteemed lecturer on Agriculture, has been away for three weeks purchasing stock from all over Ontario and Quebec for the farm. His place in the lecture room has been occupied by Prof. Robertson with his inimitable "talks" on Dairy matters.

AT the Literary Society meeting on Oct. 18th., Messrs. Shantz and Buchanan upheld the affirmative side in the debate: Resolved, "That Nature is better than Art," while Messrs. Brodie and Mulholland championed the negative. The last mentioned made the best speech, and after a lively debate the negative side won.

HALLOW E'EN passed off pretty quietly, but invisible sprites were at work round the College precincts. The fighting editor, whose name does not appear on the first page, has reported that he noticed a democrat on the roof of the south barn, a snake fence across the road, plenty of gates unhinged, and the lecture room skeleton hitched to a wagon.

THE Creamery turned out about 5 tons of excellent butter during the season, which has been sold in Toronto at 22c. E. A. Rennie was butter-maker, and G. Harcourt, B. S. A., acted as Professor Robertson's assistant. The "oil test tchurn" worked like a charm. It is very handy for thirsty students to drop in to the Creamery during summer for buttermilk.

THERE was a good attendance at the meeting of the Literary Society on Nov. 1, when the subject for the debate was "The Life of a Mechanic is Preferable to that of a Farmer." Messrs. Sleightholm and Sparrow spoke on the affirmative side, but were defeated by Messrs. J. Harcourt and Cox. We must congratulate these two 1st year men on their telling speeches.

OUR new matron, Mrs. Craig, from Belleville, entered on her duties Oct. 28th. We are glad to notice several improvements already in the dining hall, and can assure her they are heartily appreciated. We would like to hear of such improved laundry machinery being put in as would wash the clothes more thoroughly, be a credit to this Institution, and save the fair Julia much hard work.

WE are glad to chronicle the introduction of an excellent new porous carbon system for the disposal of sewage. It has been put in at a cost of about \$3,000, and is in every respect a credit to the Institution. The inside arrangements are an immense improvement on the old system, while the small amount of black sandy "sludge" is a source of wonder to all beholders. Nothing but clear water now runs into the ditch in place of the former offensive and poisonous matter. A large number of influential men from Toronto and our Royal City inspected the whole system very thoroughly on the 7th ult., and reported very favorably on it. We hear that the next experiment in this direction is to be with electricity.

SUNDAY, 20th Oct., was a memorable day for for our Y. M. C. A. as we were then favored with a visit of two delegates from the Toronto University Y. M. C. A., Messrs. McLean and Graham. We had a capital meeting at 8.30 a.m., when Mr. Graham gave a brief account of his trip to the Northfield Convention which he considerably enlarged upon at the afternoon meeting, giving us then a few notes from the most interesting meetings there. Mr. McLean, whom we now look upon as quite an old friend, also spoke, showing the benefits derived from an Inter-Collegiate Association of this nature. Both meetings were very enjoyable and gave us an impetus in our work here. The same day there was a special welcome to the O. A. C. boys at Norfolk Street Church when the Rev. Dr. Willoughby preached in the evening on "Spiritual Agriculture."

THE O. A. C. REVIEW.

OUR magnificent barns are now completed; we sincerely trust that no such terrible disaster as that which befel the old ones on Nov. 26th, 1888, will ever again visit these new and handsome buildings. The general plan remains the same, sundry improvements, however, have been made in granaries and stables, but it is a sad fact that the barn is no better for threshing in. There are more box-stalls in the horse stable, and a commodious root cellar has been excavated under the bull shed.

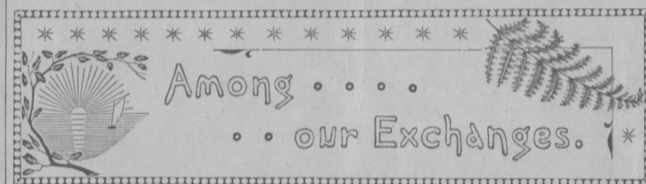
At the meeting of the Literary Society on Oct. 25th, the *piece de resistance* was an excellent address by Prof. Panton, on "What to Say and How to Say It." Unfortunately there was not so large an attendance as usual owing to special attractions in the city, but those present got several useful pointers on public speaking. Many ex-students, who are now good speakers, have testified that their maiden efforts were made in No. 1 Class Room, and we have no doubt that much of the success of present students as elocutionists will subsequently be traced to our Honorary President's entertaining speech of that Friday evening. Many white-robed figures were flitting about the halls that night watching a big fire in the city.

THE Literary Society has commenced well, and we cordially wish it every success for the present session. The Society is exceedingly fortunate in securing such an excellent President in the person of Mr. H. H. Dean, of Harley, who is a most methodical and expeditious chairman, and withal a fluent speaker. Under his able management the order of business proceeds harmoniously and with great despatch. Professor Panton has kindly consented to officiate as Honorary President. In a recent meeting we received the good news that he is glad to offer a prize for the best speaker. As a Society we are greatly indebted to him for thus encouraging speaking. Now, boys, wake up! and never miss a chance of taking the floor on Friday nights.

THINGS the Editor would like to know:—
Why the varnish was not dry when the College re-opened.
Why the drain pipes in the stable over the potatoes cannot be kept water-tight.
Why the live stock class room cannot be cleaned regularly.
Who in the 1st year got bath tickets.
Why there could not be a wash-room for students on the ground floor.
Why there is not a sidewalk from the College doors to the main road.
Why the 2nd year cannot have a "subject" for veterinary lectures.
If there cannot be an instructor in Elocution.

EARLY in October the football club re-organized, the officers elected being:—Hon.-President, Prof. Robertson; President, A. Shantz; Captain, P. Bayne; Secretary-Treasurer, J. A. Gelling. Committee, Musgrave, Dolsen, McFarlane, Smith, and Harris. After a fortnight's practice the club matches commenced with Toronto 2nd. XV., who visited Guelph. The College was well represented and won by 21 points to 5. The following Saturday Upper Canada College came down and defeated our club by 14 points to 9. The first out match was played at Stratford in miserable weather against an older and heavier team. Our boys did some very plucky work, but having a weak back division the result was 22 to 10 in Stratford's favor. It was universally agreed that the opposing men were a most hospitable lot and did their best to make things enjoyable. On Thanksgiving day Trinity College visited our lawn and after a hard fought and pleasant game lost by 6 points to 8. The large attendance, especially of the fair sex, was most gratifying. The home team was strongly represented and would have been better had not Bayne and Musgrave been incapacitated by injuries. For the home team the forwards played a good game at scrimmaging and heeling out. Harris did some fine dribbling. Mattice's passing at quarter was very clean. Saunders was good all round, his punting at times being grand; DeMauritz made one or two good runs. Ransom and Gelling also deserve mention for good work at back and wing respectively. Supper time was very lively that night, several amusing speeches being made by members of both teams. On the 9th inst. our team drove to Hamilton where they had a most agreeable and interesting game with the junior team of the

Hamilton F. B. C. The juniors, who were ably assisted by several of the seniors, won by 19 points to 3. The scoring by no means shows the true state of the game, as our team had decidedly bad luck, both in point of scoring and also by being weakly represented in the back division. The attendance was large and the cheering dealt out with great impartiality. Our forwards repeatedly showed their superiority by carrying the scrims and had even one of the regular halves been present we should have had no difficulty in scoring, but nothing more than rouges were obtained. The College forwards, as usual, played a great game, Dolsen, Harris, and Webster showing up most prominently. Ransom, at back, played well, his kicking being unusually good. Mr. Morris acted as referee to the entire satisfaction of both teams. The return match against Toronto, fixed for the 16th inst., was postponed owing to our inability to take down anything like a representative team. Challenges have been sent to Hamilton and Stratford for return matches at home.



Owing to the number of College papers as yet received being small, the list of exchanges will consequently be rather limited in this number. We hope to hear from the various colleges ere our next publication.

The *Acta Victoriana* is the best exchange we have yet received. It contains many interesting and instructive articles. The criticisms on the Class of '93 are in many instances good, and in some cases rather severe.

The *Mississippi College Reflector* contains the following:—Prof. Phares and Profs. Irley, Higgins and Wellbom have severed their connection with the College. Dr. Phares is living in Madison County, Prof. Irley is farming in Georgia, and Prof. Higgins and Wellbom, in connection with Mr. J. W. Fox, of Class '89, have opened a large school at State Springs. The places of the above named gentlemen have been filled as follows:—Prof. Creelman, Biology; Prof. Connell, Agriculture; Messrs. Herbert, '87, and Covington, assistants in the preparatory department. Mr. Creelman is an old student of the Ontario Agricultural College, having graduated early in the summer of '88. A few months later he was appointed assistant to the Professor of Biology at the Agricultural College, Mississippi, and now has succeeded the late professor. We wish Mr. Creelman every success in his new undertaking.

College Reflector:—Mr. H. A. Morgan, of Canada, spent a few days at the College not long since visiting Mr. G. C. Creelman. Mr. Morgan took the degree B. S. A. at the Ontario Agricultural College early in the present year, and a few months later was appointed Professor of Botany at the Louisiana State University.

The Portfolio presents a great deal of taste both in dress and in the various articles that adorn its pages. Criticism of Class '89 is interesting, and the writer, according to Addison, is a true critic. We shall be glad to receive *The Portfolio* as one of our exchanges.

The credit system causes the financial death of thousands of farmers.

Trying to stop cracks in cold stables with grain fed to stock is not economy.

Shrunken wheat is of more value to feed stock than to make flour, as the nitrogenous compounds are relatively high.

Manitoba has become noted for the growth of mushrooms on her prairies. They are sometimes as large as saucers.

A barking dog and a noisy, loud-mouthed man are two things that should never be permitted to enter a cattle-feeding-pen.

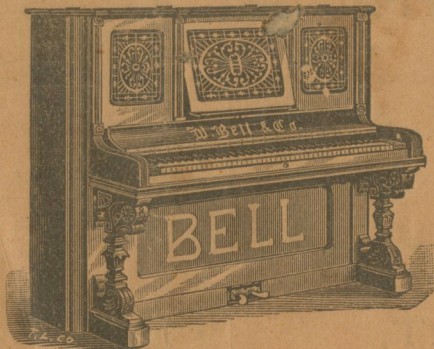
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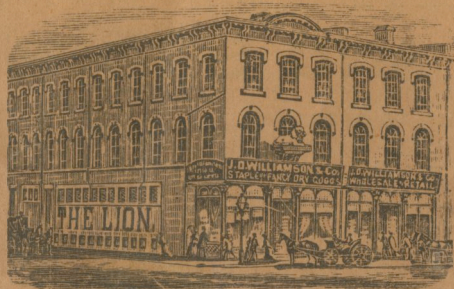


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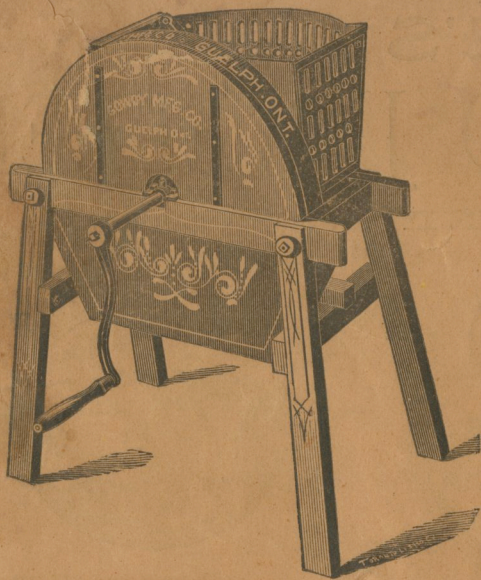
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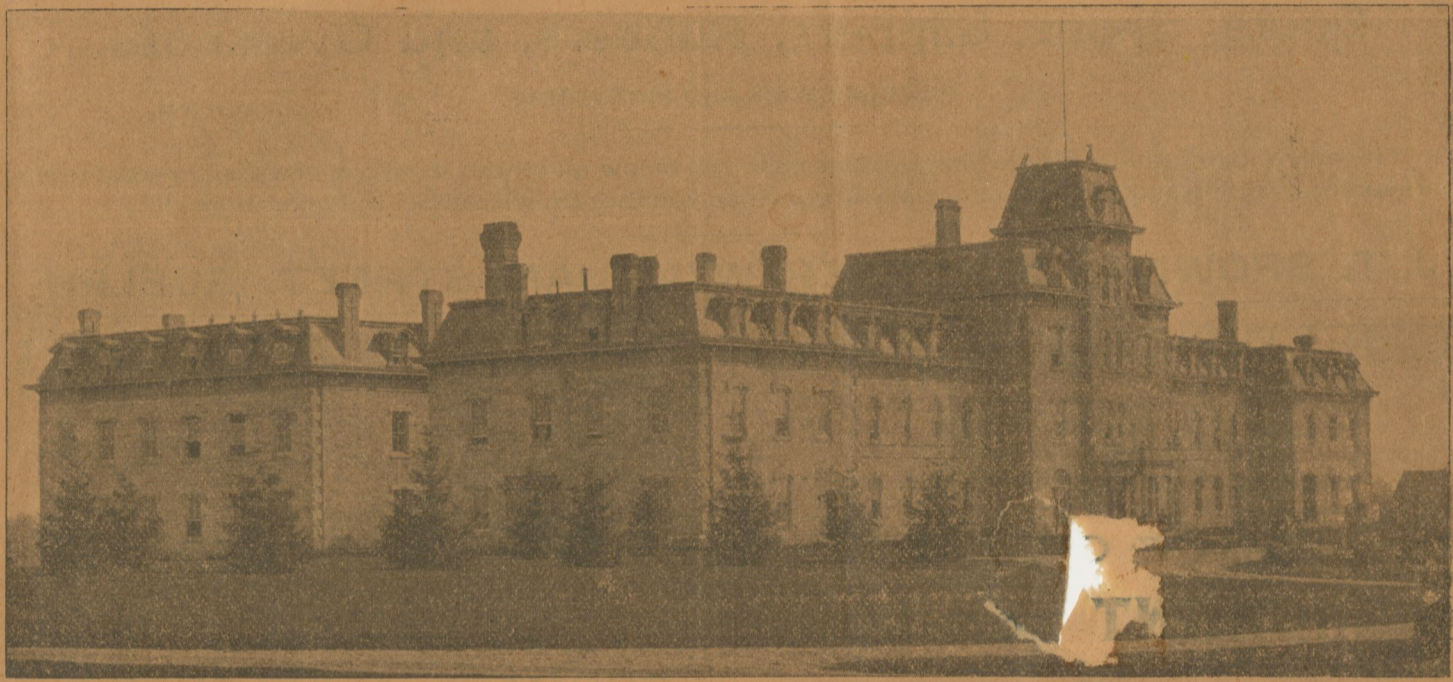
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THE O. A. C. REVIEW.

The Dignity of a Calling is its Utility.

VOL. I.

GUELPH, ONT., DECEMBER, 1889.

No. 2.

THE O. A. C. REVIEW,

PUBLISHED MONTHLY, DURING THE COLLEGE YEAR, BY THE LITERARY SOCIETY OF THE ONTARIO AGRICULTURAL COLLEGE, GUELPH.

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THE O. A. C. REVIEW will spare no endeavor to furnish reliable news and information to those interested in farming operations.

Ex-students will confer a great favor on the Editors of this Journal by sending news, particularly experiences of practical value.



We would not be in accord with other journals if we allowed 1889 to depart without saying a parting word. There was considerable doubt as to the success of the venture, but the many kind words which have been spoken of our first issue have encouraged us. We feel somewhat sorry that 1889 will no more accompany us, because persons are always attached to the time and place of first beginnings, whether of school days, college life or professional life. So, Old Year Adieu.

* * *

"Thirty-two States and Territories (including Ontario and the District of Columbia) were represented by 75 delegates at the Washington meeting of the Association of Agricultural Colleges and Experimental Stations, last month." So says a recent number of *The Cultivator and Country Gentleman*.

The idea is certainly a good one of thus bringing together the men of the different colleges and Experimental Stations to discuss means for the promotion of the welfare of such institutions. No doubt many of the vexing problems connected with their management will have much light thrown upon them. We are pleased to hear that Ontario was represented at this assembly, but who the representative was we have not learned. We should be pleased to

hear from him, who ever he is, and our columns will be open to him if he will favor us with a report of the meeting and what he learned there. We should be highly favored if the person would contribute an article on the foregoing subject and we feel that it would do the College much good. As an aid to the same end we would suggest that a deputation consisting of students, or professors, or both, be sent to visit a number of American Agricultural Colleges and inquiry be made as to their methods. Many useful hints might be gained in this way. Other Colleges may not have as long a vacation at Christmas as we, hence a portion of the holidays might be spent in this manner.

* * *

Vacation! What bright anticipations the word brings to the College student. After three months study what relief a short vacation brings to him. The mind is for the time unburdened of all care in regard to his books and undivided attention may be given to the development of the social qualities which are apt to be neglected by most college men. Dull books he flings away, possibly, to con them no more until after vacation. He and books are going to part company for a week at least. Perhaps they have not been on extra good terms since they made the acquaintance of each other and John Student may not be sorry to part company with his morose friend Solomon Books. However, it is evident that they will part and we would like to give a word of advice to our friend John, as to the manner of spending his vacation and the proper treatment of his friend Solomon.

John may be going home from College for his first vacation and to him more particularly will the following remarks apply:— Do not be anxious to show the "old folks" that you know considerably more *now* than when you left home three months ago; and that you know a great deal more than they do. Also, be careful not to draw too heavily on your imagination when reciting some of the stirring incidents of College life, as you may harm yourself and the College reputation. If asked to express your opinion upon any matter, do so with becoming modesty, but as to airing your views upon any and all occasions we would give Punch's advice to persons about to marry, "Don't."

The Christmas vacation at the O. A. C. is a long one and during the manifold pleasures in which you may be engaged, you are apt to neglect your companion Solomon whom you promised, or ought to have promised, not to leave for more than a week or ten days. Do not forget him for too long a period, because absence does *not* make the heart grow fonder. It is better not to allow too much time to elapse between study as it will require extra exertion to wear off the rust which will accumulate owing to exposure to the inclement weather of a long vacation.

* * *

We call the attention of our readers to an article on "The Need of a Gymnasium at the O. A. C." by Capt. Clarke. No one knows better the great necessity for such a building here than does our

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worthy instructor, and it is not our intention to add materially to what he has said, but we shall point out a few ways in which it would be of great service, which he has not touched upon in his excellent article.

The ancients thought that gymnastic exercises would not only strengthen the body, but also would prevent disease. How far this is true we shall not pretend to say, but of this one thing we are certain, that a person with a strong physical frame can withstand disease much better than one with a weakly frame; and that a gymnasium will do much towards developing a healthy frame cannot be doubted. It would afford a place where students might knock off the excess of animal spirits and then the noises in the halls would not be heard so frequently. If we had such a place, those who wish to practice gymnastics might go there, where they would not disturb others who would rather study. Students would then carry home a better report of the College and more would be induced to attend. Only those who have attended a year or two know how trying it is to study after study hours. But who can wonder if young fellows full of life and energy should at times grow boisterous? At the commencement of each College year we have the warning given us, not to mar the halls, furniture, etc.; and we are also told that a hundred dollars or so have been expended in repairing and cleaning after the preceding year. A large part of this expenditure is due to the fact that no place is provided where students may make merry and hence they choose the halls and rooms as their resort for all physical exercises with the result that considerable damage is done each year. How many hundred dollars thus saved would be required to build a suitable place? A few years expenses for such repairs would soon pay the cost of the building. But the building might serve another purpose, viz.,—that of a Convocation Hall. There is no suitable room connected with the College for gatherings, and its need is sorely felt, as anyone knows who has been to the trouble of clearing out the dining hall and seating it for public meetings; besides, it is far too small.

We hope the authorities will consider the matter and that before the opening of another College year we shall see a suitable gymnasium erected in connection with the O. A. C.

* * *

I wandered into the reading room one day recently when all was quiet and still. It was such a day as tends to produce a meditative mood. Outside was slush and pelting rain. Inside no living object was present to mar the stillness. As I sauntered up to the side of the room where five daily papers are kept on file, I heard them speaking in a language which seemed rather unintelligible, but which was understood after a time. At first I was amazed that newspapers could talk, but there was no mistaking it. All had the push-ahead, business tone, which no doubt they learned from their respective editors. After listening intently I made out their complaint which was after this manner:—"The students read us for the news which we contain and for that only. They have no time to read the politics of the day. The greater part of our columns are not read at all. All the news may be obtained from two of us." But, I remonstrated do you not look for the subscription without any regard for the good which you accomplish? What will your managers say when they hear of you talking in this manner? In the same tones as before came the words, "we would rather see the money expended in other ways more profitable to the students." I turned away convinced that their suggestion was worth considering. As I passed around

to the right the *Herald* and *Mercury* beckoned me to pause a moment. They seemed to have a special grievance. In tones somewhat weakened after the withdrawal of the other three they said—"It is a great struggle we are having here as to who shall be at the top of the heap. Sometimes it is one and sometimes it is the other. Frequently we are removed before many have a chance to inspect us. If we cannot receive fair treatment and be useful we would rather not come at all." I passed on, reflecting that wisdom may proceed out of the mouth of babes.

As I neared the quarters of the great army of Agricultural Journals a Babel of voices met my ears so that it was impossible to distinguish what any of them was saying. Each was putting his claims for a place in the liveliest manner possible. I bade them all keep silent except four, viz.,—*The Canadian Live Stock Journal* and *Farmer's Advocate* (which now lie peaceably side by side), *The Cultivator and Country Gentleman* and *The Maritime Agriculturist*—that chiefly because of its editor's association with the College and the fact that there are a number of Maritime students and associates. When the noise had ceased, the four stated their views in a very plain, straightforward manner, which were practically as follows: "There is too much skimming of our pages and not enough solid information taken from us. Fewer journals and have these read better are what we advise." Hearing a great bustling of leaves and a small piping voice that seemed to be nearly suffocated, I turned to give any assistance that might be required, but by this time it had extricated itself and the representative of the Dairy Department was endeavoring to claim my attention. I listened, and from its tones, knew that *Hoard's Dairyman* was holding forth. In effect his arguments were—that he did not believe in having two or three other dairy journals on the top of him which caused him to be frequently overlooked. He believed that all the knowledge in regard to dairy matters, which is received from journals of his class, could be obtained by a careful study of his pages only. I thanked him for his suggestion and moved on.

The faint whisperings of the *Poultry Review*, and of the *Bee Journals* next claimed my attention. Their voices were very weak, hoarse and wheezy; they seemed unable to endure the cold climate of Guelph. "We never get mentioned by the Professors so the students do not think it necessary to ever look at us, thus we are passed by in silence." I sympathized with them knowing how bitter it is to receive a cold shoulder.

In among the cackling hens and the humming bees I found the *Scientific American*, but he was so engrossed in an important experiment in regard to a new method of photography that he only looked up to say: "Those who are inordinately fond of pictures, or those who are anxious to know how to convert a 3 ft. burner into a 4 ft., occasionally drop in to see me, but if it were not for the engineer I should not be interrupted very much in my experiments to elucidate scientific problems to my satisfaction." So Ho! That is your position, eh? I remarked and moved away. Other scientific papers complained of being skimmed over and all seemed agreed that less quantity and more careful reading of the few would be an improvement.

Ha! Ha! Ha! broke on my ears. "I have full swing except when the *Globe* tries to imitate me. Whenever the boys get the "blues" they always come round to see me." I thought my ears must have been misleading me this time; but no, there was *Grip* holding his sides and laughing as heartily as ever. I thought that truly *Grip* deserves a place in our reading room that he may help to drive away dull care.

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I was about to leave the room when clerical tones beat upon the tympanum. "Brother, wait a minute will you?" I stopped and looking in the direction whence the sounds came, I saw, all united in brotherly affection,—*The Baptist*, still dripping with water; Knoxonian with his witty sayings ready to bubble out; *The Guardian*, with his troubles of College Confederation weighing him down until he almost groaned; and a host of others all with a more or less clerical look. The general complaint seemed to be that unless there was a fascinating story among their pages, not read very often, is stamped on the face of every issue as it is removed by the Librarian. Each paper has at least one student who peruses its columns and as these papers are all sent free by the publishers, the advice of less quantity and better quality (the quality being good) is not so applicable in this case. How a better appreciation for our friends can be developed is a work worthy the attention of a wise person.

Just as I was passing out of the door a voice which seemed to come from the gas jets said—"And where, I pray are all the magazines which contain the best literature of the day?" I retraced my steps to discern, if possible, where these were kept. After an unsuccessful search I gave it up. Can it be possible that students are supposed to be acquainted with the literature of the day, yet not one of the leading literary papers and magazines is to be found in their reading room? No wonder that they are almost dumbfounded when asked to criticise the latest works in prose or poetry; or to "State what you know of Ignatius Donnelly." Surely there is some excuse for them. After hearing all sides I came to the conclusion that the literature in the O. A. C. reading room is rather *one-sided*; that there is too great a *quantity* of some kinds and a lacking in *quality*.

The weather outside had begun to clear; sounds which tokened the approach of students aroused me; the talking of the journals ceased; and now I know not whether I was in a day-dream or actually heard their voices.

Farmers' Institutes to be Addressed by the College Staff.

President Mills will address institutes at the following places during January: Shelburne, Dufferin; Dundalk, South Grey; Flesherton, East Grey; Meaford, North Grey; Creemore, West Simcoe; Alliston, South Simcoe; Elmvalle, Centre Simcoe; Aurora, North York; Markham, East York.

Prof. James at Drayton, North Wellington; Tara, North Bruce; Chesley, Centre Bruce; Formosa, South Bruce; Teeswater, South Bruce; Wroxeter, East Huron; Mt. Forest and Kenilworth, East Wellington; Goderich, West Huron; Hensall, South Huron; Elora, Centre Wellington.

Prof. Shaw at Lucan and Parkhill, North Middlesex; London, East Middlesex; Alvington, East Lambton; Glencoe, West Middlesex; Botany, East Kent; Zone, East Kent; Windsor, North Essex; Amherstburg, South Essex; Tilbury Centre, West Kent; Chatham, West Kent.

Prof. Grenside at Freulton, North Wentworth; Drumbo, North Oxford; Innerkip, North Oxford; Mount Elgin, South Oxford; Shedden, West Elgin; Waterford, North Norfolk; Aylmer, East Elgin; Simcoe, South Norfolk; Selkirk, Haldimand; Marshville, Monck.

Prof. Robertson at St. George, North Brant; Brantford, South Brant; St. David's, Lincoln; Weston, West York; Preston, South Waterloo.

Prof. Pantou at Picton, Prince Edward; Centreville, Addington; Inverary, Frontenac; Lansdowne, Leeds; Algonquin, Grenville; Iroquois, Dundas; Lancaster, Glengarry; South Finch, Stormont; Lanark, South Lanark; Carleton, South Lanark.



The next annual meeting of the Ontario Agricultural and Experimental Union is to be held at the College on Thursday and Friday of the first week of February, 1890. An interesting and instructive programme is being arranged and results of experiments on agriculture, live stock, horticulture, dairying and bee-keeping as conducted during the present year, will be presented to the meeting.

The College herd of thoroughbred cattle is now nearly complete and consists of Shorthorns, one male and five females; Aberdeen Polls, two males and two females; Herefords, one male and one female; Galloways, one male and two females; Holsteins, one male and one female; Devons, one male; Ayrshires, one male and one female, and Jerseys, one male and four females. The best animal as yet purchased is the magnificent two-year old Shorthorn bull, bred at Bow Park. In pedigree, the top crosses are straight Booth upon a Waterloo foundation. This bull won the sweepstake's prize at Detroit in September, in a competition open to the world, beating the celebrated Collyne bull, Cup-bearer, and at present in the Bow Park herd.

Agricultural Experiments in Canada.

One year previous to the first Agricultural Experiment Station in the United States, was established the Ontario Agricultural College at Guelph. It was not, however, until two years after the commencement of the College that actual work was performed in the Experimental Department, this being the year 1876. When the fifth year's work was being conducted at the above Institution, there were still but four other agricultural stations upon the American continent.

In the year 1886, an Act of Parliament was passed by the Dominion Government making provision for the establishment of five experimental farms throughout Canada. The principal one to be situated at Ottawa, and to serve for both Ontario and Quebec. The other four to be located as follows:—One in the Maritime Provinces, one in Manitoba, one in the North West Territories, one in British Columbia.

The farms have been purchased, and a superintendent engaged for each. Experimental work was commenced on the Central Farm in the fall of 1886 and upon the others about two years later. No pains are being spared in making these experimental centres an honor to every true Canadian farmer. There is truly a great work before these institutions, and we wish for them every success in their noble undertakings.

The fourteenth year of work in the Experimental Department of the Ontario Agricultural College is about to close. Did space allow, a review of the many scientific and practical experiments and investigations, both in the field plots and with live stock, would be interesting and no doubt highly instructive. It must suffice, however, to give herein a very brief review of the development of the work from its commencement. In 1876 there were forty field plots; in 1885 one hundred and seventy, and in 1889

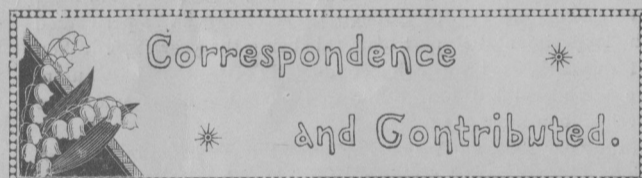
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four hundred and sixty-four. In 1885 twenty three acres were devoted to experiments, and during the present year about fifty-eight acres have been used for similar work. The live stock tests which have been conducted since 1886 have much increased in both number and complexity; there being five distinct experiments going on at the present time.

In 1883 chemical analyses were commenced, and since the new laboratory has been erected and the conveniences greatly increased for this very important branch of the Station work, all the waters, milks, soils, fertilizers, roots, grains and plants, that time would allow, have been analysed.

When the Professor of Dairying was appointed, the dairy experiments were put under his direct supervision. The creamery was continued, a silo erected and numerous experiments with corn and dairy stock conducted.

Not only has there been a direct line of experimental work carried on at the College for the past fourteen years, but we are proud to say there is a noble work being performed over this Province by members of the Ontario Agricultural and Experimental Union, an association of O. A. C. ex-students, students, and professors. Grains and fertilizers with full instructions as to conducting the experiments have been sent out from the College for the past four years. In 1886, there were twelve members engaged in the work, in 1887, sixty, and in 1888 about one hundred, besides others, who were conducting experiments in horticulture and in bee-keeping. Results of the tests of 1889 are now being received at the College. From the increased enthusiasm by which members of the Union have taken hold of this work, and by the encouraging remarks received from Experiment Stations of the United States on the reports, we feel that the active part taken by the Experimental Department of the College for the advancement of this field of labor has been work accomplished in the right direction.



The Need of a Gymnasium at the O. A. C.

There is no one employed by the Government at the O. A. C. who knows the wants of a gymnasium for the use of the students more than I do. It is now nearly ten years since I commenced to give instructions in drill at the College and all that time I have had to put up with whatever place I could find amongst the farm buildings to give the students a little gymnastic work. I worked hard with the idea that a suitable building would be put up for the students, as promised by the different Ministers of Agriculture for the past nine years, and it was with that understanding that I stuck to my post and worked on, but yet no gymnasium; and if there is one thing needed more than another at the Ontario Agricultural College, that thing is a good gymnasium, where the young men could be properly trained in gymnastic work; and more especially is it needed at our College which is situated so far from the city, and where the students find it impossible to get down to the city for any amusement during the long winter evenings. I feel certain that there are very few institutions situated as

our College is, without having a gymnasium, and I think that the physical education of our young men deserves the greatest attention; but I am sorry to say that there are a great many people who are anxious to cultivate the mind at the expense of the body, but this is a great mistake. There are others who, by an absurd infatuation, look at their own constitution as a measure of those of their sons, and because they themselves in advanced life can support confinement and intense application with little injury to health, they conclude that their sons can do the same. The advantages of a sound body are incalculable for the individuals themselves, their friends, and their posterity. Body and mind ought to be cultivated in harmony, and neither of them at the expense of the other. Health should be the basis of early education, and the development of the body will assist the manifestations of the mind. Gymnastic exercises may be established for all ages and for all classes of society. It may, perhaps, be unnecessary to remark that hygiene and physical training are concurrent subjects, and that one is incomplete without the other; in fact the students who take an active interest in physical exercises will become alive to the importance of developing all the faculties of the body and mind to the highest standard, when they find that the subject of physical exercises covers a vast field, including much more than is generally understood by the term; that it means more than making the muscles hard and strong; more than depth of lung; more than capacity for endurance; that it is the adapting of the human body for all its possibilities, they will naturally and of their own accord turn their attention to hygiene, which will then become to them a living fact of vital importance. Heretofore the physical training at the College has been of very little use to the students owing to the absence of a gymnasium, and it is to be hoped that the Government will see its way clear this coming spring to erect a suitable building where the students can have a thorough course of physical training.

The building should be 150 x 80. The windows in the building should be placed as high as possible and as many as can be put in. There should also be one large window at one end of the building the other end being a dead wall. They should all work on pivots.

The building should be properly heated and ventilated, and should contain the undermentioned apparatus, viz.:-

Horizontal Bars, Parallel Bars, Trapeze, Flying Rings, Row of side Rings, Ropes and Ladders, Chest Machines, Rowing Machines, Vaulting Bars, Indian Clubs, Dumb Bells, Bar Bells, Single Sticks, Foils, Masks, Vaulting Horses. There should also be a large bath placed in the basement of the building with lockers all around for the students to place their gymnastic suits in. A building such as I have spoken of could be erected for about \$3,000.

W. CLARK,
Drill Instructor O. A. C.

Robert Murray Soule, B. S. A.

A deep long shadow fell upon the College when tidings came on the evening of December 9th, announcing the death of Robert Murray Soule, who took his degree of B. S. A. only a few months ago, as all the students of the second and third years will very well remember.

Mr. Soule was born in the County of Wentworth in 1865, and removed with his parents to the neighborhood of Niagara Falls in 1881. He entered the College in 1886, completed his course as

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already intimated in the spring time of 1889, and was followed to his last resting place, on December 12th, by a vast concourse of people, who came to pay a most respectful and merited tribute to the memory of the youthful dead.

The brief interval since he received his degree was spent in the management of his father's farm, and the many improvements that he had already introduced were attracting the notice of the people of the neighborhood. But alas, on the very threshold of his life-work he was called away from it. The pillar of his parent's fondest earthly hopes was broken, for reasons that we may not fully know on this side the grave, and the deep well-spring of his large heart of human love became a cistern, shattered and dry.

A pathos almost inexpressibly touching clings to the last days of Mr. Soule. While on his death-bed he received letters from President Mills and Professor Shaw informing him that he had been chosen to accompany the latter in his lecturing tour among the farmers in the month of January, and he had in course of preparation a paper to be read at an Institute meeting already announced, to be held at Port Colborne on the 17th of December. It will interest the students to know that this paper was on the Ontario Agricultural College, and that although it exists only in the fragmentary form, it breathes a spirit of warm, true loyalty to this institution.

Mr. Soule was a general favorite at the College. Those who knew him most, knew best his worth. He had never learned hypocrisy or deceit, and his generosity was even larger than the manly breast from which it emanated. Unlike so many of to-day Mr. Soule was better than his words.

Why Robert Murray Soule should be laid in a new-dug grave on the banks of the Niagara when only twenty-four, is mysterious indeed. Why the silver medal which he proudly bore away from the College in his year should so soon be left in a mother's hand to feed her tender sorrow, is strange indeed. Why his youthful hopes should be made to wither in a moment as though with an untimely blast of spring-time, is a question that we cannot answer here. Why he should be scarcely permitted to enter the domain of earthy usefulness so bright with promise when just ready, baffles the wisdom of men. There are questions that can alone be answered by the Ruler of the Universe who doeth all things well. Mr. Soule's services were doubtless more wanted in heaven than on earth or the loving messenger would not so soon have borne him thither. The young life apparently so incomplete on earth will go on eternally toward completion in those realms where no hindrances stand in the way of completest development. And all his fellow-students who desire to profit by the lesson of his early death, will redouble their diligence in using aright the precious seed time of eternity.

THERE was a very good debate on Friday, Nov. 15, when Messrs. Brown and Esterbrook upheld that "The practical work at the O. A. C. should have a more prominent place than the theoretical." Messrs. Hadwen and R. E. Cowan took the negative side and after some good speaking, won. Mr. Perry gave a capital speech on his acquaintanceship with our sallow faced friends from the land of pig-tails, relating some interesting facts about John Chinaman. Our two rising vocalists, Messrs. Thomas and Worthington favored us with songs, and Mr. Faithfull contributed a reading.



H. R. Sweet, A. O. A. C. of '88, is farming near Selby, Ont.

F. Wettlaufer, Gold Medalist of '82, is a prosperous farmer near Tavistock, Ont.

A. E. Wark, A. O. A. C. of '84, is a very successful cheese manufacturer at Wanstead, Ont.

T. J. Horrocks, A. O. A. C. of '88, is travelling in the interests of a Toronto wholesale Patent Medicine Co.

C. R. Stevenson, A. O. A. C., of '88, in company with his brother, is conducting a fine farm at Fingal, Ont.

P. S. Idington, A. O. A. C. of '86, is managing a fine farm for his father at Stratford, Ont. He has under his charge a number of fine representatives of the Guernsey and Shorthorn breeds of cattle.

W. R. Bishop, A. O. A. C. of '88, is residing at his home near Brussels, Ont. He is an active member of the East Huron Farmers' Institute. at meetings of which he has read several excellent papers.

W. E. Serson, A. O. A. C. of '88, decided that single blessedness was a delusion, and accordingly, on the 20th ult., took to himself a wife in the person of Miss Vanluven. The staff extend them their best wishes for a happy voyage through life.

T. Raynor, B. S. A. of '89, has been delegated to address Farmers' Institutes, in the counties of Ontario, Durham, Victoria, and Peterborough, having associated with him Mr. John I. Hobson. Also, A. Lehmann, B. S. A. of '89, has been commissioned to do like work with Prof. Grenside, V. S., in the counties of Wentworth, Oxford, Elgin, Norfolk, and Haldimand.

We are always glad to hear of ex-students taking a prominent part in the deliberations of their fellow farmers, and were pleased to notice the name of F. W. Heacock, A. O. A. C. of '88, appearing on the list of speakers at the North York Farmers' Institute, to be held at Aurora, on Dec. 21st. His subject is "The care of Agricultural Implements."

W. J. Stover, A. O. A. C. of '82, and for a time member of the 3rd year Class of '89, writes us from Port Antonio, Jamaica, where he holds the position of instructor in Horticulture for the Boston Fruit Co. He speaks in glowing terms of the climate of the country and its productions. We hope e'er long to receive an article "On Jamaica," from the pen of W. J., which would no doubt be appreciated by the readers of the REVIEW.

J. G. Ross, A. O. A. C. of '81, sends us words of cheer. Upon his suggestion, some years ago, the Ontario Experimental and Agricultural Union considered the advisability of establishing a directory for the purpose of keeping a record of the whereabouts of ex-students. The suggestion, however, was not carried out; largely owing to the difficult nature of the undertaking. J. G. is now a member of the firm of P. S. Ross & Sons, chartered accountants, Montreal.

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Local News.

WHAT'S the matter with Wills' pants?

MR. L. WOOLVERTON, M. A., was up on Dec. 3.

THERE is a Cox Sparrow in the College, also a Monk-ch?

THE Hon. Chas. Drury was up on Nov. 27th, and Dec. 9th.

THE Wellington County Council had a look round on the 6th.

"Is that another ink-bottle spilt? Oh, no. I see it is a snow-ball."

MR. C. A. ZAVITZ, B. S. A., led the Y. M. C. A. meeting on the 5th inst.

MR. F. J. SLEIGHTHOLM, A. O. A. C., visited the College on the 17th November.

INSTRUCTION in the correct Society laugh given free by "British Columbia" and "Shapeless."

"Now, gentlemen, like all other dairy breeds the Berkshire is the best wool-producing animal."

THE merry jingle of the sleigh bells was heard once again on Nov. 28. Long may it continue.

A LADY on recently going through the cattle stables saw a calf and exclaimed, "What a *dear* little lamb!"

WE are glad to report that the live stock class room is cleaned occasionally, and that the 2nd year have now a subject.

THE voice of the cuckoo (clock) is no longer heard in the land except when a mischievous boy gently toots his ocarina.

QUESTIONS of the day:—

'Who stole the jam?'

'Who curled Newcomen's hair?'

THROUGH the kindness of the President a piano has been hired for a month; we sincerely trust we shall soon have one permanently.

Literature.—Student reading,—“He hath left you all his walks on this side Tiber.” President—“Which side is that?” Student—“The other.”

THE city ministers are always ready to help on our Y. M. C. A. work, and thereby greatly assist us. The Rev. Dr. Wardrope was up to conduct the meeting on Nov. 28.

ONE of the great attractions of the Friday evening receptions next door is to hear Mr. Harrison's delightful recitation about the young ladies, which he delivers in a very touching manner.

THE old familiar hill still spreads its ample bosom for the rapid glide of toboggans. Great is the fun, especially when leave is taken without being granted for a spin down during study hours.

THE fighting editor is taking special lessons in boxing so as to be ready to defend the local editor against those who were quite unintentionally wounded in their feelings by reading this column last month.

A FEW students who have fitted their windows with hygienic ventilators had the pleasure of cutting their way through snow-banks in their rooms recently when we had a genuine snow storm from the E.

SEVERAL students have been complaining lately that sundry nimble (and fair?) fingers have been busily employed practising sewing on various garments belonging to students. “Mischief, thou art afoot.”

SPRING taps are now fitted over the sinks to prevent waste, and too much flow through the sewage tanks. N. B.—It takes about 5 minutes to get a can full of water, besides considerable muscular force to hold the tap open.

□ By special request, or command rather, monitors have been appointed to keep order on their respective flats. Those appointed for one flat (by the boys) were the President and Old John, and for another, Prof. Hunt and — you know.

HELP is so short in the laundry that all washing has now to be in strictly up-to time. The recent notice would be unnecessary if all students were like two room-mates whose united washing bill for one term last year amounted to 27 cents.

WE learn on good authority that our friend who presides over the Horticultural Department, celebrated the anniversary of his wedding day on the 4th, by entertaining a highly select party of students at an oyster supper. Long may Mr. and Mrs. Forsyth flourish.

THE 2nd year fellows had the pleasure of a lecture on Gallo-ways recently, illustrated by one of Mr. McCrae's splendid bulls. At the close of the lecture Mr. W. McCrae briefly ran over the O. E. F. heifer, thereby giving a good supplement to Prof. Shaw's remarks.

WE regret to chronicle three accidents on one day. Messrs. McFaul, Cochrane, and Hall, got hurt on November 30, the first mentioned was in bed for a week with a nasty axe cut on the foot, but the other two soon recovered from their slight abrasions of the cuticle.

THERE is plenty of music in the College. But a few minutes ago sounds were wafted to No. 35 of the piano in the class-room, a banjo in the smoking-room, the organ in the non-smokers room, and a company of lusty-throated undergraduates yelling “Old Grimes.”

THE 1st year Literature lecture the other day was enlivened by the Professor endeavoring to describe the meaning of ‘a glance.’ He said, “for example, you can glance at a lady, if you do not understand, Mr. Newcomen is an adept at the art and will give lessons afterwards.”

IT would be better for boys who go in next door not to take any refreshment at all than to leave plate after plate untouched outside on the radiator. “Waste not, want not.” This is about on a par with boys, when milk is short, taking a full glass and only drinking half.

IT is commonly reported, and let it be understood on good authority, that some boys are so wonderfully studious that a pocket edition of “Julius Cæsar” accompanies them into the Literary Society meetings so that every spare moment between the numbers shall be carefully utilized.

THE O. A. C. REVIEW.

ON Nov. 23, the 2nd and 3rd year, and on Dec. 3, the 1st year again had the pleasure of seeing some excellent views in the Botanical Laboratory. Prof. Panton has spared no expense in getting these fine pictures of the Mammoth Cave and it is his delight to exhibit them to a crowd of admiring students or officers and friends.

A MOST careful series of analyses has been lately carried on here to find the percentage of sugar in beets. A fellow was met the other day with his hands stained a beautiful reddish brown, and with several deep scratches scarcely healed, and on being interrogated as to the why and wherefore it was ascertained he had been grating beets.

THERE was a narrow escape lately from what might have been a serious accident. When cutting feed the engine was stopped, and the fly-wheel, continuing to revolve with great rapidity, came off the shaft and spun away to the end of the barn passing between the legs of one boy and just grazing another one's leg. No damage was done.

IT is sad to notice the increasing cheekiness of the first year. It is bad enough to walk through a class room before the lecture is quite completed, but to wilfully interrupt a second year meeting by getting outside and continually pulling the door open is an offence which richly merits an intimate acquaintance with our end of the connection with the city waterworks.

MOST of the boys were down at the Fat Stock Show held in the Western stables on the 11th. The three judges of the 2nd year, Messrs. J. Harcourt, R. E. Cowan, and Watson, acquitted themselves well. It is rumored they will have some say at Toronto next fair time. Be that as it may, the O. A. C. is proud of boys whose judgment tallies almost exactly with that of well known cattle experts.

EARLY last month a Boxing Club was started and has already a large number of members; afternoons and evenings during recreation being devoted to the study of cross-counters, uppercuts and other intricacies of the noble art. We would advise every one to join, as boxing is the most manly and healthy exercise for indoors. Exhibitions given weekly by our world-renowned heavy weights, Hall and "Corporal."

CURIOUS work occasionally is done on Experimental by those told off to this interesting Department. On a recent occasion when a student had to empty the crock the ingenious youth thought he would apply his knowledge of hydrostatics and rigged a syphon to run off the liquid. Proceeding to exhaust the air and draw up the contents by suction he was most fortunately interrupted by the Professor who told him the crock contained nitric acid!

OUR bright little "Jim" has gone from among us. Cheerful and vivacious specimen of French-Canadian we miss thee. No more do thy jocular words and merry pranks light on our ears and bodies. Our spirits sank to zero when thy lithe form departed through the snow to the accompaniment of the College yell. Farewell, Mr. Smith, may the winds of Montreal blow gently on thee, and may the remembrance of many happy days at the O. A. C. linger long with thee. Adieu, dear Jim.

IN the first year English Composition lecture the other day the following sentence came up for discussion:—"She was accompanied by her mamma *en grande toilette* who, to tell the truth, looked rather *videe* even in gaslight." The President then asked

a student to criticise the sentence and state what was objectionable. The youth blandly replied:—"The only thing objectionable that I see, is her being accompanied by her mamma." However, the President can take a joke and joined heartily in the laugh which followed.

AT the Y. M. C. A. meeting, Nov. 21st, we had very interesting reports from our delegates to the Toronto Y. M. C. A. Convention. We are indebted to our representatives Messrs. E. A. Rennie and H. L. Hutt for taking such full notes and giving them to us in such entertaining style. At the close Prof. Hunt gave us a most practical address just gathering a few of the principal thoughts of various speakers and presenting them to the meeting with intense force and earnestness. As an outcome of this our Association already takes a deeper interest in Mission work.

THE Aberdeen Angus calf being recently condemned to have his scurs removed, was brought up to the lecture room for the benefit of the second year witnessing the operation. That is to say, the calf was brought *towards* the College but to come up to it the youngster flatly declined. Then was witnessed a delightful picnic, for the frolicsome yearling made a bee line for John's stomach, and having knocked him over, proceeded at no small rate to drag him over the snow to the farm office. There the frisky Doddie wound his leading rope three or four times round a post and placidly surveyed a group of admiring and amused students. Eventually the operation was performed in the stable but not until his playful gambols had tested the strength of three or four boys.

A SLIGHT change in the programme was made at the Literary Society meeting on the 29th November, and an open discussion held on "Improvements in the O. A. C. course." To our notion some very good suggestions were made which were subsequently embodied in a petition to the President, but whether or not the 'powers that be' will see fit to coincide therewith is another matter. The discussion was well sustained, several members speaking on such a vital question. The leaders were Messrs. Elliott and Jacob, both of whom gave very thoughtful and able speeches. Mr. Faithfull contributed a solo on the organ, very skilfully overcoming the difficulty of a broken pedal. Mr. Wilkin gave a capital speech on Japan, the more closely followed on account of his residence in that increasingly interesting country.

AT the meeting of the Literary Society on the 13th inst., the programme opened with a pianoforte solo by Mr. Faithfull. Mr. Harrison then gave a five minutes' speech on Spanish cities, bringing vividly before our notice scenes in Toledo and Cordova. We then had the pleasure of listening to a splendid address by Prof. Hunt, on Bellamy's "Looking Backward." He was listened to with rapt attention from beginning to end, and we all felt that we had a great deal to carry away and be of much service to us both now and in after life. To all second year students especially we would say read the book by all means if you get the opportunity and we are sure you will not regret it. We are very grateful to the Professor for sacrificing his time to entertain and instruct us with such a peculiarly interesting address. Mr. Milne followed with a maiden speech on "It Will Do."

ON Nov. 16th we again had the pleasure of receiving delegates from the Toronto Y. M. C. A. This time Mr. Cole, the Organizing Secretary, came, accompanied by Mr. Munro. We had an informal hearty meeting in the evening just to get acquainted, when Mr. Munro, a farmer's son, kept us in roars of laughter with

THE O. A. C. REVIEW.

his quaint allusions to the farming in his section and description of the angular dairy cows. Speaking of his trip to Northfield he told us the yells given by the different colleges. Fortunately it was remembered that the O. A. C. boys used to have one, so we promptly revived it and assiduously practiced—"One, two, three, four, Whoa, Back, Gee, Haw!!" And no mean yell either, when given from the lusty lungs and throats of energetic teamsters. When the meeting proper was over we gathered round the organ and sang to our hearts' content. We had two meetings on the Sunday, one at 8.30, led by Mr. Munro, and the other at 2.30, when we also had with us the Rev. Mr. Young, from Drummondville. Mr. Munro then gave us a very interesting account of his trip to Northfield, and Mr. Cole gave a Bible reading.

THE Literary Society is discussing the topics of the day. It decided at a recent meeting that it is undoubtedly expedient to do away with fences. Mr. Hutt opened the debate in a most able speech, the best yet given this term; he was supported by Mr. Gibson, and opposed by Messrs. Webster and Hall. The two first year men did well, in fact it is noteworthy that there are many good speakers in that class. Several amusing points were made, but the honest, straightforward arguments of the opener could not be successfully met and the affirmatives thus carried the motion. Mr. Hadwen is blossoming into a genuine parodist and comic singer. His topical allusions in "Climbing up de Front Hall Stairs," and his amusing rendering of "Where Did You Get That Hat," were highly appreciated. Mr. Watson was down for a five minutes speech that night and gave us a capital idea of the benefits to be derived on the farm from careful horse-breeding. We trust this subject, of such high importance, will receive due attention at the O. E. F. Mr. Buscarlet, when his music was found after his hasty hunt for it and the Critic's gentle insinuation that "some rascal or other had popped in and prigged it, gave us two good songs in his usual truly musical style.

AN open meeting of the Literary Society was held on the 6th inst., when a first-rate programme was presented to a crowded house, the fair sex being strongly represented. The College orchestra opened the proceedings with a selection of favorite airs; the performers were Miss M. Mills, piano; Messrs. Hadwen, Ransom, and McDonald, violins; and Mr. Musgrave, flute. After an enthusiastically demanded encore a sitting was held of a Mock Parliament. The first part of this was exceedingly funny when 18 members brought in most ludicrous bills. The principal one, ably debated by Messrs. G. Harcourt, Monteith, Hutt, and Harris, related to the cultivation of a moustache by the present generation of young men and the imposition of a fine on each hair above a certain length. The two last mentioned members made very good speeches, entering with much zest into the serio-comic debate. We were then favored with a pianoforte duet by Miss Mills and Miss Reynolds, which was deservedly encored. The hon. member for Tipperary subsequently described in richest brogue his experiences of courtship, and Mr. Hadwen described his experience at the Rainbow Fair in a clever parody of "Killaloo." Mr. Buscarlet sang one of his always welcome songs, and was called on for another. The programme ended with a Hunting Chorus from the students.

THE College Rugby Football Club closed the season against Hamilton on Nov. 9th. Five matches have been played, three of which were lost and two won; as against 66 points made by their opponents the College scored 51. The team this year was strong, especially the forward division, who throughout played a good

combined game and made more use of the heeling-out tactics than their opponents; the half-backs, owing to Saunders' inability to get away and Bayne's accidents were never fully represented; the "wings" played well individually and at times put in some good work, but hardly seemed to understand the nature of their positions. The full-back was weak as last year, though Ransom improved greatly towards the latter part of the season, in the earlier he was rather wild and erratic in his kicking. The following is an account of the matches:—

Oct. 19th, v. Toronto 2nd XV, won 21 points to 5.

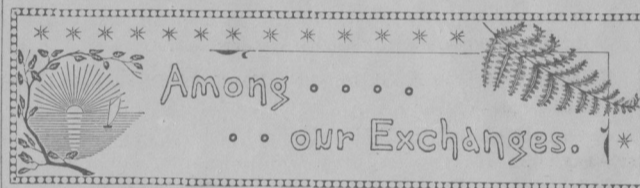
Oct. 26th, v. U. C. C., lost 9 points to 14.

Nov. 2nd, v. Stratford, lost 10 points to 22.

Nov. 7th, v. Trinity College, won 8 points to 6.

Nov. 9th, v. Hamilton, lost 3 points to 19.

The following having played for the College will be photographed as the team for 1889:—Ransom, Curzon, Mattice, Gelling, McFarlane, Buscarlet, Monk, Harris, Dolsen, Webster, Musgrave, Buchanan, McDonald, Esterbrook and Bayne (captain). Copies of this handsome group may be had on application at \$1 each. In the spring the Association Club will reorganize and be open to challenges from Guelph, Elmira, Preston, Elora, St. Jacobs and other neighboring clubs.



The average annual expenses of the students at Harvard is \$800.

A School of Electrical Engineering was opened this term at Columbia College.—*Ex.*

The expenditure on athletics alone at Harvard last year amounted to nearly \$25,000.

The Northwestern University at Evanston, Ill., has 1,658 students in its different departments.

At Dakota Agricultural College wood carving has been introduced as part of the manual training for ladies.

A Law School for women is to be established in New York city by Emily Kemfrin, LL. D., a graduate of a Swiss University.

Professor in Hygiene.—"What purpose does water serve in the body?" Brilliant Freshman.—"It—it helps to wash out the stomach."

The United States has four large colleges devoted exclusively to the education of women. They are: Wellesley, with 525; Vassar, 285; Smith, 400, and Bryn Mahr with 82.

The Business Managers of the REVIEW wish to acknowledge the receipt of subscriptions from the following:—H. Aylsworth, P. C. Black, J. A. Craig, B. S. A., J. A. Derbyshire, J. I. Hobson, A. D. Harkness, R. F. Holterman, A. Lehmann, B. S. A., E. E. Luton, D. H. Levens, G. F. Marsh, B. E. Patterson, B. S. A., Levi Pike, J. W. Ross, B. Robinson, J. G. Scrugham, C. R. Stevenson, F. B. Warner, A. B. Wilmot. Those who have not sent in their subscription will not receive more than this copy until such time as they subscribe.

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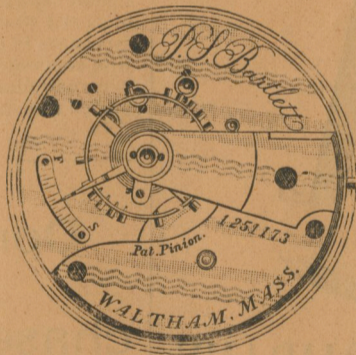
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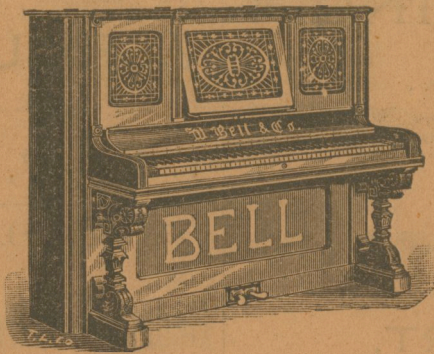
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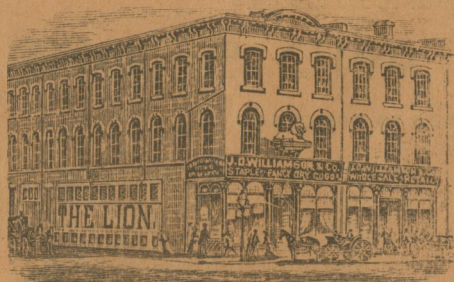


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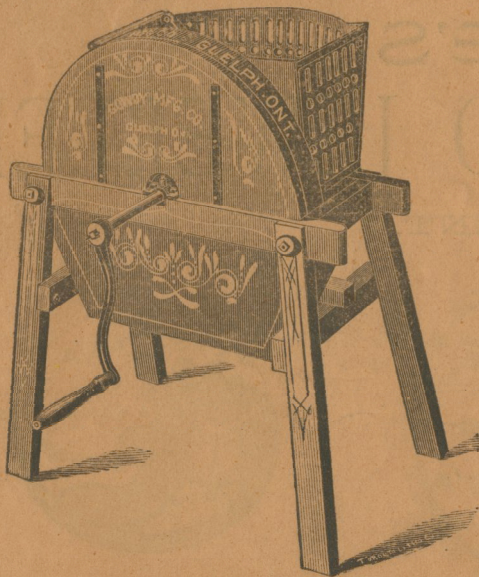
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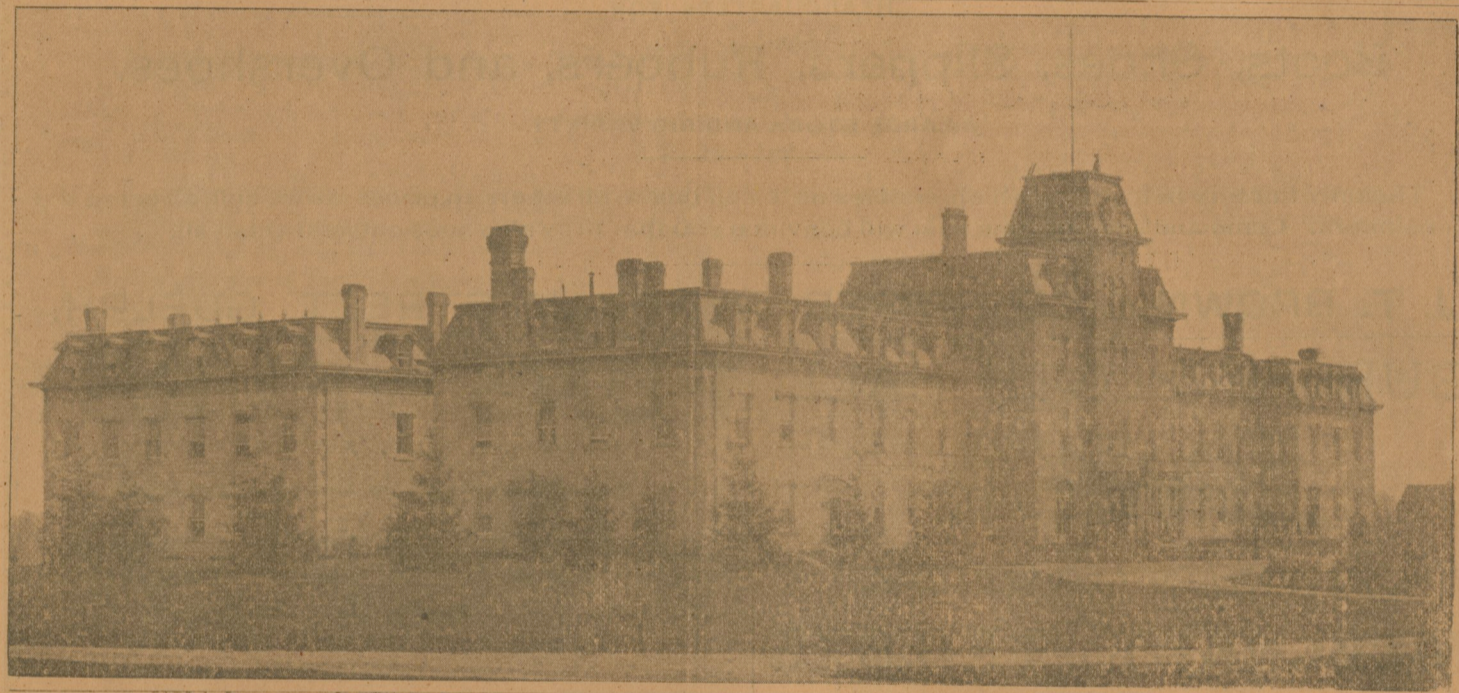
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THE O. A. C. REVIEW.

The Dignity of a Calling is its Utility.

VOL. I.

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No. 3.

THE O. A. C. REVIEW,

PUBLISHED MONTHLY, DURING THE COLLEGE YEAR, BY THE LITERARY SOCIETY OF THE ONTARIO AGRICULTURAL COLLEGE, GUELPH.

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* * *

"As agriculture must conform its methods to the phenomena of the vegetable and animal life, it follows necessarily that the science of these phenomena is the rational basis of agriculture."

* * *

So much has been said about the New Year that it hardly seems necessary to add more; but this we might say, that although the year ends in nought let us each be determined that our work of the year shall not end in nought. With the coming of the New Year, new possibilities arise before us and the extent to which we improve each and every opportunity of bettering ourselves will determine whether we rise above mediocrity or drift with the tide.

The influence of the College on the agriculture of the Province is very marked. Turn where you will to behold advancement along agricultural lines and its quickening influence is seen. Who contributes a great deal of the literature on agricultural subjects at the present time? Is it not the men who are, or have been, connected with the O. A. C.? Who, during the past three weeks, have been stalking through the land dispensing knowledge right and left? Chiefly, our men. Who are the leaders in thought in the neighborhoods in which they reside? The men who have spent one, two or three years at this institution. The farmers of the Province are beginning to ask for knowledge in all branches connected with their work, and to whom do they look to satisfy their longings? To the centre of agricultural knowledge for the Province. Then, go on bright star and may your brightening beams be scattered far and near until the pathway of the farmer shall shine more and more unto the perfect day.

* * *

We have just emerged from the clouds of another vacation with all the varying effects which vacation has upon various constitutions and temperament. We do not wish to join that great army of pessimists who are forever looking on the dark side of things, and who are always finding fault with anything and everything, but we would crave our readers indulgence for a moment or two in regard to the *long* vacation to which we are subjected. A great deal has been said and written on this matter, yet the vacation remains as long as ever. Relieve the Professors of Farmers' Institute work and then it will be shortened; so say those who ought to know; but how accomplish this is the question. Do away with the Farmers' Institutes would be an easy solution of the problem, but this is not at all desirable as they have come to stay, and the good which they are doing is incalculable.

Please consider the following remedies:—

1. Follow the example of the scientific calf feeder—change from new milk to skim, to concentrated and bulky fodder gradually. The professors have been spoon feeding and giving the finger to the farmers long enough; teach them gradually to drink without the spoon and the finger and to rely on themselves more and on others less. There are plenty of farmers throughout the Province who are capable of leading discussions at such meetings and a good, lively discussion will do more good than a barrel of pap, and better farmers will be the result. A great many think that they cannot have a meeting without a Professor to lean upon, but this is only the fancy of an indolent brain. Develop yourselves and then you will know how you got there.

2. Get the ex-students of the College to work. Oh! you say, they have plenty of opportunities at present and do not embrace them. But were they ever asked to take a responsible part in the programme of the institutes and they refused or were a failure? We think not. Give them to believe that you have some confidence in them and they will take hold of the work in real earnest

and success will be theirs. The trouble is, that confidence is not placed in them, and hence they are not given a trial. Give some of the boys a chance next year and nearly all the Professors may stay at home or take their families out for a sleigh-ride through the "beautiful" (mud).

3. Next year try sending out but one or two Professors into those parts which are specially in need of help and in a year or two the Institutes will become self-sustaining with some help from ex-students and specialists.

* * *

Our readers will please excuse this No. of the REVIEW if it is not quite up to the mark as all the editorial staff (Exchange excepted) have only recently recovered from a severe attack of La Grippe, and those who have been there will know how to sympathize with us. As for ourself, we had a great tussle with old man Grip. At first the old fellow entrenched himself in the lower vaults, armed with a large squirt gun, and he kept firing an incessant volley of liquid of some kind or other at the upper portion of our head until it seemed as if the walls would give way. We begged of him to let up, but he didn't let up worth anything. We begged and coaxed, fumed and sweat, kicked and tumbled, but it was no use, the old man held the fort, until becoming discouraged we called in the aid of Dr. Rennie, who, armed with a large bottle of hot water and two mustard plasters, which he applied to the pedal extremities made the old fellow turn his attention in the other direction and his firing being thus divided we felt considerable relief. But the old fellow was not going to be beaten that way, so he started a great fire in some of the internal heaters and concluded that he would roast us if he could not drown us or punch a hole through the cranium. We then called in the services of the College physician who declared that he could knock old Grip out in one round of twenty-four hours. We were a little dubious about the Doctor's abilities, but as he is of no small size and did not appear afraid of the old fellow we concluded to let him try his skill. Old Grip made a hard fight, but science and the commanding appearance of our physician won the day, and in about twenty-four hours the old fellow was subdued. But he did not leave without giving us something to remember him by, and we prefer to be excused from furnishing the battle field for Grip and the Doctor on any future occasions. We have a back, limbs, and in fact a whole framework that we will dispose of cheaply or exchange for a new one guaranteed to have never been gripped.

Had it not been for the excellent services of our two Doctors, the encouraging words, soothing touch, and inspiring influence of our excellent Matron (oh, who can value the services of a woman's presence in such a time when a fellow is sick and far from home) we fear that before this No. would have been issued another would have occupied our place and we should have been no more. But alas! how all our prospects in this world are blighted.

In fairness to old Grip we may say that we hardly gave him a fair chance, having called in so many to our assistance; but we feel quite confident that if he is given a reasonable amount of encouragement he will make a good fight. Dear reader, be on your guard or he will likely "do you up," to use a pugilistic phrase.

The more cows are fed on cleanly cultivated and siloed crops, the less likely is their butter to be affected with disagreeable tastes and odors.



At the coming meeting of the Ontario Agricultural and Experimental Union, to be held at the College, Feb. 6th and 7th, are to be read many papers of vital importance to agriculturists, and especially to ex-students. Concise reports of experimental work by the various committees will come before the meeting for discussion, and Prof. I. P. Roberts, of Cornell University; Prof. Wm. Saunders, of the Central Experimental Farm, Ottawa, and Prof. Robertson, are expected to be with us to assist in the meeting. May many ex-students and interested agriculturists take advantage of this mental treat. We extend to you a very hearty welcome.

THE DAIRY BARN.—Most of our readers will no doubt remember the old building situated near the creamery and generally known as the "south barn." This has, during the season, been completely remodelled into a dairy building by Prof. Robertson, and is now a place of much interest to the students and to the numerous visitors who come to the College. The barn contains a silo, a stable for sixteen cows, four box stalls for calves, and sufficient accommodation for one horse. The inside may be considered, as near model in its arrangement as can well be made in an old frame sixty feet long by thirty-six wide. Could not many of the old barns of Ontario be converted into dairy buildings of a somewhat similar nature to the one herein mentioned, and consequently much economy of space be saved with but moderate expense. The building is well adapted for winter dairying and the work being carried on has for its object the advancement of this very important branch of Ontario farming. Even the peculiar structure of the silo is for the purpose of ascertaining the cheapest and best way of preserving the green fodder for dairy stock. The silo occupies the greater space of what was formerly the bay-mow of the old barn, and is 22 feet long by 20 wide, and is 18 feet in height, being sufficient to hold about one hundred and forty tons of silage. The studs forming the walls are 2 x 10, and the sides are all made differently. Two of the walls face the open air. One is made by tacking tarred paper on the outer side of the studs over which is nailed dressed siding and bats, and on the inner face of the studding is first rough boards, then tarred paper and inside of all is nailed straight-edge planed lumber. The other outside wall is similar to the one just described with the exception of the inner lumber being matched. The remaining two walls are inside the barn and have no facing outside the studding. One has tarred paper on the inside next the studs and planed matched lumber inside of that, while the remaining wall is lined by rough unmatched boards, nailed upon the studs. The half of each side was painted with coal tar; the other halves of two sides painted with petroleum, and the remaining two unpainted. The silo has been opened, and experiments are now being conducted with corn and millet silage for milch cows, and rape silage for pigs. The results of the tests are being looked forward to with much interest.

MILK AND DISEASE.

By E. A. Rennie, O. A. C. Associate.

There are many articles of food, found daily upon our table, which, under certain conditions, might become the medium for the conveyance of microbes of the contagious diseases to the human race.

Science has found by experiment which articles of common consumption are most susceptible to the reception and increase of disease germs; and in research, these articles of diet are employed as culture fields for various forms of life during investigation.

It is common in practice to use sliced vegetables, gelatine, and eggs, as solid and semi-solid propagating material. We should be cautious where we place such food as boiled vegetables, rice, sago, corn starch, macaroni, soup, meat, etc., because they can become greatly damaged, and even dangerous to health by the addition of germs, from sewer gas or other atmospheric surroundings. In a certain house, a small lead pipe from the sewage system was connected with a refrigerator to carry away the water from the melting ice; the result being that the family residing there, contracted a bad type of diphtheria, on account of the contamination of their food. The gas from the sewer pipe rose into the refrigerator, and the cold condensed the moisture which held this gas, thus depositing the germs of disease.

Bacteria need for their production a certain amount of nutritive substance, a certain degree of heat, and a proper amount of moisture. Meat, if perfectly dry, and kept so, will remain in a perfect state for any length of time, because one of the conditions of growth of microbes, is not present. Jerked meat by its keeping qualities corroborates the above statement.

The solid foods are not so likely to be contaminated when they pass into the consumers' hands, as the semi-solid and liquid ones; although meat from a diseased source is productive of evil results.

Sanitarians have given much time to the study of water and milk, regarding the part they play in the transmission of disease.

The subject of milk cannot be investigated to any extent without including the examination of water; because normal milk contains about eighty-seven per cent of that fluid.

In composition milk is very closely allied to blood; in fact, it is elaborated blood; and although it is fluid, practically and chemically it is a tissue. Milk, from its nature and composition, is an excellent medium for the development of contagium.

It has been known to convey typhoid fever, diphtheria, scarlet fever, scarlatina, aphthous fever, tuberculosis, anthrax, and small-pox. The microbes of the above diseases, have different means of entry into the milk:—1st. The germs, of tuberculosis (phthisis), scarlatina, and aphthous fever, (foot and mouth disease), are transmitted from the diseased cow. 2nd. The typhoid zymod often enter the milk by adulteration with specifically tainted water. 3rd. Typhoid fever, scarlet fever, tuberculosis, small-pox, and cholera, are conveyed to milk by the handling of dairy utensils by persons who have attended on the sick, or by dropping epithelial scales into the milk, in its transmission from the stable to the consumer.

It is some satisfaction to know the cause of the different phenomena going on about our path; but is there any practical issue from this knowledge?

"Where ignorance is bliss, it is folly to be wise." We are feed-cows on cheap unwholesome food (refuse of distilleries, or town swill). We are not supposed to know it is unwholesome; the product sells. "Ignorance is bliss."

The well in our barn-yard has not been cleaned out for ten years. A little pig fell in two months ago; and the position of the well is such that the soakage from the manure heap has a natural tendency to drain that way; but the water is good enough for cattle. The milk sells all right. We are not supposed to know that the cow in her "make up" is defective as a fitter for micro-organ-

isms; and that consequently impure material (food and water) give resultant impure product. Yes! It sells all right. "Ignorance is bliss."

We have sick cows in our herd. We don't know that there is any actual disease; but one coughs badly, (a kind of stomach cough); another has a sore mouth, and is a little lame also; another has sore teats, and the milk is ropy. We don't know that it indicates anything particular. The milk sells all right. "Ignorance is bliss."

There is a cow in our herd that has consumption; but the milk sells all right. We are not supposed to know there is danger ahead. "It is folly to be wise."

There is scarlet fever over at Smith's. Mrs. Smith milks some of our cows. We are not expected to know that fever can be conveyed by milk. "It is folly to be wise."

We wish to utilize all the room in our basement cattle stable, so we have the cows as close together as they can lie down. In regard to the presence of carbonic acid and the absence of oxygen, it is a modern "Black Hole of Calcutta;" but the milk sells. "It is folly to be wise."

"Milk was important as well as manure. The objection to them was when they got together. Farmers would find they made a poor mixture."—*Lewis*.

"I have seen filthy cows in a filthy stable, and milk drawn into filthy pails by a filthy milker, and the milk I have regarded as the perfection of filth."—*Lewis, 1883*.

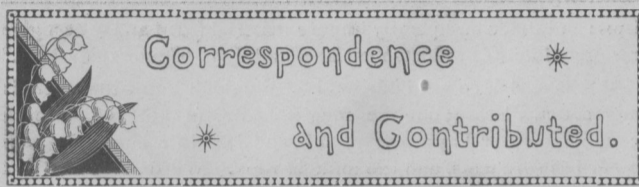
On account of facts similar to the above, laws have been enacted to regulate the production and sale of milk. Switzerland has always held a high place in regard to her condensed milk and other dairy products; and our attention is therefore naturally drawn to her for a stringent and effective milk law. Some idea of this law may be obtained from what takes place in Berne, the capital of the country:—Here it is necessary to obtain permission of the constabulary before opening a shop or premises for the sale of milk. A person who fails to make a declaration, and obtain consent, who uses dirty cans, pails, utensils, or milk carriage, who permits the milk room to be dirty, or in any way inappropriate for the keeping of milk, is liable to a fine varying from a small to a large amount." Each milk-man's milk must be analyzed at least once a month, and the inspector is permitted to enter into any shop and take samples when he chooses.

This is certainly as it should be. We have laws in Canada as rigorous as those in Switzerland; but the benefits are not as great as they should be, on account of the laws not being enforced. Visits from inspectors are, fortunately for the milk trade, not very numerous; and they are not as yet quite terrified by the fear of his constant appearance.

In those cities of the adjacent Republic, where inspection is enforced; the cities are charged by the legislature to appoint inspectors, who test the milk daily.

In the city of Boston, Mass., from fifty to sixty samples are submitted daily to the inspector, and the result in the improvement is very marked.

There are health officers in all the townships of this Province, who receive notification of all cases of contagious diseases, in their sections. It would be a simple matter to prohibit the sale of milk from all farms, upon which there were any such cases of sickness, until a doctor's certificate was forthcoming, guaranteeing safety from all infectious influence.



A WOULD-BE REFORMER.

For the O. A. C. Review.

A meddlesome monkey once set out
 On a tour, to reform the world;
 Now here, now there, he strutted about,
 And his long, handsome tail he twirled.
 A cat, lapping milk, he soon espied,
 "Such food isn't good for you," he cried;
 Upsetting the saucer with his paw,
 The cat scratched out an eye with her claw!
 "You were not meant to gnaw at a bone;"
 With these words, he a dog did assail,
 Ran off with the bone, but ran not alone,
 The dog followed, and bit off his tail!
 He next, not far off, an ox espied,
 Pasturing upon a green hill-side,
 "Grass," he exclaimed, "will not make you fat,
 Here is a bone, better feed on that."
 The ox quickly tossed him into a tree,
 Overhanging the succulent grass;
 Up there, with one eye and no tail, sat he,
 And soliloquized sadly, "Alas!
 This is pretty sure to be the fate
 Of those, who would mend a world ingrate,
 Its benefactors it abuses,
 And pays them off with wounds and bruises!"

WM. F. CLARKE.

Guelph, Ont.

The Vacant Dairy Chair.

Once more the Dairy Chair is vacant. That we shall lose the services of Prof. Robertson at the end of January, 1890, is a source of regret to all concerned, and could we do anything to retain him how gladly would we do so, but fate wills it otherwise.

Although dairying had been long recognized as an important factor in the agriculture of the Province, yet means were not provided for giving special instructions in this line of work to the students of the College until April, 1885, when a Professor of Dairying was appointed to lecture to students, take charge of the creamery, and when his duties permitted to address meetings of farmers throughout the Province. The Professor's name was S. M. Barre, and judging from the rather lengthy report given in the Annual Report of the College for 1885, he appears to have accomplished a considerable amount of work. During the winter of 1885 he resigned his position to undertake work of a similar nature in Manitoba. Professor Robertson was next appointed, whose duties commenced 1st of April, 1886. Besides his duties in connection with the College for that year he was placed in charge of the Ontario Exhibit of Butter and Cheese at the Colonial

and Indian Exhibition, to which, and to the excellent management and good work done by Prof. Robertson while there, the good prices which Ontario realises at the present time for her dairy products, is largely due.

Early in the year 1887, the Dairy Chair again became vacant, Prof. Robertson having resigned to engage in the produce business in Montreal. He returned again, however, in about a year and has since been closely connected with the College and the dairy interests generally of the Province,

Never before in this country (possibly in no other) has dairying taken such rapid strides as it has done since Prof. Robertson took charge of the dairying interests. The total output has been enormously increased while the quality has kept pace with the quantity, and we think it is but fair to say that a large part of this credit is due to him who has been at the head of affairs. But not only have the quality and quantity of dairy products been improved, but as a necessary sequence or rather precursor, the methods of feeding and managing dairy stock have been greatly improved, which is no doubt owing to the many practical hints given by him at the almost innumerable meetings which he has addressed in all parts of the Province. Corn fodder and the silo have received that attention which they ought to receive, and if on any one point more than another the results of his labors is more marked, it is here. Dry pastures and long winters do not trouble those who have followed the advice given them, while they are enabled to double the amount of dairy stock ordinarily kept on a farm.

While his loss will be seriously felt by the whole Province, yet it will not be to such an extent as his loss to the College, because he will still (to a certain degree) look after the dairy branch of agriculture, although his attention will be distributed over a much larger area, hence no one Province will be so well looked after.

As a Professor he is a general favorite, and the boys will be heartily sorry to lose him. It is not only what a Professor says, but the way in which he imparts his information that makes a good impression and carries esteem. His lectures, as a whole, have been of the highest order, and his system of skeleton lectures is such that others might do well to copy and save the interminable amount of writing out lectures, whereby a great deal of time and labor is uselessly spent. The best wishes of the whole College attend him in his new field of labor, and he will not soon be forgotten by those who have been associated with him in any way during his connection with the O. A. C. His example has always been such that young men would do well to follow, and his influence for good has been in no small degree. "In him the elements are so mixed that nature might stand up and say to all the world, 'He is a man.'"

Who his successor will be, has not yet been determined, but doubtless several are already aspiring. While we do not wish to discourage anyone from soaring aloft, yet we would have them consider that,

"As in a theatre, the eyes of men,
 After a well-graced actor leaves the stage
 Are idly bent on him that enters next,
 Thinking his prattle to be tedious;
 Even so, or with much more contempt, men's eyes"

May be dreamily fixed upon the coming Professor, and their ears may wax dull with heaviness from hearing his roaring all the day long.



Levi Pike, of '88 class, now of Locut Hill, has embarked in the swine breeding industry.

Messrs. C. J. Brodie and O. Loyd, of the Special Class of '85, are successful farmers in York Co.

Vincent Price, of '88, and an active member of the football teams of that year, is now taking his 2nd year in Divinity at Trinity College, Toronto.

Prof. Hutton, B. S. A., of Storrs Agricultural College, is prospering in his new sphere of labor. His system of cyclostyling his lectures is greatly appreciated by the students.

The many friends of E. Lick, and 2nd Silver Medalist of '87, will be glad to know that he has taken to himself a help-mate and is now residing on a farm near Oshawa, Ont.

WORTH RECOGNIZED.—In the December number of *Gleanings in Bee Culture*, a leading American bee journal, an interesting historical sketch is given of R. F. Holterman, an Associate of this College.

Mr. McDonald, of 49 Southampton Row, Blomsburg, London, Eng., formerly of the *Farmers' Advocate*, has lately published a book on "Humanitism: The Scientific Solution of the Social Problem."

Prof. Creelman, B. S. A., wishes to be remembered to his former fellow students, especially "our flat." He is now presiding over the Biological Department at the Mississippi Agricultural and Mechanical College.

Mr. E. M. Jarvis, of '88 class, now of Clarkson, has been elected Secretary of the Ontario Swine Breeders' Association. He was also a successful exhibitor of Shire horses and Yorkshire pigs at the last Toronto Industrial.

The Class of '85 will be pleased to hear that Gerald C. Butler, (2nd Silver Medalist), who went to Florida to try his fortune, is doing well. Although not engaged in agriculture as a pursuit, he cultivates a fine orange grove and is a general merchant and the postmaster of Ridgewood.

Mr. C. B. Bowman, one of the early ex-students of this College, has at present a well established herd of Ayrshires on his farm near West Montrose, Ont. We are glad to know that he is combining science with practice in the management of his farm, which no doubt is the secret of his success.

Subscribe for the O. A. C. REVIEW. 75c. per annum.

Do not forget the ice-house and a good supply of ice for the dairy in hot weather.

Before cold weather sets in stock should be examined for lice. It will be much less trouble and expense to destroy them now than later in the season and the consequent irritation is avoided.



THE WAY THEY KISS.

The Toronto girl bows her stately head
And fixes her stylish lips
In a firm, hard way, and lets them go
In spasmodic little sips.

The Hamilton girl removeth her specs,
And freezeth her face with a smile,
And she sticks out her lips like an open book
And cheweth her gum meanwhile,

The Knex Church girl says never a word,
And you'd think she was rather tame,
With her practical view of the matter in hand,
But she gets there just the same.

The Norfolk street girl, the pride of the world,
In her clinging and soulful way
Absorbs it all in a yearful yearn,
As big as a bale of hay.

The Congregational girl gets a grip on herself,
As she carefully takes off her hat,
Then she grabs up the prize in a frenzied way,
Like a terrier shaking a rat.

The St. Andrew's girl, so gentle and sweet,
Lets her lips meet the coming kiss
With a rapturous warmth, and the youthful soul
Floats away on a sea of bliss.

We have sung you a song of the girls who kiss,
And it sets one's brain in a whirl—
But to reach the height of earthly bliss
You must kiss an O. A. C. girl.

With your arm 'round her waist, her face upturned
In a sweet, confiding way,
You care not a cent for the whole wide world,
Though the wind through your whiskers play.

And closer together your lips you draw
Till they meet in a rapturous glow,
And the small boy, hidden behind the door,
Cries, "Gallagher, let her go!"

—(After an Ex.)

THE boys were well treated during the vacation. Prof. Hunt gave two oyster suppers and Mrs. Craig provided another, while Dr. Herbert gave a ball at the Town Hall to which several students were invited.

LECTURES commenced on the 23rd. inst., with a fair attendance of students. On the following day almost all were present at a post mortem examination of one of the Ayrshires. Dr. Grenside was perfectly correct in his diagnosis, and found the poor animal badly diseased with tuberculosis.

THE trunks went down as usual on a wagon, but two poor fellows got left, and shortly after dinner those in the front rooms soon made known to the rest of the College that something unusual was progressing. On rushing to the windows we saw the new team, Burns and Moody, gracefully caracolling to the front gate bearing two trunks on a hand-cart.

PERRY and Faithfull do their training for the spring races in the dining-hall. One memorable spin was after the soup, and barring accidents would have resulted in a dead heat, but unfortunately the former slipped and very gracefully came to a *sit* still under the serving table while the latter got a nice scalding on the hand. The cream of the fun was that neither took the soup back!

HARRIS is serving his apprenticeship to the watch making trade and will undertake any repairs at a low rate; special instruction given in winding watches. To those who cannot understand the above let this explanation suffice. His watch would not run, so after numerous attempts to get it to go he took it to Pringle who advised him in a fatherly way to wind it up and then try it!

THE vacation brought with it one or two changes. We are sorry to lose two of our students; E. F. Thomas, of the 1st. year, will be greatly missed as he was one highly esteemed by all, being one of those genial fellows welcome everywhere on account of his musical talent and unfailing good humor. We wish him every success at his farming in Texas. The 2nd. year tender their sympathy to H. McDonald, who has been called home to Nova Scotia through the death of his father.

A CERTAIN 1st. year boy had a good trick played on him during the vacation. He awoke one Sunday morning to find a boy questioning him on some overnight meeting and evidently thinking it to be time to turn out, the visitor conceived the idea of making him really believe it. Accordingly his watch was set on to breakfast time and another boy sent in to hurry him up. The unsuspecting youth dressed in his Sunday-go-to-meeting apparel and hastened to the dining hall for breakfast at 1 a.m!

WE had an innovation on the 20th. and celebrated the breaking up in great style. It started in a modest enough way by the tables invisibly moving across the dining-hall till a long row had been formed under the clock, not without slight inconvenience to those at the heads. Then, after a short interval and repeated calls, an impromptu programme was commenced and a merry half-hour passed rapidly away with songs and speeches. The favorite items were those contributed by Mr. Esterbrook, who, from an elevated position, awoke sweet music from the banjo. The College was nearly empty that night as those boys who had not left were nearly all visiting.

THE exams. were held on the 18th., 19th. and 20th. December. That week was very dull and wet, in fact gas was burning nearly all the time of the exams. By noon on Friday several students had left, and many were in such a desperate hurry to pack up that they did not wait for dessert to be brought. This was especially noticeable at one table where all, except one small boy, left the dining-hall. This sweet youth waited in vain for the second course, and seeing it was not forthcoming went up to the Professor on duty and boldly demanded it. It was promptly ordered, and to the accompaniment of ringing cheers and derisive laughter in sallied the array of servants bearing to the diminutive laddie ten plates, and milk, sugar and pudding for ten. We sincerely trust he enjoyed the repast.

THE results of the Christmas examinations are as follows:—

PASSED IN ALL SUBJECTS.

FIRST YEAR.—(Ranked according to standing in general proficiency)—1, Harrison, F. O., London, England; 2, Gibson, D. Z., Willow Grove, Ont., and Burns, J. A. F., Halifax, N. S.; 4, Harris, J. C., Calne, England; 5, Ransom, S., Sydenham, England; 6, Wilkin, B. A., Calgary, N. W. T.; 7, Carlyle, W. L., Chester-ville, Ont.; 8, White, E. F., Clarksburg, Ont.; 9, Perry, E., Smithville, Ont.; 10, Thomas, E. F., Bristol, England; 11, Wiancko, A. T., Sparrow Lake, Ont.; 12, Sparrow, J. C. H., Antrim, Ont.; 13, Wills, H. G., Toronto, Ont.; 14, Johnston, P. S., Somenos, B. C.; 15, Conn, W., Heathcote, Ont.; 16, Thompson, A., Thornton, Ont.; 17, Murphy, A., Sydney, C. B.; 18, Alloway, L., Toronto, Ont.; 19, Worthington, F., Brockville, Ont.

SECOND YEAR.—(Ranked according to standing in general proficiency) 1, Whitley, C. F., England; 2, Harcourt, J., St. Ann's, Ont.; 3, Hutt, H. L., South End, Ont.; 4, Sleightholm, J. A. B., Humber, Ont.; 5, Cowan, R. E., Galt, Ont.; 6, Hadwen, G., France; 7, Dolsen, W. J., Chatham, Ont.; 8, Buchanan, D., Hensall, Ont.; 9, Hewgill, E. A., Heathcote, Ont.; 10, Mulholland, F., Yorkville, Ont.; 11, Thomson, H. C., Hamilton, Ont.; 12, Cowan, J. H., Galt, Ont.; 13, Webster, F. D., Creemore, Ont.; 14, Mattice, W. A., Cornwall, Ont.; 15, Elliott, R., Seaforth, Ont.; 16, Brown, H. H., Chatham, Ont.; 17, Field, H., Cobourg, Ont.; 18, Campbell, C. S., Brantford, Ont.; 19, Wilson, F., Whitevale, Ont.; 20, Wells, E., Chilliwack, B. C.; 21, Fairbairn, O. G., Brockville, Ont.

FOOTBALL.—On Xmas Day, as there were several visitors up at the College, the boys turned out and arranged a scratch game; amongst the players were several old members of the College, E. E. Shaw, '82; Calvert, '87; Paterson, '88, and Dr. Herbert, Cambridge University, England. The game was most enjoyable, especially coming at that time of year. Although so many of the students were enjoying the vacation at their homes, still the luckless remainders were able to defend the honor of the College on the football field; the captain turning out a fairly strong team to play the town under Association Rules. Both sides played ten aside owing to Guelph's turning up two short. Winning the toss the College played against the wind during first half; the game was carried on with varied success, several rushes of the College forwards almost ending successfully. Guelph in turn were repeatedly dangerously near the College uprights, and on one occasion were fortunate enough to score, the ball rebounding from McCallum through the posts getting past Musgrave, who had been defending well the numerous attacks of the opposing forwards. The College, after this misfortune, played with redoubled vigor, but till half-time were unable to score. At the sound of the whistle the College dribbled the ball well down and after a few minutes Bayne put in the first goal for the College, thus equalizing matters. From this till "no side" the College had matters nearly all their own way, but owing to poor shooting of their forwards were unable to score till within a few minutes of time when Bayne placed the College ahead by putting in another goal; the game terminated in favor of the College by 2 goals to 1. Owing to high wind and lowness of the thermometer the number of spectators was not large. Of the players, Gelling, by good all round work, was most noticeable, and Shantz's coolness at back

repeatedly brought the College out of difficulties. Those playing for the College were:—

Goal—R. Musgrave.
 Backs—A. Shantz and F. Esterbrook.
 Half-backs—L. McCallum and McEavoy.
 Forwards—E. Hall, J. A. Gelling, P. Bayne, Capt., J. C. Harris, S. Curzon.

Mr. A. S. S. Faithfull officiated as Referee to the entire satisfaction of both sides.

THE FIRST YEAR.

Our delicate-looking friend W—— hails from the land where glaciers were so freely dumped. He has been very studious, in fact we hardly ever remember seeing him spend an odd half-hour without either note or text book. It is reported he is a good plowman too. Stick to it and don't let the big fellows beat you.

Dear, good-natured Jack, how the boys do make fun of you! You have our full sympathy and respect too, for with all the baiting you keep your temper beautifully. You can make a good speech, but you do amuse us wonderfully by the comical way in which you manfully choke down the nervousness and recall the fast-slipping thoughts. Don't let them make you common waiter for your table, but let somebody else have a turn rushing so skilfully for the dishes.

We have a good Deputy-Critic in the person of Mr. Harris, one with a good knowledge of "English as she is spoke" and with an easy hand-in-pocket style of speaking. He's the boy to have in the football matches, let him get anywhere near when the ball is thrown out of touch and he will reach it without a footstool. He is the man to make fun during play, for evidently having had practice carrying small brothers pick-a-back, he coolly walks along with the ball and touches down though three or even four boys hang on to a lengthy limb.

Musgrave is another who shines at his best on the same lawn. Then only do his always-smiling features light up to fullest radiance, ten times increased when irate footballians shove and slang him. Never did British pluck and good humor shine to better advantage than when this sturdy fellow plants his feet firmly and smilingly declines to budge.

Poor old Moody, have you had a minute's peace since you entered our halls? Did ever a day pass during which your name did not appear on the blackboard? Your strength must have increased by having so many scrimmages with fun-loving boys. You have doubtless learned 'ere this the use of O. A. C. forks, and the advisability of knocking at doors before entering. Don't be discouraged or annoyed at the pranks of your fellow students but let them see you can take a joke or a hint, and stick closely to the present year's work. We cordially wish you every success with your studies.

Ruddy-faced youth with the golden red locks, do your spirits ever flag? When went there by the day on which you cheeked nobody? Oh, sweet little Harry, when advanced to long pants why did you not realize the importance of the *present*, and instead of waiting for the indefinite *sometime* get right down to work? We fear the company in the immediate vicinity of your "sleeping apartment" has not been conducive to hard study. Be patient, we beg you, and take a little friendly advice which is offered chiefly to you but also to some others who hardly seem to reflect on the benefits to be derived from a course here. "When a youth enters college he commences to make acquaintances, and continues to

make them through his entire stay; from among those he selects his intimate companions, and his success in college, at least, depends upon who these companions are. If those of one set are chosen there will be a tendency towards high morality and the forming of habits of industry, while on the other hand, if those of another class are selected habits of laziness and neglect are sure to follow, with a tendency towards lowering the moral condition." Remember that habits formed now will accompany you through life, and therefore, while not one instant wishing to see you relinquish your boyish fun, we would like to see some thought on your part beyond to-day's pleasure.

"Tottie" cannot yet say "rats" properly. He has beautiful notions of colorings and turns up to supper sometimes with flaring red football jersey, yellow hair and sky-blue pants. The picture is made the more attractive by the amusing walk of the individual.

We must not omit to notice the owner of the "Faithfull Love Gavotte" whose laughing, yet erstwhile love-sick eyes, and nimble fingers, so frequently are to be found at the piano. He and Alloway have the lion's share of the music out of the instrument. There is not another fellow in the College who has his cut of collar or who has such a graceful carriage of the head. When did he shave last?

Then there's that irrepressible Cucumber who is always wanting more "wope." He is the man (pardon, we should have written "boy") for the ladies. His nights out average 3 per week and his room is full of menus, programmes, dolls, ladies' gloves and other unconsidered trifles. His unceasing pranks, on one of the Editors especially, can only be kept in bounds when frequent spankings are administered with all the loving force of a would-be-substitute-for-a-mother's hand.

The first-half of the male bird that is the farmer's pest is the plague of Moody's life. He is developing into a blackboard artist and sketches rapidly and frequently life-size caricatures. He and the above mentioned student from Weston keep their flat lively with several trials by combat. He is in great favor round the rooms in his neighborhood, as who from Prince Edward County would not be?

For real genuine "Oirish" listen to A. Thompson speak for a few minutes. There is not much necessity to listen intently though, for when he starts talking either every other voice is hushed, or his comical tones soar above every body else's, and soon the gentle rippling laugh or the merry witticism compels the audible smile from his class-mates. His recitations seem to be stored in endless numbers in his memory and are really quite too funny when delivered with his own peculiar accent.

Gentle, quiet, studious Bobby, namesake of the immortal Burns, must here step forward. He is the boy to use the library and is to be seen almost every day lovingly hugging some enormous tome from whose depths he shortly will haul up and treasure innumerable truths. "This was the finest student of them all," as the Bard meant to say, he is a great thinker, but not a professor of deportment.

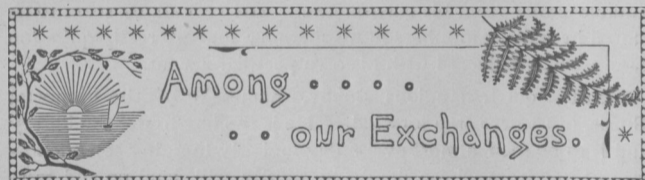
Grimy old Lancashire, with its distinctive race of human beings is fittingly represented in the person and aristocratic features of Bealey. Did you ever hear him talk of the "Ould Country?" Get him started and gently lead him on to tell marvellous travellers' tales and his hairbreadth escapes while crossing the herring-pond. Don't be annoyed sweet Hybla bee, for you do not drop so many h's as Whitworth anyway.

What should we do without music? Ask any 2nd. year man and he will reel off such a description of the poor wretch who likes not to hear "linked sweetness, long drawn out," that will make you appreciate Esterbrook and his musical talent. The patent swing and double twist of the banjo are professional tricks that cause unbounded amazement. We trust the news is correct that he has dropped excessive cigarette smoking. Those who wish to learn how to keep rooms particularly neat and tidy just step round to his and gaze in silent wonderment.

Study the nasal organ of our friend Bus from Switzerland and learn therefrom that that type denotes musical talent, athletic capability and a generous disposition. Mark the clearness of the upper G, note the swiftness of the "Rudge Safety" as it glides along propelled by his shapely legs, and then consider the advisability of purchasing a nose machine. He is the man to study Vet. notes so legibly written with a J pen. "Would he were fatter," yet he invariably stops the full time allowed in the dining-hall.

Perry, of Smithville, California, &c., &c., is the walking encyclopædia, ready to give reliable information at a moment's notice on any subject in the wide, wide world. This, ladies and gentlemen, is the result of much travelling, close observation, ability to put endless questions, and the cultivation of a correct sergeant-major's moustache. List, all ye within earshot, when the oracle speaks; but if you don't it will not make much difference for another audience will soon be found.

Hall is the impulsive youth who takes one minute exactly to leave his bed, don his ever immaculate linen and spotless outer garments, and arrive in the dining-hall. Quick time, very, he surely must have a bet on. Oh, that he would keep in his room during study hours! A near neighbor of ours is almost nightly pestered with continual visits replete with the latest news of the Cong. girls. O. A. C. life suits his vivacious nature, he is as fat as a conventional Xmas turkey, while his rosy face and carefully combed locks are to be found in every knot of talkers in the reading room. We fear he cannot be entirely exonerated from participation in the rackets on that flat, and it has been chalked on the blackboard that one night's conduct on his part called forth the exclamation from a worthy Prof.: "I see you, you little rascal!" The gentle patter of his clump-soled dancing shoes forever resounds through the corridors, and unfortunately does not cease at 10 p.m.



Columbia is the wealthiest of American Universities, and Harvard comes next with property valued at \$8,000,000, and a yearly income amounting to \$363,121.

At Rutgers three hours work in the gymnasium is required of Freshmen and Sophomores, and all the students are tested and special lines of work recommended.—*Ex.*

Ann Arbor heads the list with regard to the number of Japanese students with 24 names, 6 less than last year. They support a Japanese club. Graduates are forming an Alumni Association in Japan.

The faculty of the University of Pennsylvania recently adopted a resolution, with only one dissenting vote, declaring for matriculation regardless of sex. The doors of the institution will be thrown open to women upon the indorsement of this policy by the board of trustees. The students are very much opposed to this system of co-education, and a remonstrance signed by over two hundred men is in circulation.—*Ex.*

We have to thank the ladies for a very pleasant, lively paper from Whitby. *The Sunbeam* contains a masterly editorial criticising the opening greetings extended by various other college papers to their subscribers. We hope the editor will overlook us. Several lively letters from students "en voyage" give the reader a most interesting account of the various places through which the writers have journeyed. We will be glad to receive *The Sunbeam* among our exchanges.

The attendance at the University of Michigan is much larger than ever before, the gain being in the law and literary. The total attendance will be not far from 2,200, making the institution the largest university in the United States. The law school has been steadily growing in numbers for the last five years, the number of law students this year being about 550. Among those who have this year entered the school is a Japanese district judge of the university of Tokio. Students are there also from the Harvard, Columbia and Chicago Law Schools, and from the Law Schools of the University of Pennsylvania and Iowa.—*Egis.*

Another new and welcome caller comes in the form of the *Swarthmore Phoenix*, from Swarthmore College, Pa. The *Phoenix* presents a long list of contents, all of which are ably treated in their respective columns. An interesting paper from the pen of President Magill, shows how the free libraries of to-day took their origin in the Mazarine library, founded by a gentleman of the same name in Paris. It contains over 300,000 volumes and nearly 6,000 manuscripts. Other free libraries in Paris, such as the "Bibliothèque Nationale," with 3,000,000 printed volumes and 100,000 manuscripts, offer every facility to the student in Paris.

The advisory committee of the International Foot Ball Association recently met in New York city, and decided that every player must matriculate before November 1st and declare his intention of remaining a whole year. This was done to prevent men entering for the sole purpose of playing on the teams in the inter-collegiate games. Another thing discussed was the practice of the larger colleges of offering inducements in the preparatory schools to come to college for the purpose of playing while not regularly entered. This is as it should be. Under the present system college teams often consist of players who are not in direct connection with the college which they represent.

We are glad to welcome the *Egis*, a weekly from the University of Wisconsin. Those connected with the management are evidently anxious to make its columns of more than local interest, as a portion of each number is devoted to a few chapters of an interesting and exciting story. From the present number we would infer that the students of former years at that college relied on the mild game of tennis as a means of reducing and keeping in subjection the adipose tissue. But latterly the more invigorating and manly sport of foot ball has received that attention that it should in all colleges. The articles on the G. A. R. encampment at Milwaukee give us some idea of the extent to which war manoeuvres are carried on in that country.

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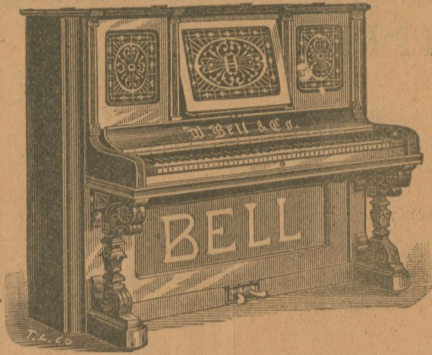
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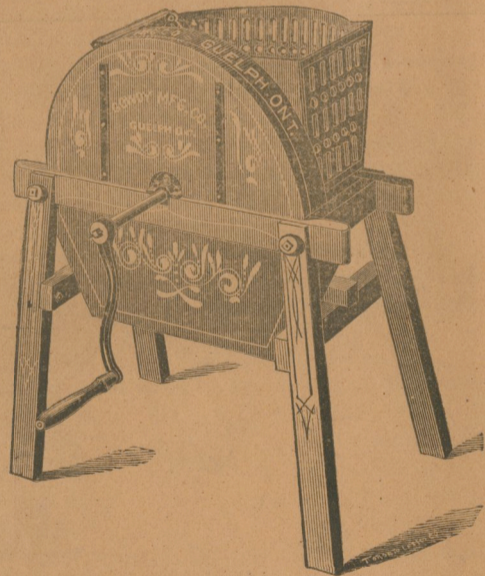
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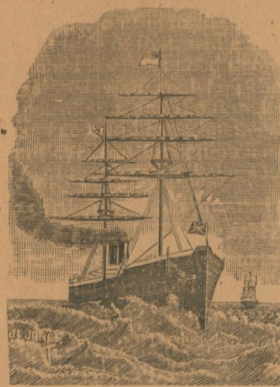
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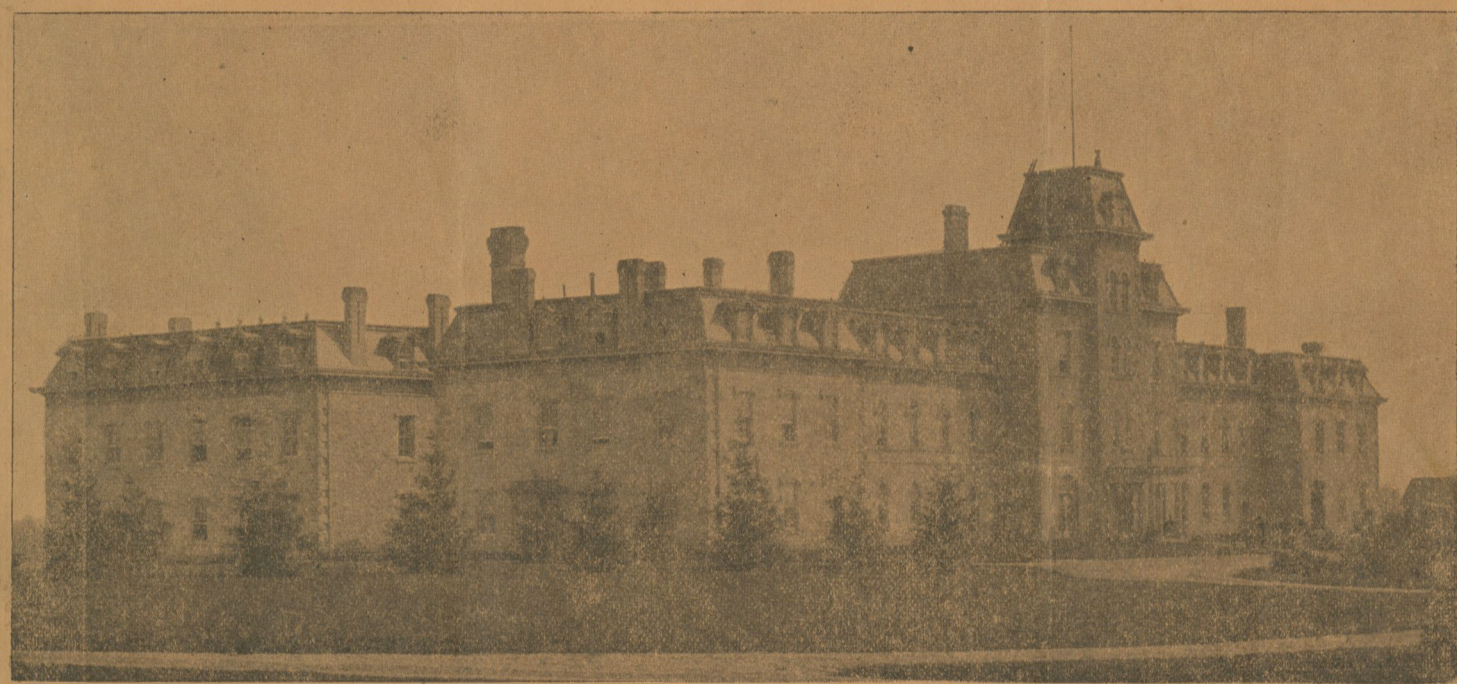
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FEBRUARY, 1890.

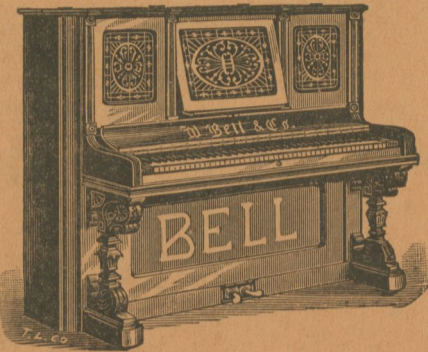
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VOL. I.

GUELPH, ONT., FEBRUARY, 1890.

No. 4.

THE O. A. C. REVIEW,

PUBLISHED MONTHLY, DURING THE COLLEGE YEAR, BY THE LITERARY SOCIETY OF THE ONTARIO AGRICULTURAL COLLEGE, GUELPH.

EDITORS.

H. H. DEAN,	MANAGING.
C. F. WHITLEY,	LOCAL.
C. A. ZAVITZ, B. S. A.,	AGRICULTURAL.
S. N. MONTEITH,	CORRESPONDENCE AND PERSONALS.
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THE O. A. C. REVIEW will spare no endeavor to furnish reliable news and information to those interested in farming operations.

Ex-students will confer a great favor on the Editors of this Journal by sending news, particularly experiences of practical value.



We extend our warmest sympathies to the Provincial University in their great loss by the recent fire. In two ways we are closely connected with the "Varsity":—First, by affiliation; and in the second place, by means of our Y. M. C. A., which is the foster-child of its Association. We owe it no small debt and anything we can do to help them in this their time of need, will be done gladly.

That this will seriously affect the students there in this year's work, is quite plain; yet we cannot help admiring the pluck and energy shown by its chief men in arranging for the continuation of the work with so little interruption. Possibly great good may result from that which now appears to be a calamity, and out of the ashes may rise a structure more noble than its predecessor.

It is not likely that it will make any difference to our men who are studying for degrees in agriculture as the training is wholly given here, and the examinations are conducted at the College under the supervision of a person sent by the University.

* * *

Our readers will see that we have enlarged our paper this month to make room for the publication of urgent matter in connection with the recent meeting of the Ontario Agricultural and

Experimental Union. The Union appointed a committee consisting of Messrs. Craig, Marsh and Robinson, to meet the Board of Management of the REVIEW to see what could be done towards having it become the organ of the Union; or at least to try and make some arrangement whereby the College paper might assist the Union. After due consideration the following resolution was adopted:

Moved by H. H. Dean, seconded by Byron Robinson, "That the O. A. C. REVIEW be enlarged by four pages, two pages of such enlargement to be used for the publishing of urgent matter pertaining to the O. A. and E. Union; the Union to bear half the expense of enlargement so long as it continues, and that the Agricultural Editor be placed in charge of the same. And further that the motion be laid before the Literary Society."

The motion was laid before the Literary Society and adopted unanimously. We felt that this was as much as we could do this year, and if the Union can make some arrangement with the Literary Society for next year by which the REVIEW will be a recognized advocate and supporter of the Union we are quite sure that both will be helped materially. That such a course would tend to bind the ex-students more closely to the College we feel quite confident. Students and ex-students ought to be one in their endeavors to promote the welfare of the O. A. C. and the practice and science of agriculture. Would it not tend to promote this end if both felt it to be their duty to support the claims of the College paper?

We should be pleased to hear from ex-students and prominent members of the Union in regard to this point. Let us have a few crisp ideas in regard to this matter from live members and we shall be pleased to publish them in our next number.

* * *

It certainly must have been very gratifying to the officers of the Institution to see the many familiar faces and to hear the numerous kind words which were said of them by the ex-students at the annual supper. One after another told of the great benefit which he had derived from his course at the O. A. C. One man said that he would not take the best 100 acre farm in the Province and be without what he had learned during his short stay here. And these were no fanatics, but honest intelligent men—men of sterling worth and business ability, and who know a good article when they come in contact with it.

We missed a number of faces who have nearly always been at the Annual Gathering; such as Holterman, Stover, Lick, Sleightholm, Jeffs, Wark, Raynor, Clinton, and many others, but we are happy to know that we had their best wishes and hope to see them here next year. Instead of these were a great many ex-students who seldom or never attend the Union. We were glad to see them and hope that next year may see them back again with many others. With pardonable pride the O. A. C. can look

upon her sons who are scattered over nearly all the globe and see what good work they are doing.

We may be pardoned for giving a few extracts from letters written by ex-students which have come under our own observation:

"Enclosed please find the annual fee of fifty cents; and my subscription to your sprightly little paper, the O. A. C. REVIEW."

ARTHUR E. SHUTTLEWORTH,
McGill College, Montreal.

"A copy of the O. A. C. REVIEW came to me on Christmas Day and it gave me much pleasure to see that the boys are getting so enterprising and practical in journalism. I wish the REVIEW and its editorial staff every success."

W. J. STOVER,
Port Antonio, Jamaica.

"We have a little Union of our own down here and we had a meeting last week. Although we did not set the world on fire. I think we are gaining ground and hope to send a delegate or two up to the Annual Meeting at the College another year.

The establishment of the REVIEW is a grand move and should be generously encouraged."

W. W. HUBBARD,
Burton Hill, Oromocto, N.B.

Such encouragement as this is every helpful and stimulates us to even greater efforts. We can assure our readers that editing a College paper is not all sunshine, neither is the path of its editors strewn with fragrant, beautiful flowers, but on the contrary quite frequently a thorn is in the way which pierces and causes pain; however, if our labors are appreciated we shall be amply repaid for any discomforts we may suffer.



The eleventh annual meeting of the Ontario Agricultural and Experimental Union held at the College on the 6th and 7th of February, was one of the best, if not the very best, meeting ever held by the Association. The seats in the lecture hall were full to overflowing, and many valuable papers were read and keenly discussed. There was a good representation of ex-students this year, and by their cheerful countenances and hearty hand shakes, we were convinced of their pleasure in getting once more back to their Alma Mater. We, as students, most thoroughly appreciated their company, and obtained many practical lessons from the various papers and discussions. We can only say that those ex-students who were unable to join in this re-union missed a rare treat.

At the request of the Association a number of the papers read at the Union as well as the reports of experimental work, will appear in the REVIEW under the heading of "Agricultural News."

A list of the officers, District secretaries, and experimental committees for 1890, will be given in this issue, and it is very important that the members of each committee correspond and make arrangements as soon as possible for the experiments to be undertaken during the present year. We hope that each ex-student of the College will be enabled to conduct some experiment planned by one or other of the various committees.

Union Officers for 1890.

Hon.-President, Prof. T. Shaw, O. A. College.

President, M. T. Raynor, B. S. A., Rosehall, Prince Edward Co.

Vice-President, J. J. Sinclair, Ridgetown, Kent County.

Corresponding-Secretary, G. A. Brodie, Bethesda, York County.

Secretary-Treasurer, A. Shantz, Waterloo, Waterloo County.

Editor, C. A. Zavitz, B.S.A., O. A. College.

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No. 1, W. E. Serson, Antrim; No. 2, T. Raynor, Rosehall; No. 3, G. A. Brodie, Bethesda; No. 4, H. E. Jeffs, Bondhead; No. 5, H. L. Hutt, Southend; No. 6, A. Shantz, Waterloo; No. 7, N. Monteith, Stratford; No. 9, W. A. McCallum, Ailsa Craig; No. 9, N. J. Clinton, Windsor; No. 10, E. A. Wark, Wanstead.

COMMITTEE ON EXPERIMENTS.

Agriculture—Prof. James, Shaw and Robertson, Messrs. C. A. Zavitz, J. Harcourt, E. A. Rennie, N. Monteith, W. A. McCallum and H. L. Hutt.

Horticulture—Prof. Panton, N. J. Clinton and E. Lick.

Apiculture—R. F. Holterman and E. A. Rennie.

Dairying—Prof. Robertson, G. Harcourt and E. A. Rennie.

Live Stock—A. E. Wark, F. J. Sleightholm, J. J. Sinclair, H. H. Dean and Geo. Harcourt.

PRESIDENT'S ADDRESS.

J. A. Craig, B. S. A., Toronto.

GENTLEMEN,—It devolves upon me as a pleasant duty to welcome you all to our annual re-union, and this I do with all the heartiness and cordiality at my command. To our visitors we extend the free hand of friendship and invite them to reason with us on the burning questions of our agriculture, to the graduates and associates we give fraternal greetings, trusting that the old fond days of student felicity may once more be experienced unalloyed, while to the students and professors we offer glad welcome to our consultations hoping that the outcome of all our efforts may be reflected in some degree in our after work as well as strengthen and upbuild to a greater height of power the institution we all love to think upon, talk about, and glory in. It is one of the soundest economical truths of the age that the broad grindstone will sharpen the axe quickest, and so in touch with this we, as a society, seek to sharpen our wits by the breadth of mind resulting from the presence of many.

A decade has swept rapidly by since this society of ours launched out on its course with the laudable and extended work before it of binding the alumni of this college together for her and their good, as well as to endeavor to raise our agriculture to a status of a skilled art and sound science; and if I correctly draw conclusions from the past, and if I peer not too optimistically into the future, the years to come will be pregnant with greater results and fraught with closer unity. Our caption implies that we are a union, but it fails to express to the uninformed mind the great truth round which all others swirl that we either as students, ex-students, graduates, or friends of the O. A. C., are bound together as a unit to extend the usefulness of our Alma Mater. Fealty to our college and her cause is the cementing material that holds together the foundation and superstructure of this Union and this

allowed to weaken through oversight presages the collapse of the whole structure. The connection between our society and the college deserves a first place and the highest honor in our estimation when considering the elements that have contributed to the success of our Union. It has appeared to me that in the past this desired unity of all for the good of the one, though at all times apparent, yet has never been accredited with the importance that is due it and the fruits of this are to be seen in the number of the college alumni that annually gather here. Our weakness, and it is well that we should know it, is that we cannot bring out the number of ex-students, associates, and graduates, that should attend; this statement is grounded on the fact that there are hundreds of such throughout Ontario. Why is this? It may be a matter of dollars and cents with those far away but it cannot be so with those near at hand. It seems to me that not considering their presence according to its true value there never has been a very strong bid made for their attendance. As a means of in part remedying this condition of affairs we should in our programme give greater prominence to the discussion of collegiate matters, and through this means keep up the interest in the college in the minds of all the alumni. For some time past I dotingly mused on the pleasure I would have in broaching to you the subject of a college paper, but I am happier now in spending words, that otherwise would have been used in advocating this measure, to give cheering encouragement and express warm gratitude to the active and able movers in this important matter. As the REVIEW greatly strengthens the bond of union between friends outside the college walls with those within its Campus, so must it serve to make this Union of ours stronger in every way. The scheme that I would have advanced would be to make it not only an organ of the O. A. C. Literary Society, but of the Experimental Union as well, and it is still an opinion of mine that such a step might well be taken yet. As we are all aware there has always been a great delay in issuing our reports, and this has been the fault of the printer and not of the compiler. Being an organ of the society the results of the experiments and doings of this meeting would be made known through its pages long before it would reach the anxious experimenters through the usual tedious course. It would devolve upon the Union to bear some of the expenses of publication of the REVIEW, but that would not be considerable. This suggestion I commit to your charge. I have thought that in our brief sojourn here we do not extend our acquaintances among the students as we should. We are not here to merely criticise each other coldly from a distance and drop comments as to the evolution of the O. A. C. graduate, but we are here to know of each other and to co-operate with each other in helping along our good cause. Means should be considered such, perhaps, as the adding of a committee on reception to our list to make our meetings more genial in that respect, and further also provide, as far as possible, for the accommodation of visiting alumni in the college. It dampens their ardor and tempers their zeal to seek the modest Inns of Guelph, and I am sure that I voice the opinion of every graduate here when I say that they would willingly pay double the hotel charges to be allowed to make their home in the college while here. Repose this duty in the charge of the students and thus bind them up with the interests of the Union as much as possible.

The most practical phase of our work is that of experimentation, and in respect to this it seems to me better to urge a thorough development of the various lines of experiment we now have in hand rather than weaken our forces by branching off into any-

thing new. It has been said by Coleridge that experience is like the stern lights of a ship which illumines only the track it passes over, and we may extend this simile by saying that experiment is the brilliant headlight that illumines the path before. Agriculture has long suffered for the want of experimenters to solve the many perplexing questions of practical import that are continually cropping up, but that day is past and now we find farmers and scientists, though long estranged, brought into close contact with benefit to both through the medium of experimental stations and associations such as ours. That the results of experiments carefully conducted and bearing on the practice of the farm are appreciated, is reflected in the energetic efforts that are being made in the establishment of stations in all countries. In our own Ontario and the older Provinces of our Dominion the bottom has been completely knocked out of grain farming, and moreover it is a bottom that will require the best knowledge and finest skill to restore. Be it our work to do this through the medium of our experiments.

The data we are constantly collecting through our fertilizer and grain experiments that deserves emphases by repetition is that each experimenter determines the best fertilizer and grain for his own soil and conditions, this no experimental station can do for him. It was a timely suggestion that was made by my predecessor in regard to experiments in respect to our live stock industry, and I am pleased to know that this suggestion has been acted upon. This is a field for our Union worthy of it for there is now in Ontario a strong reaction going on in favor of this interest, and it means that in a few short years Ontario will be the stockman's paradise of this continent, and as the interest grows the value and appreciation of our experiments will become greater.

In conclusion, let me say, our footpath through the labyrinth is already blazed for us, and all that we need is hearty co-operation, generous enthusiasm, and universal encouragement, and under such conditions the objects that gave birth to this society must gradually evolve into accomplished realities. Many of us rest too long after we hoe our row, but this should not be; for this Union to make permanent progress in the work before it must ever have your interest, your best efforts, and the benefit of your counsel.

Having these views, optimistic though I may be, I cannot with any degree of surety mark the limit of usefulness of this Union not only in keeping us shoulder to shoulder in the ranks of college defenders, but in elevating to a higher position in the industrial, intellectual, and social world, that industry with which we are all proud of being inseparably connected.

The Scientific Principles Underlying the Making and Feeding of Corn Ensilage.

By C. C. James, M.A., Professor of Chemistry, O. A. College.

The making of corn ensilage began in America about fifteen years ago, its development belongs to the last ten. To-day the growing of corn, the production of ensilage, and the feeding of it to stock are among the most extensive and most numerous of the experiments carried out at the Experimental stations of Massachusetts, Maryland, Connecticut, New Jersey, New York, Ohio, Kansas, Missouri, Minnesota, Wisconsin, and Ontario, and it is upon the results of these that the present address is based. From the multitude of opinions and results I have carefully endeavored

to separate the hypothetical from the actual, and to draw reliable conclusions based upon a wide range of experiments.

I shall divide my subject into three parts; the corn put into the silo, the process of making ensilage, the use of the ensilage thus produced.

THE CORN PUT INTO THE SILO.

Out of nothing nothing comes. Good ensilage can be made only from corn of good quality. What comes out of the silo depends upon what goes into the silo.

Circumstances affecting the quality of the corn are:—

1. Variety of corn.
2. Nature of soil, method of preparation, fertilizers used.
3. Method of growing corn, whether broad casted or drilled, cultivated or uncultivated.
4. Season.
5. Stage of maturity at time of cutting.

The chemist is concerned principally with Nos. 3 and 5.

3. Method of Growing.—The general conclusion of experiments at all stations, based on chemical analysis and actual feeding tests, is that the best ensilage is produced from corn that has been drilled and not broad casted. Every stalk of corn should be grown so that it has plenty of soil room in which to develop its roots, plenty of rich soil to draw nourishment from, plenty of air-breathing space, and plenty of sunlight falling directly upon all of its leaves. The immaturity of closely growing corn depends more upon its lack of sunlight than upon any other cause.

Prof. Roberts (Cornell Experimental Station, New York, 1888) valued as follows:

One acre of hay.....	\$18 00
“ broad casted corn.....	19 72
“ drilled corn.....	35 74

4. State of Maturity.—This is controlled greatly by method of growing. Prof. Roberts, following out his experiments as cited above, says:—“From the above facts it will be seen that the real feeding value of the corn increased 166 per cent. after it had tasseled out, and 80 per cent. after it had nearly reached the roasting ear stage. This being so, the greatest care should be taken to select those varieties of corn intended for ensilage that will fully mature before frost, in the localities where it is proposed to grow them.”

Bulletin 9, 1889, Missouri Experimental Station, discusses the life history of corn and contains this among many important statements, “The considerable increase between Sept. 10th and Sept. 17th (amounting to 24 per cent. of the total weight) indicates clearly that a crop of corn should remain in the field as long as possible, the weather permitting, to reach its greatest perfection.”

Mass. Report for 1885, says, (p. 53) “One ton of green fodder corn in tassel contained in one case 307.2 lb. of dry vegetable matter; whilst in the case of the seed just beginning to glaze 463.8 lb. of dry vegetable matter are found in one ton,—a difference of 156.6 lb. in favor of the more matured state of the growth.”

Mass. Report for 1886, “The ensilage of a more matured fodder corn has a higher feeding value pound for pound, compared with that cut at an earlier stage of growth.”

Other experiments might be referred to, the general conclusion is that for *quantity and quality* of corn and ensilage the plants should be grown in drills and allowed to grow until the kernels begin to glaze. So long as a plant is increasing in height there will be little sugar or starch accumulated in its stalks or leaves, its compounds will be principally in a state of translocation, in a soluble form liable to easy change.

CHANGES TAKING PLACE IN THE SILO.

In 1884, Dr. A. Voelcker, F. R. S., addressed the Royal Agricultural Society as follows:—“I feel compelled, however, to say at once that a careful and critical study of the literature of the subject, and attentive perusal of most of the original publications on ensilage in England, America, and the Continent, have shown me how scanty and imperfect is our knowledge of the complicated processes of fermentation and of similar chemical and physical changes to which succulent green food is liable under various conditions of temperature, the total or partial exclusion of atmospheric air or its free admission.”

The same can be repeated with equal truthfulness in the year 1890. The changes taking place in the silo are principally changes that are classed as fermentations, and the latest English, French, and German investigations of fermentations leave us in much uncertainty as to their nature and conditions. From the conflicting opinions and the varying results I have selected a few results that are the unmistakable outcome of a large range of experiment and experience.

1. Loss.—There is a loss of valuable plant material due to the chemical changes taking place in the silo. It will vary from a very small per cent. to one-half of the dry material of the corn. The loss will depend upon the condition of the corn placed in the silo and the fermentations taking place. The substances lost or used up will be in the following order:—Sugar, starch, fibre, nitrogenous compounds. The distinction of these constituents will be accompanied by the production of acids (carbonic, lactic, butyric, acetic, etc.), so that the acidity of silage is a fair test of the loss sustained, and the production of as sweet a sample as possible is both advantageous and economical.

2. Production of Acid.—We have just stated that this is carried on at the expense of the most valuable portions of the corn. The difference between sweet and sour silage is one of degree of acid, varying in sweet ensilage from .02 per cent. to .50 per cent. of acid to 2.0 per cent. or over in sour ensilage.

Now let us look at some of the conditions controlling acid production, for in understanding them and following out their conclusions lies the difference between sweet and sour, good and poor ensilage.

(a) Water.—Ordinary fermentations are carried on in solutions, in presence of water. Matured grains, straw, well-cured hay, succulent foods thoroughly dried, manure deprived of all of its moisture will not ferment. Even concentrated solutions ferment but slowly. It would seem that when the plant is young and succulent when the amount of water rises much above 75 per cent. that the cells are in their most favorable water condition for fermentation. Water is not only a favorable medium in which the fermenting cells develop most vigorously, but is also demanded for many of the chemical changes, many fermentations being processes of hydration. To retard acid formation therefore, save loss of food, and make sweet ensilage the material put in should not be too succulent.

Conclusion.—For sweet silage use well matured, or partially dried and wilted corn.

The amount of water in the corn depends upon the state of maturity, the method of growing, and the treatment at harvesting.

CORNELL EXPERIMENTAL STATION, DEC., 1888.

PERIOD.	DATE OF CUTTING	PER CENT. WATER.
I	July 24	89.34
II	Aug. 8	83.57
III	Sept. 3	73.93

"It will at once be seen that the most marked difference in the composition of the fodder cut at the different periods consists in the constant and rapid decrease in the amount of water."—(Prof. Roberts.)

MASS. EXPERIMENTAL STATION REPORT, 1885, P. 52.

FODDER CORN AT DIFFERENT STAGES.

	JULY 22.	JULY 29.	AUG. 5.	AUG. 3.	AUG. 27.	SEPT. 3.
Water.....	88.61	85.76	84.64	82.08	81.15	76.81
Solids.....	11.39	14.24	15.36	17.92	18.85	23.19

The crowding of corn together also has the effect of retarding growth and maturity, and, in most cases, of increasing the water per cent.

ONTARIO EXPERIMENTAL DAIRY DEPARTMENT, 1888.

Drilled corn, 81.32 p. c. water; broad casted corn, 83.61 p. c. water.

In favorable weather the wilting upon the ground will have the effect of reducing the water per cent. and also of effecting changes (as many advance) similar to hay making or curing.

(b) Condition of Maturity.—"The marked increase of nitrogen free extract (members of the starch family) as the corn matures and the progressive decrease of acid in the ensilage, show how greatly the corn improves as it approaches ripening. The relatively large amount of water and crude fibre in the young plant justifies the epithets 'slush' and 'swill' as applied to the ensilage from such material." (Michigan Experimental Station Report 1889). This statement accompanies a table of analyses of ensilage from which the following is taken:

No. 1, Aug. 25, wilted two days, then ensiled,	1.10	per cent. acid.
" 2, " 27, put in fresh,	1.02	" "
" 3, Sept. 1, wilted two days,	0.95	" "
" 4, " 3, put in fresh,	0.91	" "
" 5, " 8, wilted two days,	0.87	" "
" 6, " 10, put in fresh,	0.80	" "
" 7, " 13, put in fresh,	0.81	" "
September 14, killing frost.		

Prof. Henry, of Wisconsin, says, "In regard to making the so-called sweet ensilage the main point appears to be to have the corn well ripened, ready for early cutting and shocking. Corn ripened so that the grain begins to dent will make sweet ensilage even if the silo is filled in a single day."

The more matured a plant, the more fixed, less changeable are its constituents, *i. e.*, the constituents of a young plant will suffer change or decomposition more rapidly than those of the same plant more matured.

(c) Temperature.—Mr. George Fry, of England, in his work "Sweet Ensilage," laid great stress on the necessity of raising the ensilage to 122° F., thereby to stop the various ferments. The most favorable temperature for the development and working of the various ferments is about 95° F., and most of them cease at

122° F., but some continue active to 140° F. Fry says that excess of water in succulent food prevents this rise of temperature and that sour ensilage thereby results, as the ferments are not then destroyed.

In opposition to Fry, Prof. Alvord, of Maryland Experimental Station, says, "Temperatures 110° to 140° F. are most favorable for their development and activity, and it requires at least 185° F. to destroy them, while fermenting ensilage does not often exceed 140° F., and no authentic record of 150° F. can be found."

Along the same line Prof. Johnson, of Michigan, says, "I am of opinion, however, that positive evidence to sustain this theory is almost if not entirely wanting. Enough careful work has not been done to demonstrate it beyond question."

Amid conflict of opinions I think that, taking the conclusions of scientific experts as our guidance, we are warranted in the conclusion that though we cannot expect to raise the ensilage to such a temperature as to cause all ferments absolutely to cease work, nevertheless we can retard greatly their action and control somewhat the souring of the ensilage. There is along this line room for investigation on the part of our interested young agriculturists of a scientific turn of mind.

(d) Method of Filling.—Whether slowly or rapidly, whether whether wilted or unwilted; this will be partly controlled by the weather, but there seems to be something of more controlling influence back of this. The effect of the method will perhaps have more effect on the aroma or flavor of ensilage than upon its acid production.

(e) Exclusion of Oxygen.—Presence of air is of course necessary for the beginning of many of the fermentations, but, once commenced, absence of air will not necessarily destroy them. The exclusion of the air is of most importance in the case of ensiling young and succulent fodder.

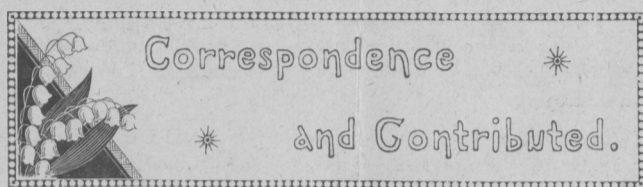
3. Effect on Protein.—This is the muscle and flesh forming portion of the plant, hence the effect on it is worth considering. Michigan Experimental Station, Bulletin 49, May 1889, states, "A small loss of crude protein is common in the silo, but the change from albuminoid to amide condition of the nitrogen of the nitrogen compounds is the most striking feature of ensiling. These two facts point to a loss of value in ensilage as compared with the fresh corn stalks, or even the dry material when it has been rapidly and perfectly cured."

The same conclusion was arrived at by Dr. Voelcker in '86-'87, and reported upon to the Royal Agricultural Society of England, Report XLVI, p. 403. Silage was made from grass and compared with hay from the same. "The total loss due to fermentation, evaporation, &c., in making the silage was 7.29 per cent. on fresh grass, of this 3.25 per cent. consisted of water. The loss of total nitrogen when, as here, no drainage is allowed to flow away, is very slight; but the nitrogenous bodies have undergone considerable change from the albuminoid to the non-albuminoid condition. The woody fibre, as indeed the whole of the fibre has been diminished, insoluble albuminoids are lessened, and the soluble albuminoids increased. In the hay the nitrogen has undergone but little change."

Put in silo 151 lb. (n. compounds), 123 lb. alb'd, 28 lb. amides.

In silage 155 lb. (n. compounds), 73 lb. alb'd, 82 lb. amides.

(TO BE CONTINUED.)



Our Language.

In this present age when *life* is at such a rush that there is just time enough to breathe in fulfilling our daily avocations, not much attention is given by the average citizen to refinement of thought and language. This fact is forced upon us more and more each day as we look at our daily journals or listen to the speech of the ordinary business man. Who cares, for instance, how beautiful and correct an advertisement appears as long as it reveals the truth or obtrudes the truth before the eyes of all. And yet, is there so little in a mere advertisement? Apparently not, for some large business houses have built up their name and fortune by judicious, pleasing, and beautifully expressed language in newspapers. If this be true then in the most trifling affairs, is it not much more so in our periodical literature? If we understand the position of our periodicals it is to educate the people, and not merely this, but to do so in a pleasing manner; still, articles appear before us constantly which may contribute largely to our mirth and even stir our intellect, yet they are often marred by language ungrammatically expressed and by thoughts written in a course and clumsy way.

Are we writing to please or instruct, or are we trying to force ourselves on the public, courting notoriety and so revealing strongly the lowness of our natures? Do we not know that the best of everything is sure to last longest? Compare the works of Abraham Cowley with some of our 19th century novelists. Have we the depth of thought, beauty of language and purity of speech in the latter that we possess in the former? We feared not. How then did he and how shall we obtain this purity of thought and beauty of speech? By going to richest stores of literature and by spurning the trivial trash poured forth every day as language too vulgar, crude, and unchaste for the developing of the intellectual mind. Perhaps no line of literature has suffered so much in impurity of language—by this is meant violation of etymology and correctness (purity) of speech—as fiction. Science has been championed by our ablest and best educated men. Notice Lyell's Geology, Dr. Carpenter's Mental Physiology, Huxley's Physiology, or Darwin's works.

Would science have the hold on the public mind which it has at present if its literature had been of an inferior kind? Most certainly not, for its devotees would be filled with disgust and readily give up the study.

Let us then at all times advocate loftiness and purity of speech, and if we are at a loss for a guide what better book can we have than the grand old Bible, a book recognized by all critics of literature as the finest work in our English tongue.

PERCY MAIN.

Progress of Life and Length of Geological Time.

We are now assured through the researches of eminent scientists that the time intervening, between the period when the earth was in a nebular state to where authentic history begins, was of almost immeasurable length. Many no doubt will ask what

proof there is for this assertion; to those we would answer that men through long years of research and study have accumulated evidence which goes to prove that the earth has passed through several different stages of development and changes that are clearly defined in layers of rocks, which are by some termed "the eternal leaves of history." By these leaves, or the rock masses of which they are composed, we are enabled to judge time with a fair amount of accuracy by comparing them with a rock disintegration and soil formation within the period embraced in man's history. Among the most notable of these are the Niagara Falls and the Coral reefs. The former has made a gorge six miles in length, which, at the present rate of retrogression, viz: One foot per year, would take 31,000 years to accomplish. But this does not give us a very satisfactory answer to the question of time, for evidences are forthcoming to prove that the waters of the great lakes went out by way of the Mississippi River, so that at some period long ago there must have been an immense rift in the rock through which the St. Lawrence now flows, and only since then would the Niagara act as a gauge of time.

We have still another register in which is recorded the evidence of centuries, viz:—The Coral reefs, the rate of whose increase is about one-sixteenth of an inch per year. The thickness that some of these have attained is 2,000 feet; therefore, at the present rate of increase, it would take 384,000 years for them to accumulate. That these are fairly accurate we may judge from the fact that the great depression or the sea bottoms and the elevated lakes or continents have always maintained much the same position which they now occupy.

The record of time as deciphered in the rocks by that eminent scientist, Sir Wm. Thompson, is 100,000,000 of years, which no doubt is accurate enough for all ordinary purposes.

I have omitted the rock layers considering that you would deem them hard subjects. Next let us consider what has been adduced to substantiate our heading, viz:—The "Progress of Life." The first life or germ is thought to have originated in the Archean age, or the beginning of the Paleozoic, and was of the most simple form. The Rhizopod, the first among animals, without limbs, without any sense beyond the general sense of feeling, no stomach, no respiratory system, nothing, but a mere protoplasmic mass; such, we have reason to believe was the beginning of life, from this small beginning we can note the gradual development or progress of life, from the one celled Rhizopod up through long ages in successive periods during which different creatures held sway to the present, where we find man, the last limit to which the law of cephalization can be carried in the system of life. Condensation anteriorly and abbreviation posteriorly is the law of all progress in embryonic development. Thus man stands at the head of all vertebrates in having only the posterior limbs required for locomotion, the anterior having higher uses, viz: the worship of his God, and also in having the head most compacted in structure and brought into the least compass consistent with the amount of brain. The idea of system in all structure and of progress through the ages, under laws of specialization and cephalization according to a scheme that may be compared to the opening of a flower, or the development of a germ, instead of being æsthetic, it is the only view of the history of life that is consistent with its Divine origin. Were there no such order or succession, no such unity of law and structure, this would be complete demonstration that a being of infinite wisdom had not ordered or controlled events.

How Shall the Work of the Farmers' Institutes be Rendered More Effective?

The work of the Farmers' Institutes is two-fold, viz.: to *educate* and to *protect*. The former is more properly the work of the individual Institutes, and the latter that of the Central Institute through representatives sent by the District Institutes.

The work of education will be efficient in proportion as the meetings are frequent, large and well managed, and as the papers and addresses are direct, practical and interesting. — The frequency of the meetings may be greatly increased in an indirect way, that is, by organizing local Institutes as has already been done in some instances, which may or may not be affiliated with the larger Institutes. Few meetings well attended are of course more effective than more thinly attended. The size of a meeting as things are at present is mainly in the hands of the Secretary, and is dependent on his ability, earnestness, and methods of advertising. The meetings should be much more advertised than they are by means of fly-sheets distributed through the postoffice direct, and through the country schools. After a time it will probably be found necessary to appoint an overseer or director of Institutes to manage for mammoth meetings in each county, in conjunction with the Secretaries and have these meetings addressed by talent of the first order.

A Secretary who is not efficient should not be retained for a single day beyond the expiration of his term of office, and good Secretaries should get some remuneration for their work.

The management of the meeting will depend much on the chairman, who has power to throw life into the meeting or to chill it, as he is capable, entertaining and possessed of life and good business tact, or the opposite of these. Slow coaches whose methods are conformed to the wants of the last century should never be appointed to the duties of the chair. *Fossils* should never be requested to address the meetings. The age has outlived the want of the help of fossils, hence they in all time to come should be retained as curiosities. It is not enough that a man say good things, but that he should say them with the life and animation of a young man fresh from an agricultural college, and brimful of knowledge of the exact kind, adapted to the present needs of the farmer. A taste of science at these meetings may be used as a relish, but a meal should never be made of it there.

The day is not far distant when the work of instructing in the Institutes will be largely relegated to the graduates of the Ontario Agricultural College. They are doing a good deal in this line already, and while the exercise is helpful to them, it is more helpful to the Institutes.

The Central Institute may do a magnificent work if wisely and temperately handled. The disposition is at present to discuss too many questions without having sufficient regard to conclusions. When the findings of this Institute are sent to the powers that be, and are not heeded, they should be again reminded, until what has been fairly shown to be the will of the farmers of this Province is granted as a matter of equity rather than of favor, as these things are sometimes represented.



J. Neilson writes us from Lyn, Ont. He was a member of '82 Class.

John Leask, of '81 Class, died at Melbourne, Australia, in September, '88.

J. B. Muir, 1st Silver Medalist of '85, is farming at North Bruce, Ont.

F. C. Warner, of '87 Class, is farming on the old homestead at Decewsville, Ont.

E. Luton, of '82 Class, is engaged in mixed husbandry near St. Thomas. "It is not good that man should be alone."—EARN.

W. W. Hubbard, of the Special Class of '87, sends words of encouragement. He is farming at Burton, N. B., and regrets being unable to attend our Experimental Union meeting.

We learn that T. H. Tinny, of '87 Class, is conducting a large business in the cutting and shipping of cedar posts to different parts of Ontario and the United States.

W. J. Palmer, A. O. A. C., of '88, writes us from his home near Charlottetown, P. E. I., where he is engaged at farming. Joe thinks times are looking up when the O. A. C. Literary Society can run a paper.

A number of the delegates of the Central Farmers' Institute meeting at Toronto, stopped off to attend our Union meeting, on their way home, and without exception, expressed themselves as well pleased with the papers read and their discussion.

Mr. F. J. Sleightholm, Humber, Gold Medallist of '87, was married Feb. 27th., inst., to a young lady of Norwich, Ont. The REVIEW staff wish Mr. and Mrs. Sleightholm a long and happy life; and after them we fling our oldest slipper. All the medallists of '87 are now married and have set a good example for others.

We regret to learn of the death of W. J. Gilbert, at Sackville, N. B. He was an Associate of '87, being also cartoonist and artist of that year. At the time of his death he was editor of the *Maritime Agriculturist*, which position he had held for a short time. His friends and relatives have the heartfelt sympathy of the REVIEW staff.

There was a larger number of ex-students in attendance at the Experimental Union meeting, held at the college on the sixth and seventh inst., than has been for several years past. The following is a summary of their names:—Byron Robinson, of '79, Wheatly; W. W. Ballantyne, '81, Stratford; Jas. Fotheringham, '81, Grenfell, Ass.; G. A. Charlton, '81, St. George; J. R. Job, '81, Waterford; J. B. Bowes, '82, Pinkerton; W. A. Jameson, '83, Thornton; T. T. Morden, '83, Walkerton; P. S. Idington, '86, Stratford; G. F. Marsh, '86, Thornbury; J. S. Howes, '87, Harriston; W. R. Bishop, '88, Brussels; J. J. Fee, B. S. A., '88, Toronto; E. M. Jarvis, '88, Clarkson; J. J. Wilkinson, '89, Winterbourne; C. J. Brodie, '85, Bethesda; J. J. Sinclair, '88, Ridgetown. Among the visitors were a number of leading

agriculturists from different parts of Ontario, viz.:—J. I. Hobson, J. Laidlaw, J. Anderson, W. F. Clark, W. Kenny, Major Hood, J. Hobson, and others from Guelph and vicinity; D. E. Smith, of Churchville; H. and J. Lee, Dumfries Township; T. Brooks, Brantford Township; S. Rankin and J. Dempsey, Stratford; W. D. Henry, Thornton; J. Crosby, Martin; H. L. Riding, Frankfort; L. and J. Stauffer, Waterloo; J. H. Shephard and I. Weber, Bloomingdale; J. Morgan, Adelaide; J. Shore, of *Farmer's Advocate*, London; G. Craig, Elora.



Two thoroughbred Ayrshires arrived on the 13th from J. Yule, Carlton Place.

NOTICE to the first year. Night lodgers not taken in the non-smokers' room.

NEW reading for "Macbeth" Act I., Sc. 2, L. 15.—"Of Kernes and Galloways is supplied." J. Harcourt, Editor O. A. C. version of Shakespeare.

TUMBLERS are apparently deficient in the College stock, we noticed one table set recently with seven extra delicate china cups at dinner time.

SKATING was very fair at the time of the Union Meeting and also on the 1st of February. Several boys enjoyed a good hour or two's run on the trusty blades.

PROF. PANTON has been attending the Dominion Convention of Fruit Growers at Ottawa, on the 19th., 20th., and 21st. insts., there delivering a valuable lecture on the "Fungi of the Grape."

PROFESSOR ROBERTSON led the Y. M. C. A. meeting on the 30th. Jan., giving a practical talk on College life. He urged on all as a necessity for a right footing the unceasing practice of diligence, economy and kindness.

FEEDING rations are being carefully studied here. We venture to state, however, that Mr. Cuppage, with his experimental steers, cannot equal the results obtained in the College, for we learn that a certain individual has laid on 21 lbs. to his 200 in two weeks.

TAKING advantage of a little cold, or rather cool, weather five teams are busy hauling ice in wagons. Is winter not coming this year? We remember seeing in a recent English paper that wild strawberries were in bloom in Wales in the middle of January.

WE have received an interesting account of a tour of Messrs. Hobson, Croil and Raynor to Farmers' Institutes last Jan., written by T. Raynor, B. S. A. Owing to press of matter in connection with the Union we are obliged to withhold it from this number.—(ED.)

So that the Guelph Fat Stock Show should not be lightly passed over by the students here, Prof. Shaw very kindly offered three prizes to the 2nd year for the three best essays written on it. Five or six competed and the happy winners are Messrs. Hutt, R. E. Cowan and J. Harcourt.

OWING to the frost and snow no foot ball has been indulged in for the last month. We are glad to hear that next season a Junior Champion Cup has been offered by the Rugby Union. Should the College be as well represented as in the last season their chances for the trophy are brilliant, but it is feared that few of this year's team will be included.

BOXING seems to have fallen flat this term, though it is rumoured that nightly exhibitions are given by one of our champions; then he poses before the admiring gaze of two or three small boys to whom he expounds his different systems of reducing all superfluous fat: walk up, walk up and see this Sandown burst chains (string) by means of expansion of chest.

BOTH Guelph Cricket Club and we feel sorry that Sidney Saunders has left Guelph. Every footballer will remember what yeoman service he rendered us in our matches against Toronto and Trinity and may be some will call to mind his all round play for the College in former years, however we wish him every success and feel sure that what is our loss is Hamilton's gain.

WE have had one or two accidents this last fortnight, but we are thankful to say that none have been of a very serious nature. Some amount of suffering has been experienced by H. Wills, who got his wrist caught in the fanning mill and pinched rather badly. Mr. Carruthers was the next unfortunate, having his finger cut in the chopper and the nail taken nearly off. W. Wood got a nasty jam from a sleigh being backed up and catching him against a wall, and Moody unfortunately cut his foot while out chopping.

AN enterprising dairyman near London, Ont., had a very enjoyable trip last week to the O. E. F. Being desirous of starting a cream separator he enquired here if ours would be running on a certain day so that he might come up and see it in operation. The secretary asked Mr. Storey if it would be, and obtaining an affirmative reply telephoned the same to the expectant visitor. Up he came, and found to his exceeding delight our Champion Separator wrestling manfully with sheaves fed by an extra supply of students specially hunted up for the occasion by the farm foreman.

THE Business Managers of the REVIEW wish to acknowledge the receipt of subscriptions from the following:—E. H. Bate, W. R. Bishop, S. P. Brown, W. W. Ballantyne, S. Calvert, G. C. Creelman, D. R. Denison, C. W. Elton, J. J. Fee, J. R. Hutton, A. E. Hogg, R. M. Holby, T. J. Horrocks, J. S. Howes, E. M. Jarvis, W. A. Jamieson, S. M. Knowlton, C. A. Kiel, Jas. Laidlaw, E. Lick, H. A. Morgan, J. B. Muir, J. S. McLaren, E. G. McCallum, T. T. Morden, Jas. Neilson, L. Patterson, R. J. Phin, T. G. Raynor, H. B. Sharman, J. Smith, M. W. Steacy, A. E. Shuttleworth, E. P. Smith, A. B. Wilmot.

It is hoped that another year will not be allowed to pass without holding the annual athletic sports; considering the number of sporting chappies at the College, it is strange that such manly exercise should have gone to the wall; now is the time to reorganize an annual meeting, for when was the College so well represented in all branches of sport? Behold our Hercules Dolsen, our champion shot putter, Buchanan and Thompson, world renowned jumpers, Curzon, champion sprinter, McFarlane long distance champion, and such an all round champion as Gelling, besides, where are the equals of Shaw and Bayne in the three legged race? Let all lovers of sport unite to reorganize the annual athletic meetings.

ACCORDING to an old established custom the first meeting of the Literary Society after the Christmas vacation was left in the hands of the 3rd year, and certainly this time a very good entertainment had been provided. Clever parodies of Varsity songs had been prepared with numerous playful allusions to college life and celebrities. The solos in each case were taken by Mr. Monteith, while the rest of the graduating class joined with much vigor in the choruses. Mr. Gelling gave a speech on Nova Scotia, giving us a very clear insight into the resources of the country with special reference to gold mining. Mr. Shantz contributed a recitation, and the halls have since resounded with exact imitations of his musical cry of "Charco." A very fine display of club swinging was given by Messrs. McCallum, Brodie, and Shantz. Mr. McEavoy delighted us all with a comical reading, and Mr. Monteith gave a speech on "Science." Much credit is due to Mr. Rennie for his composition on "How Our Preacher Bought the Cow." It was brimful of fun, and his amusing manner of reading, coupled with the fact that for once he had got his tie in, kept us all interested from beginning to end.

ON Wednesday, the 5th inst., our Association was privileged in receiving a visit from Mr. C. K. Ober, of the International Y. M. C. A. Committee. Notwithstanding the number of boys engaged preparing for the Friday night's entertainment, we had a well-attended meeting at 9 p.m. Mr. Ober is a very taking speaker and we felt quite at ease with him when he began his remarks with "Fellow students." Frank, hearty, addresses have always characterized all such visitors to our Y. M. C. A. and quite do away with the idea that members of that association are necessarily namby-pamby sort of fellows. Mr. Ober gave us a brief insight into his work as travelling secretary and to show how far-reaching it is, he mentioned that on the previous Sunday he had been "away down South" in Georgia. He gave us several useful hints for improvements in the work here, but the most enjoyable time spent in a friendly conference in the reception room after the meeting proper. There our special difficulties were gone into and we all felt much cheered and helped by his memorable visit. Mr. Ober left early on Thursday to attend the convention at Brantford.

OUR Association decided to send five delegates to the annual convention of the Y. M. C. A. for Ontario and Quebec, held at Brantford. Accordingly early on the 7th inst. Messrs. G. Harcourt, B. S. A., Hewgill, Whitley, Buchanan and McKergow went off to attend the sessions. Their reports were given at the Thursday night meeting on the 13th., and the following Sunday afternoon. They must have had a real good time there, for keen interest was taken in the reports presented and an impetus has been given to the work here. There can be no doubt that it is exceedingly beneficial in many ways for delegates to attend such convention. There is the mixing with men whose names are well-known through the Province as active Y. M. C. A. workers. This in itself is inspiring, but how much more so must it be to attend meetings full of life from beginning to end and hear the profitable discussions? It is a pity that the helpful influences under which the delegates are brought cannot be transmitted in their entirety to the home association. Still, as our foundation is of comparatively recent date it is a matter of some congratulation that five men should be sent, and especially that Mr. Harcourt's paper, read at the Convention, should be so thoroughly acceptable to those present.

INSTEAD of an ordinary meeting of the Literary Society on the 14th. inst., we had the pleasure of hearing Miss Henderson, from the City, deliver a lecture on Phrenology. The subject was handled in a very interesting manner, and was illustrated by several lantern pictures descriptive of various types of heads. The amusing part of the programme was when Messrs. Brown and Brodie ascended the platform and had their characters and aspirations read by the lecturer as she lightly fingered their silky hair and many "bumps." Mr. Brown's comical solo at the commencement of the meeting must have given Miss Henderson a little insight into his appreciation of fun, and certainly as far as we know these two beauties their natures were pretty accurately revealed. As we filed out of the lecture room the news of the terrible conflagration at Toronto spread through our midst and for a long while we grouped together discussing the scanty details. Fellow students at the Varsity accept our sincere sympathy. The following day the universal question was, "Have you had your head read?" for all the afternoon Miss Henderson was busy with various craniums expounding unto us our faults and talents, and distributing charts. Several boys were heard loudly lamenting that the "Adaptation in Marriage" column had not been filled in.

THE Annual Supper of the O. A. C. Football Team, kindly given by Professor Robertson, was held in the dining hall on Jan. 28th. Covers were laid for 40, as besides the team there were present Professors Shaw, Panton and Hunt, as well as a few specially invited students. After partaking of the numerous good things provided, an interesting toast list was entered upon. The absence of the President and Professors James and Grenside was regretted by all, as the speeches for which they were down would have contributed in no small degree to the success of the evening. The Honorary President, Professor Robertson, was naturally the speech maker, and his remarks, full as they were of humor and deep thought, were highly appreciated by all. Prof. Panton responded in very graceful terms to the toast "Science the Handmaid of Agriculture," and Prof. Hunt gave an amusing reply to "Mathematics in a Scrimmage." Prof. Shaw roused all present by his earnest remarks in response to the "Agricultural Interests of Ontario." The musical part of the programme was well provided for. Mr. Esterbrook contributed a banjo solo and also played a duet with Mr. Dolsen. Mr. Bayne (Captain) gave the O. A. C. version of "Killaloe," and Messrs. Musgrave and Buscarlet charmed the audience with good songs. The inevitable "Farmers' Song" was also on the list, the solo being taken by Mr. G. Harcourt, B. S. A. After the "Ladies" had been duly honored, Mr. Dean responded in a very able speech to the "Press." Time passed so pleasantly that 12 o'clock sounded long ere the guests were ready to depart, but "Auld Lang Syne" had to be sung as the finale, and away the happy athletes trooped after three rousing cheers for our esteemed Professor Robertson, and those who had so nicely arranged for the inner man.

AN open meeting of the Literary Society was held on the 7th. inst. in honor of the ex-students attending the Union meetings. The old familiar dining hall had been decorated with evergreens, flags, and red, white, and blue hangings, making it very attractive. The stage had one of the most magnificent drop curtains ever placed before a Canadian public. The rooms on our flat had been ransacked for "wings" and "back pieces" so that that end of the hall was transformed into a perfect bower of beauty. Joking apart, the decoration committee deserves praise for the tasty ap-

pearance of the hall considering the short time at disposal. The first part of the programme consisted of a minstrel entertainment; notwithstanding the stormy night all the darkies got in well blacked and with costumes intact. The troupe was composed of Messrs. Esterbrook and Mattice, bones; Seymour and Brown, tambourines; Harrison, cymbals; Dolsen, guitar; Hadwen, violin; Musgrave, flute; McCallum, Gelling, Ransom, Bayne, Worthington, Buscarlet and Harris. The last mentioned as center man or interlocutor was very good, his oft repeated "Would you mind asking your question again," and "Did I hear your question aright," also his somewhat Torontonion answer to every question, "I must confess that I have never given that subject my careful consideration," fairly brought down the house. The jokes were for the most part topical (or as one paper printed it, *tropical*) and gave a great amount of amusement. The "corner men" had their full share of the work and kept up the fun merrily. After Mr. Harris' opening speech the company played the "Boulanger March" with great spirit. Besides the numerous songs and choruses, which evoked hearty applause from the audience, there was a capital duet on the banjo and guitar by Messrs. Esterbrook and Dolsen. To Mr. Hadwen were entrusted the two topical songs of the evening, "Later On," and "Where Did You Get That Jam?" the latter being enthusiastically encored. After a first-rate exhibition of club-swinging by Mr. McCallum in most becoming costume, the curtain rang up on the laughable farce of "Box and Cox." Mr. Harris undertook the part of the whitewasher, Mr. Ransom, the waiter, and Mr. Esterbrook impersonated "Aunty Bouncer." All the parts were capitally sustained while the general "business" had evidently been carefully rehearsed.

The *Mercury* of the 6th. inst. reports:—"The members of the staff of the O. A. C. met quietly this afternoon in the College Reception Room on a fitting, yet regretful, mission. It was to mark the severance of the brotherly relations which have always existed between Prof. Robertson and the other members of the staff. Year by year they have stood shoulder to shoulder in advancing the interests of the College and those of the farmers of Ontario and now the removal of Prof. Robertson to a wider field has broken the companionship, which has so long existed in this work. A tangible expression of their esteem accompanied the words of farewell. Prof. Shaw, on behalf of the staff, read the following address:

O. A. C., Guelph, 6th. February, 1890.

TO PROF. J. W. ROBERTSON.

DEAR SIR,—It was with feelings of unmeasured regret that we, the members of the faculty of this College, learned that you had severed your connection with the same.

During the whole period of your term of office here we have observed with much satisfaction and pride the success which you brought to your own special department and the prestige which came along with the success to the entire Institution.

In view of this fact, and of the very pleasant relations that have all along subsisted between us, we feel that we would be recreant both to duty and privilege were we to allow you to go to another sphere of labor without giving you some token of the true and deep regard that we bear towards you.

We, therefore, unite in the request that you accept at our hands the paper knife which we now present you, and this volume of "Our Own Country." You will please accept them, not because of their intrinsic worth, but that they may serve to you as remembrances of our regard for you, both now, hitherto, and in all times; and also of our sense of loss in knowing that so much of manly, honest, sterling, worth and wisdom is going from us.

We find unmingled pleasure in conveying to you the assurance that our best wishes accompany you to your new sphere of labor, and we trust that you will make it even a greater success than the one you are leaving. It is our earnest desire that you may long be spared as an offering of usefulness on the altar of your country and of your country's God, and that you may prove abundant in successful labors, and in the temporal and eternal rewards that come to the great and good.

SIGNED BY THE MEMBERS OF THE COLLEGE STAFF.

Prof. Robertson, in replying, thanked the members of the staff very feelingly, for the kindness of their expressions of esteem. He felt sorry at the prospect of a severance of the pleasant relations that had existed, but expected to find some solace in being associated with congenial workers in his new sphere of labor for the Dominion. He was assured that the College would continue to grow in the "confidence and respect of farmers, while such willing and able men are on its staff of Professors."

Although the weather is not first rate for visiting, we get several people up almost daily, to inspect the museum, library, stock and buildings. We noticed recently a delighted student escorting three charming young ladies round the premises, loud and prolonged was the well-known cry of "Lalla-li-e-hoo" as the party explored the sheep stable.

A few nights ago the professor on duty passing along "Upper Hunt St." surprised a boy out of his own room and in another's. The poor wretch eager to escape detection, hid under a coat hanging behind the door and was detained there while a lengthy conversation took place between the rightful occupant of the room and the preceptor. The unlucky wight was so thoroughly frightened that he dared not move although the light went out accidentally (?) once or twice.

If students perambulate the flats at night clad in but one loosely flowing, white garment, it is but natural they should be the targets of canfuls of cold water. One boy's recent experience has proved this remarkable fact.

The meetings of the Experimental Union held on the 6th. and 7th. insts. were an unqualified success. One great feature, the Annual Supper, must not be omitted and so we append the *Mercury's* report:

THE SUPPER.

The annual reunion of students, ex-students, visitors, the staff and their families, took place round the tea tables in the large dining hall in the evening, and there were no vacant seats, about one hundred and fifty being present. The room had been tastefully decorated by the students and the delicacies prepared by the Matron and her assistants were gratefully disposed of in the most practical manner.

After this necessary preliminary had been attended to, President Mills welcomed the ex-students and visitors, referred kindly to the absentees, said that they were about on their feet again after their set back of 1888, the burning of the barn, and spoke of the great loss the College would sustain in the departure of Prof. Robertson for his new field. He then proposed the toast of "The

Queen," which was heartily responded to with three cheers and "God Save the Queen."

In proposing the toast of "The Experimental Stations of the Dominion," Prof. Shaw referred to the success of their gathering and said they would have to build a larger hall. Touching on the work of the Farm, he said he proposed clearing eighty acres of the Farm of the noxious weeds which had so long been a disgrace to it, without a fallow, announced that the Minister of Agriculture had given his consent that they should build a new fence on both sides of the Brock Road such as would be a credit to the institution. He dealt also with the uplifting influence of the ex-students and spoke on the experimental work on the Farm which they hoped to make very useful, especially the experiments in live stock. The toast was drunk with all the honors.

Prof. Robertson, in reply, made the speech of the evening, full of inspiration, encouragement, and setting before the students high ideals. It was the aim of the experimental stations to spread knowledge to the humblest home of the poorest farmer. It was one of the best works of God. In their land, where prosperity in agriculture followed skill, they should learn to rule the forces of Nature, filling their own place without harm to their fellows. "I want to know" was the cry of every true man, and by studying Nature's methods and God's ways in Nature they would have Nature's abundance. The experimental stations were to stimulate thought rather than till the soil, and the Professor here drew a realistic picture of the agriculturist who filled his true place and formed himself after God's model, a man of dominion and power. It was not theirs to propound finespun theories, but they should speak whereof they knew. He touched upon the three-fold work of the Professors at the O. A. C., viz., teaching the students, conducting experiments, and attending Farmer's Institutes, and their highest experiments were to influence the students for good. Concluding he said that their ultimate aim was not alone to make better and cheaper food, but to aid in making true men and women, happy homes and the best land in the whole earth.

"The Agricultural Interests" were responded to by Rev. W. F. Clarke, who gave some amusing incidents in connection with his relationship with agricultural interests. They wanted more good farming; there was money in farming, and even in wheat growing, if farms were worked properly. The farmers should fit themselves for the highest places in the land.

Prof. James, in proposing "The Ex-Students" touched on the work they were doing, and gave some very interesting reminiscences of those who had gone out from among them. The toast was responded to by Messrs. Fee, B. S. A., Sinclair, Robinson, Bishop, Henry, Fotheringham, Charlton and Ballantyne.

Mr. J. A. Craig, B. S. A., President of the Union, gave the toast of "The College Staff," coupling with it the names of Prof. Hunt, resident master, to whom he paid a high tribute; Dr. McGuire, College physician; Mr. McIntosh, mechanical foreman; and Mr. Storey, farm foreman. All these gentlemen acknowledged the toast in appropriate speeches.

"The Students" was proposed by Prof. Panton in a humorous speech, full of scientific hits, and those who responded touched a little along the same line. Messrs. Monteith and Dean spoke for the third year men, Hutt and Hadwen for the second year, and Harris and Perry for first year.

Mr. W. A. McCallum gave "The Press," which was briefly responded to by Mr. Craig, *Live Stock Journal*; Mr. Shore,

Farmers' Advocate; Mr. Gelling, of the College REVIEW; and the representatives of the *Herald* and *Mercury*.

Mr. C. F. Whitley proposed "The Ladies" which was ably responded to by Messrs. Zavitz, B. S. A., and Robinson.

This concluded the business proper of the annual supper. During the evening several choruses were sung with good effect by the students, the solo parts being taken by Messrs. Hutt, Monteith, Harcourt and Hadwen. Messrs. Buscarlet and Worthington also gave splendid songs, the latter getting a rousing encore.

THE O. A. C. STUDENTS

Honor Prof. Robertson with an Address and Presentation.

At the close of the annual supper of the Experimental Union at the College on Thursday night at eleven, a most interesting departure from the usual proceedings took place. This was the presentation to Mr. J. W. Robertson, the late Professor of Dairying at the College, of an offering to signify the esteem in which he is held by the students, and their gratitude for his labors among them.

Mr. H. H. Dean stepped to the front and read the following address:

TO PROF. J. A. W. ROBERTSON:

DEAR SIR,—On the eve of your departure from the Ontario Agricultural College, Guelph, to enter a wider sphere of work and influence as Commissioner of Dairy Husbandry for the Dominion of Canada, we, the students of the College, desire to express our deep and heartfelt regret at our irreparable loss and our satisfaction and delight in your gain. We most heartily congratulate you on your appointment to so important a position in the Dominion. Those of us who have enjoyed the privilege of attending your lectures feel that we have received knowledge that will be of great practical and lasting value to us in our future life. Our thorough appreciation of them arises not only from their practical bearing, simplicity, comprehensiveness, and thoroughness, but also from the masterly and amusing manner in which you have presented your thoughts to us. We have also learned from your sterling character as constantly revealed in your genial manner, your uniform courtesy, your unselfish devotion to others, your tender sympathy and your strong, fearless and open opposition to all wrong, thus to admire the good and true. Your earnest and untiring efforts in our behalf, the full and cheerful discharge of your duty, the concern you have shown for our advancement in the knowledge of dairying, and the kindly interest you have invariably taken in us as boys, have made you very dear to us. Great as has been the conscious influence of your words and work, we feel that the unconscious influence of your personality on our characters has been even greater. We beg you to accept the accompanying token of our love and respect, and we hope that in your efforts to introduce and establish improved methods and practices in agriculture, you may still retain your interest in the progress of the Agricultural College.

Signed on behalf of the students by their committee,

H. H. DEAN,
CHAS. F. WHITLEY,
JOSH. C. HARRIS.

Mr. C. F. Whitley then walked forward with a magnificent silver tilting water pitcher and goblets, which he handed to the Professor, at the same time asking him to read between the lines of the address and look behind the gift for the love and esteem they bore him.

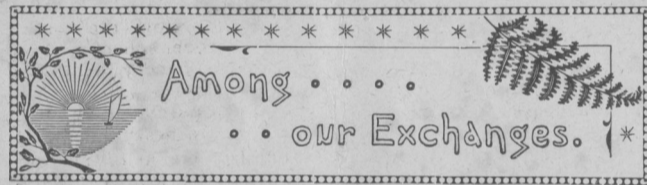
Prof. Robertson said it was hard to do himself fairness in such a position. He had listened between the lines, and could say that in all his work there had been no unpleasantness of any sort in the class room. He would have a wider field, but he would have

no greater pleasure than standing in the class room and imparting what knowledge he had to the students. If, in a small measure, he had increased their knowledge and manliness, he was amply satisfied. He expressed his deep appreciation of the kindly sentiments in the address; and it was a far better glory that their gift should come to him full of their love and respect, rather than to have it filled with gold or diamonds. Their aim was to leave the world richer in knowledge, truer in plans, kinder in judgment, broader in sympathy, and better in every way. He thanked them inadequately, but heartily. He would continue his interest in the College, and would have no better satisfaction than in giving it a friendly lift. They should lay hold of their life's work with both hands, and he hoped to welcome some of them into his work, to fulfil their duty to their country and their flag.

President Mills then declared the proceedings closed, and three hearty cheers were given for Prof. Robertson.

The address is very handsomely illustrated by W. Bruce, Hamilton, and is a most appropriate gift in itself. The water pitcher is a massive piece of work, richly chased, and bears the following inscription:

"Presented to Prof. J. A. W. Robertson by the boys of the O. A. C., Guelph, February, 1890."



The Portfolio, of the Hamilton Ladies' College, has of late been conspicuous only by its absence. Having learned something of this college through the few numbers already received, and not wishing to sever our slight acquaintance already formed, we therefore invite *The Portfolio* to visit us again.

The College Times has been somewhat irregular in its coming. There has been a change of arrangement in *The Times*, by which the old time puzzlem column has been replaced by the more modern exchange column. That puzzles should prove of little interest to a student, can be well understood from the fact that he meets plenty such work in the class room.

Among the new arrivals to our exchange table, we are glad to notice the *Student Life*, from Washington University. The January number presents a pretty full table of contents, which are ably treated in their respective columns. An interesting article is that relating to the early history of Carl Wimar, a German artist, who, after having spent a portion of his younger days in America, studying the peculiarities of the Indians, returned to his native land, and there, during his college life, makes Indian warfare the subject of his paintings. We will look for the conclusion of this article with much interest. A paper on "A Plea for the Students," argues in a clever manner the advisability of having a more concentrated and thorough course of study.

The Trinity University *Review* for December and January is to hand. The Christmas number arrayed in the college colours is especially attractive. The inside, with its many appropriate contributions, is well in keeping with the cover. The article on "The Beginnings of a Nation," bring out many interesting historical facts, regarding our early legislatures. It shows how the legislature of Upper Canada first met in rude frame buildings at

Niagara, then known as Newark, here Governor Simcoe opened the first session of the first parliament. It goes on to relate that the farmer of those days had more influence in making the laws of the land than he has to day, for on one occasion the Governor said, "I call you together at an early period in the hope that you may be able to finish the business of the session before the approach of harvest."

COLLEGE NEWS.

The general endowment fund of Wesleyan University has been increased recently by gifts amounting to \$310,000.

The new register of Cornell University shows a total enrollment of 1,300 students.

Wellesley College has limited the number of its students to 640 for the present.

The trustees of John Hopkins University have adopted a resolution discouraging the attempt on the part of undergraduates to publish a paper.

The seniors at Dartmouth in their English course are obliged to make extempore speeches of fifteen minutes' duration upon suitable subjects before the class.

Cornell is to have the finest library building in America. It will have an auditorium with seating capacity for 1,000 people, the reading room is 120 feet long, 72 feet wide, and 38 feet high. There will be room for 409,000 volumes.

Scene.—Class in English Literatures reading Hamlet. Professor—"Mr. H., will you read please!" Mr. H. rises, turns the leaves rapidly to find the place, while a deep silence settles over all. Finally the Professor looks up and reprimands the young man for not keeping the place. By this time Mr. H. has found the place and reads "What have I done, that thou dar'st wag thy tongue in noise so rude against me?"

Second Year—"Well, how do you like Gym?"

Wondering First Year—"Jim! Jim who?"

Student (reading virgil)—"And thrice tried to throw my arms around her"—that was as far as I got Professor.

Professor—"That was quite far enough."

THE STUDENT

Who kisses pa and ma good-bye,
And wipes a tearlet from his eye,
And tells his sister not to cry?

The would-be First Year.

Who looks on the Third Year with awe,
And tries to learn Avogadro's law,
And for his class shouts loud "hurrah?"

The First Year.

Who kicks the football out the lot,
And throws to second like a shot,
But reads his lectures with a trot?

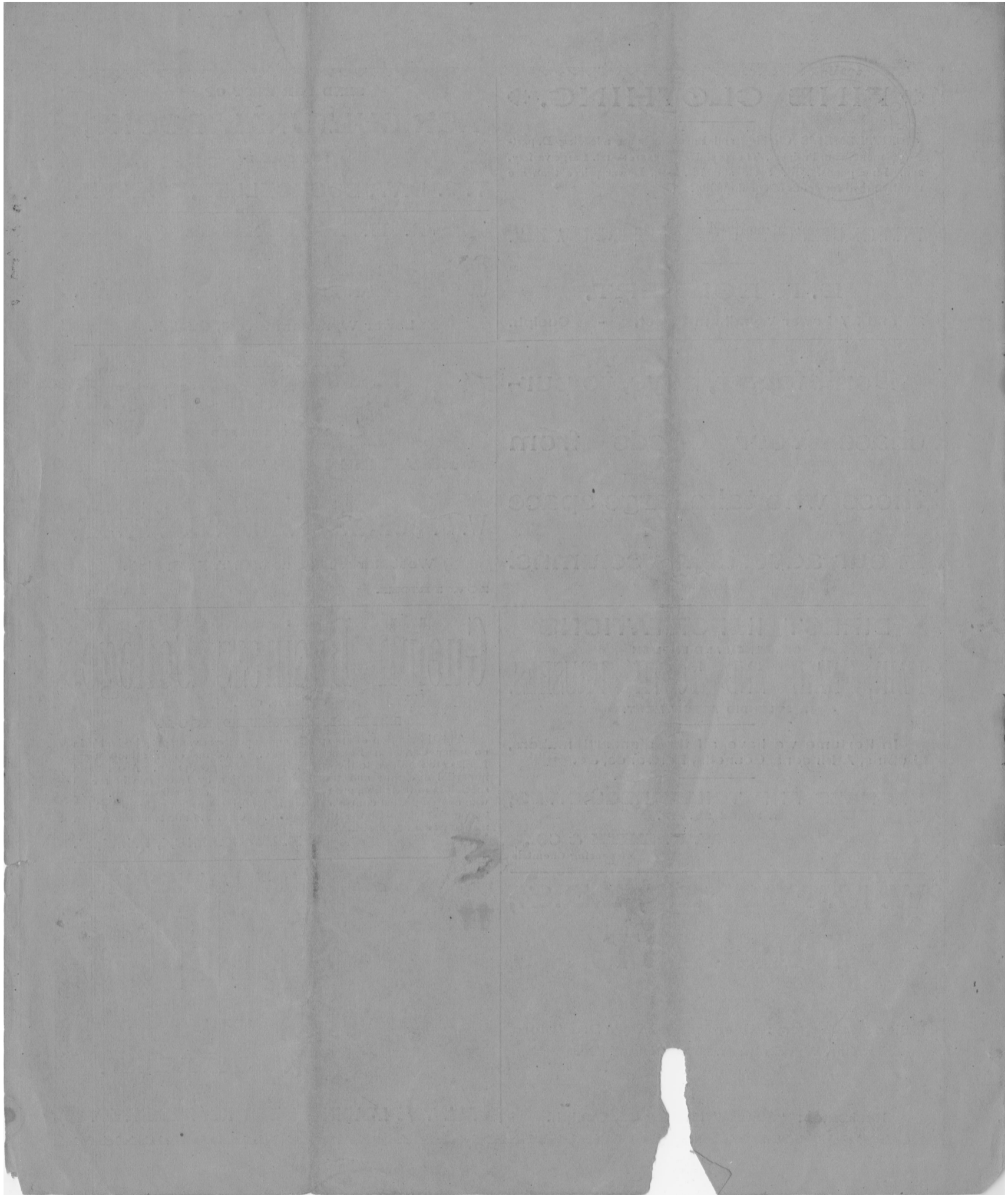
The Second Year.

Whose student life is almost past?
Whose knowledge is supremely vast?
Whose die like Caesar's once is cast?

The Third Year.

Who makes a speech 'mid great acclaim,
And writes B. A. behind his name,
And goes to school his share of fame.

The Graduate.—Ex.



❖ FINE CLOTHING. ❖

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THE O. A. C. REVIEW.

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VOL. I.

GUELPH, ONT., MARCH, 1890.

No. 5.

THE O. A. C. REVIEW,

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THE O. A. C. REVIEW will spare no endeavor to furnish reliable news and information to those interested in farming operations.

Ex-students will confer a great favor on the Editors of this Journal by sending news, particularly experiences of practical value.



The last number of the REVIEW was late in reaching our subscribers owing to our printer having begun to move into a new building at the time when the February number should have been printed, and we were thus delayed; but we crave their indulgence for this time, and hope that in future all those who are in the Province will receive each issue before the month is out. Those not receiving their paper will be conferring a favor by communicating with the Business Managers or Editor, who will attend to the matter at once.

* * *

On an eminence about one-and-a-half miles from the City of Guelph, and over-looking it, in the very heart of an excellent stock-raising district, within a short distance of several fine farms, in the midst of environments conducive to the development of the best methods of agriculture, is situated the Ontario Agricultural College and Experimental Farm. Near the Farm is the celebrated

herd of Hereford cattle, owned by F. W. Stone, Esq., Guelph. Not far away a splendid herd of Devons is to be seen, owned by Mr. Rudd. If students wish to see Galloways of first-class qualities a ten minutes walk will bring them to Mr. McCrae's farm. Continuing the walk for about three miles the noted stud of Clydesdales, owned by Messrs. D. & O. Sorby, may be seen. Not to mention other noted breeders of pure-bred stock such as Messrs. Arkell, Laidlaw, Whitelaw and others, including the stock on the Farm, it is seen that the surroundings of students while here are such as will develop a taste for live stock and stock of a good quality. This is no small matter when a farmer is considering where he will educate his son for the farm.

We are all more or less creatures of habit and influenced to a large extent by our environments. The tendency of Ontario farming is to develop the live stock industry, and we consider farmers' sons would be well repaid if they received nothing more from a year's attendance here, than what they would learn by a close examination of the different stock farms which are in the immediate neighborhood, and from good attention to the stock and management of the same on the Farm. The more we ponder the matter, the more we wonder why a greater number of farmers' sons do not take advantage of the splendid opportunities which are afforded them for receiving a training, which, as valued by some, is equal to the gift of a 100 acre farm, and this is considered by average young farmers as no mean gift.

Then why are there not more students of the right class here? It cannot be the fault of the surroundings, for, as we have pointed out they are helpful; it cannot be the fault of the terms, as none are more liberal; it cannot be the fault of the buildings as they are substantial and serviceable in every way, (although they may not be quite as fanciful as some); it cannot be the fault of the Professors, because we are sure that a more faithful, hard-working, obliging, competent, unselfish staff cannot be found in any College—a staff whom everyone who has come in contact with them respects and for whom the farmers of the Province are willing to do anything within reason. Where, then, lies the difficulty? Hoping to be pardoned if we should give offence, we are inclined to think that it is owing to indifference on the part of farmers and a lack of knowledge in regard to the work that is being done here. Remove these by showing them that it will be of material advantage to them and to their sons and we believe that the difficulty will be solved to a great extent. No class of persons wish more to advance their position than farmers, and if it can be demonstrated to them that satisfactory results will follow a particular course of action the matter will in a great measure be settled. There are several influences at work seeking to remove these difficulties in the way of a larger attendance and it is to be hoped that they will be successful, and that before five years shall have come and gone the O. A. C. will be compelled to enlarge the building to accommodate students.

P—and Its Supporters U-S-H.

How many of us have noticed on the doors of banks and business firms this word, PUSH, and have seen a deeper meaning than is commonly thought to be expressed by the word? What better motto could be adopted by any firm or any person than PUSH? Without this a firm, a bank, a business man, or any man is like an engine that is in perfect working order but without the steam to drive the piston.

The students who *hopes* that he will come through his examinations all right, yet idles away the greater part of his time is always a failure. "How many men would fain go to bed dunces and wake up Solomons. You reap what you have sown. Those who sow dunce seed, vice seed, laziness seed, usually get a good crop." Reader, what kind of seed are you sowing? Have you been planting any of these seeds before mentioned? If so, we advise you to stop the horses, clean out the drill, give the feeder two or three turns to make sure that all these noxious seeds are removed; then fill it with industry seed, patience seed, knowledge seed, and begin to sow; at the same time apply a good dressing of *Push* fertilizer.

The farmer who looks upon a bushel of wheat and imagines he sees beautiful green stalks arising out of the seeds, and afterwards the golden heads waving in autumnal sunlight, yet has not PUSH enough to prepare a suitable seed bed, sow the seed and take care of it after it is sown, will never realize his day-dream. A great many farms are dirty with foul weeds; fences and buildings are out of repair; stock are in poor condition and crops also—all these point to indolence, and where they abound laziness does much more abound.

The business man who carries on his business in a hap-hazard manner depending upon others to look after his interests and who does not throw his energies into whatever he may be engaged in will not succeed. Eternal vigilance is the price of success and one reason why a great many fail is, that they do not possess the *Push* and go-ahead which are necessary.

The lecturer who appears before his audience with a sleepy look, yawns three or four times every half-hour, looks at his watch frequently to see if the time is not nearly up, which he considers necessary that he should appear in person before his listeners, who talks in a hum-drum tone which necessitates the straining of the ear to catch his mutterings, who hasn't anything new, but has a knack of rehashing things like a careful cook—such a lecturer is not very acceptable to his hearers, and to him we would say, wake up! put a little PUSH in your porridge in the morning and if this does not have the desired effect, season your potatoes at dinner with some of the same ingredient—take this regularly every day for six months and if it does not help the trouble call and see us. No matter how much genius a person may have if it never manifests itself or renders the possessor any service, it is of no use—he might as well have none. "A man of mere capacity undeveloped is only an organised day-dream with a skin on it. A flint and a genius that will not strike are no better than wet junkwood."

Has the physique any influence on this particular quality, which is of so much importance to make a success of life? We say, yes. Will the fat man whose presence is felt and seen by all those who come in contact with him, have this element in any marked degree? No, not likely. Will the thin man who can boast of his length without breadth—who is, in fact, "but the continuation of

a point?" More probably so, than the other. But, doubtless, even here there is a limit where too much thinness of body will produce a thinness of mind. Alexander, Cæsar, Napoleon III, Nelson and the Duke of Wellington, were all spare men who had plenty of *Push* and courage and made their mark in the world. Pope (that wasp of Twickenham) is a marvellous example of what a small, dwarfed, diseased body (a body so crooked that he was called the Interrogation Point) can do when controlled by an indomitable spirit. Granting that he was eccentric, vain, fretful and demanding, yet we cannot help admiring his polished verses, onomatopoeitic diction, and the large amount of English literature which he has bequeathed to us—and all this under circumstances so unfavorable. Doubtless, it would never have been done had he not been possessed of vim and go, thus becoming a benefactor to himself while living and to others after his death.

For a living illustration we have only to mention the name of Gladstone, who, in spite of age, discouragements and a task that resembles "numbering sands and drinking oceans dry," is forwarding his scheme to benefit Ireland with an unconquerable purpose, an alacrity of spirit and *Push* which are seldom found in a far younger man, and which are much more admirable in a man who is nearing "the sere, the yellow leaf." May his life be preserved until his heart's work is accomplished, and then may "Heaven, admiring earth's good hap, add to him an immortal crown." May we all, as young men, profit by the examples set before us, remembering that,

"The lives of great men all remind us,
We can make our lives sublime."

and in them we shall see, if we examine closely, that the element of success in all great men is untiring industry with *Push* as the great motive power.



Promising Varieties of Grain.

In the winter of 1888-9, two hundred and forty varieties of grain were imported from eighteen different countries of Europe and Asia. The spring varieties, along with some of the best known Canadian cereals, were grown upon the experimental plots of this Institution during the past year. From among ninety varieties of oats, ninety of spring wheat, fifty-six of barley and sixteen of peas, a few stand out as being very promising for Canadian cultivation. While it is unsafe to draw very definite conclusions from the first year's conduct of a new cereal, still we feel justified in mentioning those varieties which have given the best returns during the past season, and it will be with much interest that we shall look forward to their conduct during another year.

Oats—The majority of the ninety varieties of oats tested were from Germany, Russia, Scotland, England, France and Ontario, and the average yield of all the varieties was at the rate of 47.8 bushels of grain per acre. Those heading the list for quantity were two varieties of black oats from France, called Goanette and Chenailles, each yielding at the rate of 80.9 bushels of grain per

acre. The two varieties are much alike in appearance, but the former possessed a stiffer straw which was almost entirely free from rust, while the latter was troubled with rust to a considerable extent. The berry of each variety is long and large, having a plump kernel covered by a thin hull. The Oderbrucker from Germany, yielding at the rate of 75 bushels per acre, is one of the most promising of all the oats tested. The average length of the straw including head, was upwards of five feet, but the crop stood up well and was almost entirely free from rust. The berry is white, long, and has a thin hull, and one which we consider will be well adapted to meet the various needs both of the farmer and of the oatmeal miller. The Danebrog, another German variety, also gave a yield of twenty-five bushels per acre, but the straw was much weaker than that of the Oderbrucker, and was also considerably troubled with rust. The Siberian, from Russia, yielding at the rate of 73.5 bushels per acre, possesses many excellent qualities, and is also well adapted to meet the oatmeal millers' bill. Among the other new varieties which stand high in both yield of grain and general qualities, may be mentioned the Probitier, Germany; Waterloo, Germany; Improved Besthonr, Germany; Legona, Russia; White Tartarian, Russia, and Poland White, from France. Of the nineteen Canadian varieties tested, the Bavarian oats took the lead, yielding at the rate of 72.5 bushels per acre. It has a spreading head, strong straw, and white berry. This oat was brought from Bavaria to New York State, and from there was introduced into Western Ontario, where it has been grown with much success for a few years.

Spring Wheat—Farmers in this section of Ontario, as well as in many others, have ceased almost entirely the growing of spring wheat as the yields from this crop during the past few years have been so unremunerative. Upwards of eighty varieties were imported for the purpose of obtaining a few which might be profitably grown over the Province. Of those tested the Herison Bearded, from France, took the lead, and while only yielding at the rate of about 19 bushels per acre, still gave a yield of 30 per cent. above the best Canadian variety, save the Wild Goose. This French variety has many promising features. The straw is strong and may be said to be free from rust, the head is of a compact, club-like nature, the red berry, although rather small, is very plump and even in form. This grain may do well in many parts of Ontario. The March wheats from France are also promising and compare very favorably with the best Canadian varieties. The Wild Goose, well known in most parts of the Province, took the lead, giving about 26.5 bushels per acre. This is a very coarse wheat, and always brings less on the market than other varieties, but even at the low price, it is a question if there is not more made by growing this wheat than by most of the other Canadian varieties. The Red Fern gave a yield at the rate of a little over thirteen bushels per acre.

Barleys—The forty-eight varieties of imported barley varied in rate of yield from 7.5 bushels to 47.9 bushels per acre. There were eight kinds of foreign barley which gave a yield of upwards of 40 bushels per acre and out of those eight, five were two-rowed and three six-rowed. The Cheyne, from Germany, a two-rowed barley, and a strong grower, took the lead in point of yield, giving at the rate of 48.9 bushels per acre, and this was closely followed by the Phoenix, 46.9 bushels per acre, and the Italian Rice, 45.8 bushels per acre. The latter two are also two-rowed varieties from Germany, and possess straw of a better quality than the Cheyne. Of the six-rowed varieties the Oderbrucker from Germany, yielding 44.3 bushels per acre, and the Mandshuri from

Russia, 42.7 bushels per acre, came at the top of the list in point of yield. Taking the average of the entire lot of imported varieties, the two-rowed gave a slightly higher yield than the six-rowed. The common six-rowed variety of Ontario gave an average yield at the rate of 46.9 bushels per acre.

Peas—There were sixteen varieties of peas tested, ten of which were imported, the remaining six being selected from among those fairly well known in Canada. The varieties introduced were all obtained from England, and the Glory yielding at the rate of 37.1 and the Early Racehorse at the rate of 36.2 bushels per acre, made the highest yields of the new grains. The former is a large blue pea, and the latter is much smaller and of a yellowish white appearance. Of the six Canadian sorts, five gave a higher yield than the best foreigner, the Prussian Blue even reaching to 45 bushels per acre, and the White-eyed Marrowfat following closely after with a yield of 43.9 bushels per acre.

These grains are to be grown again during 1890, and more conclusive results may be obtained regarding the respective merits of the several varieties.

Method of Ascertaining the Weight of Live Cattle.

This is of the utmost utility for those who are not experienced judges by the eye; and by the following direction the weight can be ascertained within a mere trifle:—"Take a string, put it round the beast, standing square, just behind the shoulder-blade; measure on a foot rule the feet and inches the animal is in circumference; this is called the girth; then, with a string, measure from the bone of the tail which plumbs the line with the hinder part of the bullock; direct the line along the back to the fore part of the shoulder-blade; take the dimensions on the foot-rule as before, which is the length, and work the figures in the following manner:—Girth of the bullock, 6 feet 4 inches; length, 5 feet 3 inches; which multiplied together, make 31 square superficial feet; that again multiplied by 23 (the number of pounds allowed to each superficial foot of cattle measuring less than 7 and more than 5 in girth) makes 713 pounds. Where the animal measures less than 9 and more than 7 feet in girth, 31 is the number of pounds to each superficial foot.

Again, suppose a pig or any small beast should measure 2 feet in girth, and 2 feet along the back, which multiplied together, make 4 square feet; that multiplied by 11, the number of pounds allowed for each square foot of cattle measuring less than 3 feet in girth, makes 44 pounds. Again, suppose a calf, a sheep, etc., should measure 4 feet 6 inches in girth, and 3 feet 9 inches in length, which, multiplied together make, $16\frac{1}{2}$ square feet; that multiplied by 16, the number of pounds allowed to all cattle measuring less than 5 feet and more than 3 feet in girth, makes 264 pounds.

The dimensions of the girth and length of cattle, sheep, calves, or hogs, may be as exactly taken in this way as is at all necessary for any computation or valuation of stock, and will answer exactly to the four quarters, sinking the offal, and which every man, who can get a bit of chalk, can easily perform. A deduction must be made for a half-fatted beast of 1 stone (14 lbs.) in 20, from that of a fat one; and for a cow that has had calves, 1 stone (14 lbs.) must be allowed, and another for not being properly fat.

*The above article, taken from a leading periodical, was sent to us by Mr. C. Horrocks, Associate of 1888.—[Ed.]

Co-operative Experiments.

During the past few years some very interesting and valuable experiments have been conducted over the Province by members of the Ontario Agricultural and Experimental Union and other leading agriculturists. The object has been to obtain a better practical knowledge of some of the most easily procured Canadian fertilizers. The Union has forwarded material for the tests free of charge to those desirous of undertaking the experiments, and the very enthusiastic manner in which this work has been taken hold of by College Associates, and others has almost surpassed our expectations. The number of experiments has become greater each season, and the number of those carrying on the tests has increased about eight fold during the last three years.

It would be impossible to give a detailed account of the work in the limited space of the REVIEW, but this will all occur in the Annual Report of the Association. A summary of the results of the past three years may be here given with advantage, as it will show in a general way the most economical use of some of the forms of plant food available to the Ontario farmer.

Table showing the yield of grain from each fertilizer for three consecutive years:—

FERTILIZERS.	GRAIN PER ACRE IN POUNDS.		
	1887.	1888.	1889.
Salt.....	1348.4	1393.2	1140.8
Superphosphate.....	1408.8	1432.0	1073.8
Ground Apatite.....	1271.6	1307.6	1040.0
Fresh wood ashes.....	not used.	1274.4	1068.0
Farm yard manure.....	1384.8	1412.8	1235.0
No manure.....	1252.8	1221.6	1028.0

The averages given are those of oat, spring wheat and barley crops taken together. Those given for 1887 are from plots fertilized in the spring of the same year. Those of 1888 from plots fertilized in spring of 1888, but those for 1889 are from plots, nearly all of which were fertilized in 1888, and show the effects of the fertilizers the second year.

From the above table we observe that during the two years (1887 and 1888), when the fertilizers had been applied each spring, the results came out relatively the same, while for 1889, being the second crop after the application of the fertilizers, the order is somewhat changed. The farm yard manure now takes the lead and the superphosphate, which, during the first years of its application, gave the largest returns, at present occupies the third place. The plot without being fertilized comes the lowest in every instance.

Taking the average of the three we get the following results, being the average of eighty sets of the experiment:—

	Pounds of Grain Per Acre.
(1) Farm yard manure.....	1344.2
(2) Superphosphate.....	1304.9
(3) Salt.....	1294.1
(4) Ground Apatite.....	1206.4
(6) Fresh wood ashes.....	1171.2
(6) No manure.....	1167.5

An average of about 14 tons of farm yard manure was applied per acre, and the other fertilizers were sown at the rate of 400 lbs. per acre. The superphosphate cost \$26, and the Ground Apatite \$12 per ton. Farm yard manure is usually valued at \$1 per ton in making calculations. Fresh wood ashes and salt vary much in price owing to locality in which they are to be used.

For a more detailed account of the experiments the readers of the REVIEW are referred to the Union Reports of 1888 and 1889, and to the one of 1890 when published.

Ontario Agricultural and Experimental Union.

The Agricultural Committee of the Experimental Union has arranged the work of 1890, and instructions along with blank forms are now being sent to those desirous of carrying on the tests. Should any of the readers of the REVIEW, who have not yet received the circular on the experimental work, wish to join the members of the Union in the experiments for 1890, kindly let us know by an early date. The following introductory to the circular will give the reader an idea of the line of investigation:—

GUELPH, MARCH 1ST., 1890.

DEAR SIR,—Experiments carefully carried on have done much towards improving the methods of farming. With this fact in view the Ontario Agricultural and Experimental Union has been carrying on co-operative experiments from year to year, which have been gradually growing in importance and value. Those proposed for this year's work should be appreciated by every farmer. If you can give the small amount of time and careful attention required to carry on one or more of these tests, you will be amply repaid for the trouble taken by yourself by the conclusions arrived at on your own farm. You will also have the benefit of the results of similar experiments conducted in different parts of the Province, all of which, when carefully carried out, will be presented at the annual meeting of the Association, and afterwards entered in The Annual Report of the Union, a copy of which will be sent to each experimenter.

The experiments for this year are as follows:—

(1) A continuation of the test with Superphosphate, Dried Blood and Scrap, Farmyard Manure, and no manure, with oats, applied without additional fertilizer.

(2) New plots with Superphosphate, Dried Blood and Scrap, Farmyard Manure, and no manure with oats.

(3) Application of Sodium Nitrate to either Spring wheat or Fall wheat, to be applied in the Spring at the rate of 200 lbs. per acre.

(4) Testing new varieties of cereals.

(5) Different modes of cultivating corn, similar to 1889.

(6) The growing of Lucerne.

Full particulars for carrying out the above experiments will be sent on application.

Fertilizers and seeds required for the tests will be sent free of charge to your nearest Express Office.

The materials for Nos. II., III., V. and VI., being expensive, only a limited number of these can be sent out. Those applying first will of course have the preference.

If you are in a position to carry on one or more of these experiments, kindly let us know as early as possible which test or tests you prefer, mentioning your nearest Express Office, so that the materials shall reach you in time.

Kindly forward all communications regarding experiments to C. A. Zavitz, O. A. College, Guelph, and return the results of the tests by Oct. 20th, 1890.

Yours sincerely, AGRICULTURAL COMMITTEE.

The Scientific Principles Underlying the Making and Feeding of Corn Ensilage.

By C. C. James, M.A., Professor of Chemistry, O. A. College.

(Conclusion of Paper read at the last Annual Meeting of the Union.)

COMPOSITION OF CORN ENSILAGE.

The most extensive tables of analyses of American fodders are those compiled by Dr. Jenkins, of Connecticut. The table below gives his average of 59 samples of ensilage and the maximum and minimum amounts of the various constituents. To his table I have added 41 analyses, gathered lately from a wide range of reliable sources, and give the average of 100 samples that I thus obtained:—

	Water.	Crude Protein.	Fat.	Soluble Carbohydrates.	Crude Fibre.	Ash.
Maximum	87.00	2.80	1.80	22.20	10.00	
Minimum	64.40	0.70	0.20	5.10	3.00	
Average, 59 samples	80.28	1.52	0.70	10.49	5.70	1.31
“ 100 “	79.83	1.59	0.73	10.62	5.94	1.29

Water.—The water varies from 64.4 to 87.0 per cent. From our investigations, it appears that the best, the sweetest, and the greatest amount of ensilage will be produced when the amount of water lies near 75 per cent., between that and 80 per cent.

Crude Protein.—In food analyses, this of course includes the less valuable amides, which are not flesh and muscle formers, but heat producers. The following table gives a few analyses separating the true protein from the amides or non-protein. I have said before that in the silo true protein will be changed to amides to a certain extent; this, in addition to the amides always existing in young growing plants, will give us a high per cent. of non-protein:

	Total crude protein.	True Protein.	Amides or Non-Protein.	Per cent. of True Protein.	Per cent. of Non-Protein.
New York, 1886	0.85	0.50	0.35	58.83	41.17
“ “	0.85	0.45	0.40	52.95	47.05
“ “	1.08	0.75	0.33	69.45	30.55
“ “	1.17	0.73	0.44	62.40	37.60
Wisconsin, 1888	1.92	0.99	0.93	51.58	48.42
Dr. Voelcker, 1884	1.12	0.68	0.44	61.10	38.90
Pennsylvania, 1889	2.15	1.43	0.72	66.52	33.48
“ “	2.35	1.75	0.60	74.47	25.53
“ “	2.43	1.68	0.45	81.48	18.52
“ “	2.34	1.60	0.74	68.42	31.58
Michigan, 11 analyses, 1889	1.32	0.82	0.50	62.12	37.88
Average				63.36 p.c	36.64 p.c

German investigators have found non-protein in considerable quantities in roots, potatoes, malt sprouts, and fodder plants of all kinds, the average in the last case being about 30 per cent. In four analyses of malt sprouts Kellner found an average of 27.40 per cent. (Armsby). The average so far found in corn ensilage is in excess of that usually found in the freshly gathered plants and this large quantity of non-protein, to a certain extent, takes from the value of the ensilage and demands a liberal addition of nitrogenous foods to it to make complete rations.

Fat.—There is little or no true fat in corn ensilage, unless it be made from corn well matured. The fat represented in our tables is ether-extract more properly and consists largely of chlorophyll, waxy matters, and acids. The amount of fat, therefore, may be considered as of little or no value.

DIGESTIBILITY OF ENSILAGE.

Much difficulty meets us here; there are few determinations with wide differences. I give the digestion co-efficients available:

	MOSEK. (Germany.)	ARMSBY. (Pennsylv'a.)	WOLL. (Wisconsin.)	STURTEVANT. (New York.)
Protein	73	41	78	49
Fat	75	86	53	90
Carbohydrates	67	66	56	67
Fibre	72	60	74	69

Reference to the reports of work done at some U. S. Stations, especially at Wisconsin and Pennsylvania during the past two years, clearly shews that there is good work to be done in determining the exact feeding value of corn ensilage in comparison with corn fodder. Some contend that ensiling lowers the digestibility of some portions of the food, fibre for instance. The variability of results arising from variety of methods adopted to determine this leaves the question as yet to be settled.

ENSILAGE AND NATURE'S FOODS.

	Water.	Protein.	Fat.	Soluble Carbohydrates.	Fibre.	Ash.	Nutritive Ratio
Colostrum	71.7	20.7	3.4	2.5		1.8	1:0.5
Whole milk	87.0	4.0	3.7	4.6		0.7	1:3.3
Grass	75.0	3.0	0.8	13.1	6.0	2.1	1:7.0
Corn Ensilage	79.8	1.6	0.7	10.6	6.0	1.3	1:11.0

Nature's feeding is from colostrum to whole milk to green grass. By consulting our table we see that corn ensilage is alone not sufficient to take the place of either whole milk or good pasture grass, that the great lack is in nitrogenous constituents, flesh and muscle formers, and that the use of ensilage in a ration demands the addition of foods containing protein and fat, such as good hay, grains, bran, cake, in such proportions as must be regulated by the circumstances of the feeder and market prices. Let us now contrast the ensilage with the German feeding standard for milk production, which is the best established of the standards. Though

these standards cannot be closely followed in this country, they will serve to shew the great lack in the ensilage for milk production which must be supplied as above stated. I take the highest digestible co-efficients (Moser's).

	Organic Substance.	DIGESTIBLE SUBSTANCES.				Nutritive Ratio
		Protein.	Carbohydrates.	Fat.	Total.	
German Standard for milk.	24.0	2.5	12.5	0.4	15.4	1:5.4
120 lb. of Corn Ensilage...	24.2	1.4	13.7	0.5	15.6	1:10.1

Thus it would require 120 lb. of ensilage per 1,000 lb. live weight, daily, to give organic substance equal to that demanded by the German standard. The two noticeable features are, the lack of protein and the great mass of ensilage. The general conclusion of the American experiments is that in profitable feeding the daily allowance will not exceed 50 lb.

In conclusion, let me state requirements met by the ensilage:—
1st. It is succulent and palatable. 2nd. It gives bulk for ruminants. 3rd. It contains heat and force producing constituents. 4th. It may contribute somewhat towards fat production. 5th. It should, pound for pound, a little more than take the place of roots. 6th. It is regulating and tonic in its effect upon the animal system.

The Farmers Son Before and After a Two Year's Course at the O. A. C., Guelph.

By J. B. Muir, North Bruce, Ontario, Associate of 1885.

(A Paper read at the meeting of the Ont. Agr'l. and Exp'l. Union.)

MR. CHAIRMAN AND GENTLEMEN,—The title of our essay is one in which the most of us have a personal interest; as the great majority of those present are farmers' sons with or without the advantage of a two year course at the O. A. C. But that use of the term, farmer's son, is too comprehensive for our purpose, and we must limit it to the particular sons who are making agriculture their profession. If we acquaint ourselves with the early history and training of the average farmer's son of to-day, we shall generally find a moral, careful, and hard-working young man. One, who in common with his parents is striving to the best of his ability to raise remunerative crops and earn an honest living.

To do this he has for his principal guides, past experience and observation, interspersed with hints from agricultural papers and journals. These, when properly mixed with good common sense, are no mean guides, and in the past have carried many of our farmers in safety to comparative ease and plenty. But in this age of competition, exhausted soils, and uncertain seasons, the guides mentioned are often insufficient and we find many farmers, young as well as old, straying gradually and surely into bankruptcy. Sometimes this is the result of bad management; at others it is produced by unforeseen circumstances; but more frequently it is due to ignorance pure and simple, as to the nature and treatment of the soil, stock, and crops with which we have to deal.

Hence we find that the intelligent, thinking class amongst the farmers are availing themselves of every opportunity for

increasing their knowledge both theoretically and practically in agricultural lines. In like manner also, the sons of quite a number of the better class of farmers are taking the two year course at the O. A. C. to prepare themselves for meeting the difficulties incident to farm life. In all this, experience is teaching us that in order to be successful we must have more knowledge, more of other men's ideas stored up within us ready for us when required. To be an intelligent man, or a graduate of the O. A. C., does not necessarily make use successful. It is only when the knowledge we possess is rightly applied and persevered in that success will crown our efforts.

We have already stated that knowledge is not success; it is rather that by which the road to success is made easy. The farmer's son, before taking the O. A. C. course of study, finds the road uneven and hard to follow; but after taking the full course, he finds it graded and carefully marked out. He has now for his guides the experience and practice of the ablest men in his profession, while the leading truths and principles in Agricultural Science are at his disposal. He has, as it were, a part of nature's laws revealed to him; while his duty to nature has been more clearly defined. Instead of following on blindly in the practice of his ancestors, he is able to press forward intelligently into the front ranks and make agriculture a success.

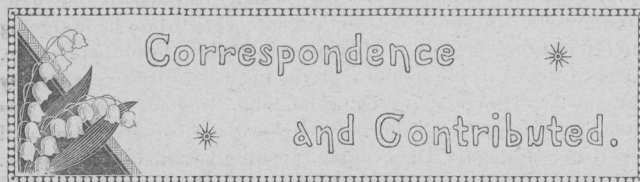
Instead of being a slave and a drudge in his profession he rises above this, and takes his chief pleasure and delight in subduing nature and her difficulties, under his control. Instead of grinding out every trace of natural fertility in the soil, his aim is to keep it constantly renewed and increasing from year to year. Instead of simply keeping and half starving the poorest class of stock he strives to keep the most and best of any in the neighborhood. Instead of sending off the best of the manure to grow seaweed in the Atlantic Ocean, it is carefully saved at home and set at growing corn and other cereals.

These are a few of the distinguishing features between the farmer's son before and after a two year course at the O. A. C. But these are not all, we find a great improvement in the social position of the farmer's son after graduating successfully. His is now a position of honor in the farmers' councils, institutes, agricultural societies and the like, and even in church and state affairs his influence is greatly advanced. His mode of farming is carefully watched and if successful copied more or less by his neighbors. His advice is also frequently asked for, and in this way we find our sphere of usefulness greatly increased.

But there is yet another aspect of this question, of even greater importance than any we have yet mentioned. The course of training prescribed and followed at the O. A. C. is one specially fitted for developing the mind. It embraces many subjects, and ranges through so many fields in nature, that an appetite for knowledge must be stimulated in the minds of the most indifferent. To satisfy this there is a great variety of choice literature over which the cultivated mind delights to roam. This desire to read and improve the mind is one of the few pleasures of which we never grow weary, and one in which the O. A. C. graduate has the advantage. The life of the average farmer's son is one of physical labor in which there is little time to cultivate a taste for reading or other intellectual improvement. His education, though it may be the best the public school can supply, is not broad enough, nor advanced enough, to stimulate a desire for knowledge; especially agricultural knowledge, of which he stands most in need.

Much of his early training is lost from not being able to connect the ideas conveyed in the lessons with future usefulness. The foundation of his early training is not broad enough to enable him to understand even the simplest works on agricultural science, which all require more or less knowledge in chemistry. This branch of science, so mysterious and yet so simple, is the key to agricultural knowledge, and the average farmer's son is almost ignorant of its existence. The science course at the O. A. C. opens up an entirely new field to the student of nature and an intelligent farmer must study her closely, both for pleasure and profit to be successful. Consequently, the O. A. C. graduates has a great advantage in this respect over those whose education is limited to a public school. But it may be maintained by some that a careful course of reading would supply all the pleasures obtainable from having an educated mind. But this is not the case, we must come in contact with well trained men that the truths read may be impressed and retained, and no amount of reading will compensate for a deficiency of practical proof and experience. Truths read and lessons taught are fully appreciated only when taught and explained by practical men.

But the question which interests us as graduates and ex-students is not, what are the advantages of the O. A. C. course of study; but are we rightly employing and improving the advantages we feel we have gained by our two years of practical study? Are we doing what we should to build up and maintain the reputation of our College, that others may be induced to go there and be benefitted? Are we, as individuals, striving to do the best for ourselves and our country according to the instructions given us? Our position is evidently in the front ranks, leading the agricultural thought and practice of our fair Province; let us, therefore, be alive to the position we hold, and show by practical proof, that we and our College are able and fitted to lead ourselves, and farmers generally, to success, in this age of agricultural depression. Much good work has been already done, but there is yet a great deal of progressive, intellectual labor required before the science of agriculture is understood by the vast majority of those who cultivate the soil. At present they are uncertain whether the training given at the O. A. C. is practical or not, let it be the aim of each one of us to show by practical proof and experiment, that it is practical, and that we are better, wiser and more successful farmers after taking the two year course of study at the O. A. C.



The Maritime Ex-Students of the O. A. C.

The second annual meeting of this society was held in Fredericton N. B., on Thursday, Jan. 30, during the convention of the Provincial Farmers' Association. The attendance, though fairly large, was not so full as was expected, the prevalent malady, La Grippe, having prevented many from coming. After the reading of the minutes and several letters of regret from members who were unavoidably absent, the President, Mr. P. C. Black, A. O. A. C., addressed the meeting. He said it gave him great pleasure to meet again his fellow students after a year's work, and to recall

those pleasant days spent at the Alma Mater, which ever remained green in one's memory. Unfortunately sickness had kept many from attending who would otherwise have attended, yet the tone of the letters of regret showed their hearts were with the meeting, although they were absent in person. An Agricultural College student in the Maritime Provinces has many difficulties to overcome in the practice of his profession that his Ontario cousins never experience. In the latter Province the students live closer together than in the East. They are in a better position to consult one with another and to receive mutual improvement from frequent intercourse. In New Brunswick and Nova Scotia it is entirely different. A graduate going into a section here, and putting into practice the experience gained either in the class-room or on the farm is the subject for the jibes and localized yarns of every know-all and oracle the place contains. He is held as a terrible example of what "book larnin'" will do, no matter whether his fields look better or neater than those of his taunting neighbors, or his cattle or sheep pay better for the extra care bestowed upon them. Many of the farmers were the victims of barbaric superstition. They acted upon ideas transmitted to them through a long line of ancestry to which they most religiously adhere. As an example of this the President pointed to the common idea that the horns of our animals were the seat of all its maladies. If the stock was wintered upon straw and water and was too weak to eat grass in the spring, a diagnosis usually gave the animal the "horn ail," or still more technically "horn-di-temper," and the district torturer would bore holes in the horns and pour in something supposed to have a bearing on the case. This something may be mud, coal oil, salt or tar, or perhaps nothing is put in. It is optional. Mr. Black closed his address by referring to the rapid strides the Eastern Provinces were taking in horse raising, dairying, fruit growing and grain culture, and predicted a glowing future if more enlightened and advanced agriculture was followed.

The President was followed by a short speech from the Secretary, B. Eaton Paterson, B. S. A. of '88, who remarked upon the interest taken by the students of the O. A. C., who were then in the Maritime Province. He felt that papers of a more scientific nature than those usually upon Institute or Grange programmes would not only prove directly instructive but would also help keep up the study of those sciences which found their practical application upon the farm. The ordinary course at the O. A. C. would not admit of the student going into the minutest details of the various subjects touched upon, and it was expected that after leaving the College the study would be kept up. The annual gathering exerted a benefit by increasing the interest in the sciences and by the natural exchange of thought and experience much profit would be secured. He hoped that next year those who were prevented by sickness would attend. A holiday, though directly a loss, yet, indirectly, was spent profitably by giving the body a needed rest and the mind vacation.

Mr. P. C. Powys, A. O. A. C., was glad the students were taking an interest in the society's work, and hoped that the future meetings would be still better attended. Several who had not yet fallen into line, he advised to join at once and help along the work of the society. As an active farmer he realized truly the force of the statements made by the President in reference to the criticisms to which the graduates were submitted.

Mr. A. B. Wilmot, A. O. A. C. '88, spoke of the immense practical benefit to be derived from a course at Guelph. The

society was to be congratulated upon its present healthy and satisfactory state, and hoped the members would meet annually and strengthen the bonds of union between them and their Alma Mater. He was pleased to see that the various farmers' societies endeavored to get as many papers as possible from the ex-students; this fact points to the good work that is done at Guelph.

Mr. W. W. Hubbard dwelt upon the importance of extending the operations of the society and promoting in the members a taste for agricultural science. We were too apt after leaving College to neglect the instructive subjects appertaining to the scientific part of the profession. While the theory may not produce any direct financial return, yet the thorough knowledge of it places its possessor above the plane of the ordinary plodder.

Speeches were made upon interesting topics by others present and the election of officers proceed with. President Black was unanimously re-elected. The election of Secretary was by ballot, and B. Eaton Paterson was re-elected by a large majority. At the conclusion of the meeting a supper was held in the Queen's Hotel.

FARMERS' INSTITUTES OF THE EASTERN CENTRAL DIVISION

Comprising the Counties of Ontario, Victoria, Peterborough, Northumberland and Durham.

To the Editor of the O. A. C. Review:

Our deputation consisting of Jno. I. Hobson, of Mosboro'; Jno. Croil, of Aultsville, and the writer met at Uxbridge where we held our first meeting on Jan. 3rd. Uxbridge is a small town, well built and situated just north of what is known as the sand ridges, which are covered for the most part with scrubby pine. Just now Uxbridge is not in a very prosperous condition; due largely to agricultural depression.

The Institute meeting was fairly well attended, and Mr. Gould, M.P.P., took a very active part in the discussions. The deputation, however, furnished the programme. Next day we took the train for Brechin, some 50 or 60 miles north of Uxbridge, and situated about a mile from the north-east part of Lake Simcoe. The railroad is laid out through almost one continuous tamarack swamp for about 40 miles of the way. Emerging from it, near Lake Simcoe, we saw some farming land unexcelled in the Province. We had a rousing meeting at Brechin; Mr. Gould, M.P.P., and Mr. Madill, M.P., helping to make it a great success. Among other things chess and wild oats were discussed. We learned that some farmers here were ridding themselves of the latter pest by leaving their meadow lands seeded for four or five years. Great complaint was made against the millers taking so much toll—as high as $\frac{1}{8}$ and 1-5 in some instances.

The evening meeting was crowded with ladies and gentlemen, and Mr. Croil and the writer were left to entertain them. A good programme of music was interspered, and the farmers seemed to be favorably impressed as some 20 or 25 members were added to the Institute.

Being invited to spend Sunday by a sturdy Scotchman we accepted his kindness, preferring his hospitality to the hotel, and we were treated most royally. Through a pelting rain, over a rough road in a lumber wagon, and in a hurry to catch the train, we left our hospitable friend, and I am thankful to say we got there in time. A few hours ride brought us to Lindsay, a thriving town

of some six or seven thousand inhabitants. Here we spent election day quietly, and the following day, being rejoined by Mr. Hobson, we opened fire at the Lindsay Institute. There was a large attendance of the leading farmers from the vicinity, and among them we saw our friend Tinny, looking hale and hearty. Mr. Hopkins made a live President and aided much in making this one of the most successful of our meetings. To give you some idea of his tact, in calling upon Dr. Herrimer (for there were present doctor farmers, lawyer farmers and editor farmers) to read his paper on swine industry, he remarked, "You know, doctor, you are sometimes pretty long winded—just make it as short as possible." Didn't the doctor wade in though! His paper suggested some valuable hints, such as feeding swine on clover and using the Yorkshire breed to improve our common herds, in order to get the stamp of animal required for the present market, Mr. Matthews, a large pork dealer, stated that the best weights were from 180 to 200 lbs., and having as much lean on the back as on the belly parts. Several other interesting papers were read and discussed.

Next day we had the long drive of 22 miles to Bobcaygeon. We had not gone very far when our driver ran into a vehicle ahead of us, overturning it and emptying its occupants, a young man and his sister, out on the frozen ground. The "big man," Mr. Hobson; the "old man," Mr. Croil, and the "young fellow," all vied with one another to get there first. After extricating the unfortunates and setting them right again we resumed our journey and the "big man," being in extra spirits, made the rough way "sweet and delectable." All the while he was revolving in his mind how he might make use of that incident to ridicule me at some meeting. The opportunity soon afforded itself. Our route lay through a more or less rolling country and very picturesque. Here and there beautiful fresh water lakes came on our view, and gave the country a very romantic aspect, which seemed to culminate in Bobcaygeon itself. On the way we noticed some 50 acre barn-yards, and on the whole it didn't strike me as being a very attractive place for agricultural pursuits, although there are sections of good land in the vicinity. We noticed the farms of Mr. Fairburn, the Leicester sheep breeder, and Mr. Boyd, a lumber king and breeder of Aberdeen Angus Polls. He is going out of the latter and is now devoting more attention to the breeding of Clydesdale horses. On entering Bobcaygeon, a town of 1200 inhabitants, and a considerable summer resort, we saw massive lumber piles and plenty of bare rock, which furnished the "big man" and myself with some jokes on the gardener as to how he was going to interest these people. He smiled, for he had been there before. The weather turning quite rough the institute wasn't very largely attended. However, we had some interesting addresses, papers and discussions. Mr. Nailor, of Fenelon Falls, was greatly pleased with his ensilage. The evening meeting passed off pleasantly. The "big man" prefaced his address by submitting to the audience what a ladies' man the writer was, backing his statement by a reference to the recent incident where he claimed that he and the "old man" had to lift the heavy carriage while I paid every attention to the young lady. The writer, in defending himself, had the sympathy of the meeting in doing what he did, and in addition revealed something left out by the former speaker. The monotony of the second day was relieved by a practical joke now and then. A Welshman, addressing the meeting on sheep husbandry, dwelt at great length on his personal qualities, etc., and was describing how he selected his first sheep in Wales, when the "old man" whispers to the "big man," "he hasn't caught that

sheep yet." To the utter disgust of the "old man," Mr. H. interrupted the speaker by saying, "Mr. Croil thinks you are a long time catching that sheep."

Our ride of 26 miles to Peterboro' the next day was quite eventful too. During the night considerable snow had fallen and there was good sleighing in Bobcaygeon. Our driver, misled by this, hitched to a pleasure sleigh to carry five of us to P. We hadn't gone far when the "big man" proved to much for the frail sleigh and bad roads. It gave way and we were elected for a walk of some 3 or 4 miles until a farmers' carriage could be obtained, after which, but for the chilly easterly winds which we had to face across two floating bridges, each a mile in length, we might have ridden to P. quite comfortably. It is better to read about than experience. However, some music (vocal) from our large friend relieved the monotony. At Peterboro' a flourishing town large enough to be incorporated into a city, we had a very small attendance at the Institute meeting. Of course la grippe was very much blamed. Mr. McIntosh gave some pointers on amateur butter making. He claims that the butter ought to come with 15' churning, by keeping the cream sweet until the churning is ready, when all should be soured together beside a stove for a day and one-half. Salt should be mixed with the butter on a cloth by working the corners of this cloth. That butter packed away under brine will keep a long time and may be shipped long distances without injury.

T. RAYNOR, B.S.A.



T. Raynor, B. S. A., was lately elected President of the Farmers' Institute in his Riding. We have no doubt but that he will make the Institute a success.

J. A. Douglas Scott and R. S. C. Harrison of '88 class are farming at Beautiful Plains, Man. F. N. Donaldson, A. O. A. C. of '87, is farming in the same locality.

P. S. McLaren, A. O. A. C. of '98, of McGarry, Ont., is one of the leading agriculturalists of Lanark County, and is counted one of the best judges of live stock in the district.

J. W. Robson, of '88, who was unable to complete his course on account of ill health, writes us from Portage la Prairie, expressing his intention of returning and completing his second year.

J. J. Sinclair, A. O. A. C. of '88, is farming at Ridgetown, Ont. J. J. is an enthusiastic horticulturalist and horse breeder. He is also a regular attendant at our Experimental-Union, and is ever ready to enliven the discussions.

Mr. A. B. Wilmot, '88, farms at Belmont, N. B., with Short-horns as a specialty. He recently lost a fine young bull which he imported from Ontario some time ago. Although professedly a farmer, yet he is still an authority on the Bacon-Shakespeare question.

H. B. Hall, of '84 is farming at Gagetown, N. B. He is an authority on the silo, being the first to introduce the system in his locality. He is still in a state of celibacy, but Dame Rumor says he is shortly to make a Hall out of the abundance of provincial fair ones.

Mr. P. C. Black, '84, is one of Nova Scotia's most enterprising farmers. His farm at Falmouth is one of the best in that section, and he takes great pride in its management. He has been secretary to the N. S. Dairymen's Association for some years, and was sent as a delegate to the convention at Ottawa. He rejoices in being part of the ancestry of a small little girl.

B. Eaton Patterson, B. S. A, '88, has sold his interest in the *Maritime Agriculturalist* of Sackville, N. B., and is filling the editor's chair on the *Chignecto Post* in that town. "Pat" still has a warm spot in his heart for the O. A. C., and wishes to be remembered to all the students. He sympathises with the ex-students who joined the benedicts in the recent matrimonial epidemic. Perhaps "Pat" thinks he'll require like sympathy 'ere long.

The following is from the *Almonte Gazette*:—Farmers in this community are taking more interest in their profession of late years. Some time ago silos were not heard of; but now we have three or four in this district. Your correspondent had the pleasure of an interview with Mr. W. E. Serson respecting his silo. Mr. Serson informs us that his ensilage is in first-class condition. From the appearance of his stock we are inclined to believe they are fed on something more than ordinary farmer's cattle. Mr. Serson is an Associate of the Ontario Agricultural College, and a farmer in the true sense of the word.



IN deference to the advice of the authorities at Toronto the *Conversazione* will not be held this term. The dance was distinctly forbidden.

BUSINESS Managers wish to acknowledge subscriptions from the following:—W. W. Hubbard, H. B. Jeffs, P. C. Powys, J. W. Robson, Jas. A. D. Scott, Miss Maggie E. Hudson.

OLD DOCTOR still lives: yet it is a marvel, for among other casualties he got a tumble off the bridge into the barn last week, rolling down the bank and taking the cart and cutting-box with him.

WE had a nice cold snap the beginning of March. Of course just at that time something must go wrong with the boiler, so that we had the pleasure of being without hot water for 2 days. This is hard on young and old shavers.

MR. LINFIELD has recovered from his injuries caused by a nasty fall on to the wagon while teaming ice. Before the mattress was put under the bar Mr. Carlyle got a bad shaking from a tumble, but soon was all right again.

THOSE who keep a sharp look out on the "Dailies" will have seen that this Institution occupied the attention of the Provincial Parliament the other day. One hon. member was much annoyed at seeing that a porcupine was among the recent additions to the live stock here. The Minister of Agriculture endeavored to pacify the gentleman, and according to the *Mail* explained that it was a "reprint for pitchfork"—(*sic*).

OBSERVE the utility of the REVIEW. We noticed the 2nd. year boys tramping into the lecture-room the other day each armed with a copy. Boys, subscribe for it; it must be worth reading if a Professor uses it as the basis of his remarks.

SHEEP-SHEARING started on Feb. 27th. We noticed our experienced shepherd, W. B. Holliday, flitting lightly about the wool room and sheep pens armed with a pair of formidable shears. The Dorsets are coming well to the front as regards number and strength of lambs.

WE are being treated to fish for dinner, and eggs for tea on Fridays. One would think, the other night, that all the roosters in Guelph were in the dining hall. Two hens at our table kept up a continuous cackle, but the English table caused the most laughter by a concerted "Cock-a-doodle-doo."

THE horizontal bar once more is erected and affords ample opportunity for the "Model Ducks" to exercise themselves upon. It is greatly patronized, and passing through the locker room it is a common thing to see a pair of yellow (stocking) webbed feet gripping the bar while body and wings sway gracefully below. Oh, for a gymnasium proper!

THE first missionary meeting in connection with the Y. M. C. A. was held on the 27th, ult. Mr. Whitley led, reading extracts from letters of men hard at work on the mighty Congo, thus giving a good insight into the manners and customs of our African brothers, and some idea of the encouragements and difficulties of missionaries on that field.

AN oft-quoted line from a song in the entertainment noticed in our last issue runs, "They say Mr. Storey is going to be wed,—later on." We have been thinking that in this case the adage "there is many a true word spoken in jest" might be fulfilled, for our worthy farm foreman has been away such a time buying a team of horses, and then he came back without them looking particularly radiant, while he skilfully parried all quizzing allusions to the wife.

WE trust that students' wages will improve shortly. With all due respect to the teaching of Political Economy we contend that boys deserve fair wages for a fair morning's work on cattle. It is undoubtedly paltry to hustle a boy out of his nice warm bed at 5.40 to clean out cow stables and then pay him 7 cents for an hour and-a-quarter's work. Boys who work honestly all afternoon packing ice, threshing, or picking over rotten roots are worth more than 7 cents, and why do they not get it?

AT the Literary Society's meeting on Feb. 21st., the programme opened with a song from Mr. Whitley. Mr. Wood followed with a maiden speech, taking for the subject of his remarks "Cornwall." Mr. J. H. Cowan then spoke on "Shorthorns," giving a pretty minute account of the early history of the breed. Mr. G. A. Brodie then opened the evening's discussion, urging that heavy horses are more suitable for the ordinary farmer's use than light ones. Mr. R. E. Cowan opposed him making out a very good case. The subject was then handled in a lively fashion by several members, and proved to be one of the most interesting discussions we have had for a long while. Mr. Carlyle continued in the same strain for his five minutes speech, and Mr. H. C. Thomson put us all in good humor to go visiting by a comic reading.

ON the 24th. Feb. we had the pleasure of a visit from Capt. W. D. Andrews, R.H.S. He related in a very modest way the his-

tory of the many medals that adorn his breast, causing us to reflect as he did so that the age of heroes has by no means passed. The valiant Captain, a member of the Toronto Harbor Life-saving crew, has rescued no fewer than 69 people from drowning, in many cases at most imminent peril of his own life. We all most heartily cheered the brave fellow as he stood before us, and greatly sympathized with him at the loss of his eye-sight, which has been caused by exposure to weather and water while a member of different life-saving services. The Captain gave us several recitations of his own composition in a stirring manner, and as he departed cheered us by saying he hoped to pay us another visit "later on."

FIRE drill has now been instituted. Professor Angell has delivered lectures on the science and instructed us in the practical handling of hose and wrenches. We trust it will be long before a fire visits any of the buildings, but if one should come, no matter in what obscurity its origin may be involved, we fully believe, other things being equal, that the O. A. C. Fire Brigade will be able to successfully cope with it. The first practise was great fun. It had been arranged that a trial of speed should take place at 4 p.m., but according to authentic records the alarm was given at 3.30. (Ex-students will doubtless remember the old trick of ringing the bell from the smoking room.) Out rushed the boys from study and in a very few seconds were sending a fine stream of water over the laboratory. One boy, a little late, yet anxious to do his level best at rescuing imaginary persons from the roof, could hardly descend the ladder against the strong volume of water. Woe to all unlucky passers by! The pressure was strong, and many an unwary traveller got a good sousing. Much to the annoyance of the Commander-in-chief the new hose was used and naturally got delightfully muddy; however, it soon dries in the live stock class room.

THE meeting of the Literary Society on the 14th. was of a purely agricultural nature. Owing to some misunderstanding the arranged programme fell through, and within 10 minutes the whole of the items, including the debate, were arranged for. The proceedings opened by Mr. Whitley singing "The Bugler." Mr. A. Thompson followed with one of his comical and always welcome recitations, the only possible objection that could be raised to it is that it was too short. Messrs. Buchanan and Morgan then gave a duet for violin and organ, which was enthusiastically enjoyed. The impromptu debate was the next item, the resolution being "That Side Shows be abolished at Agricultural Fairs." Messrs. Whitley and McCallum upheld the motion, while Messrs. Hadwen and Monteith spoke against it. Several arguments were brought forward, and a good discussion followed; the affirmative side won, gaining the favor of both the committee and the house. Mr. Zavity, B. S. A., next recited in capital style, "Gone with a Handsomer Man." Mr. White followed in an extempore speech, continuing the subject of debate. As the critic was speaking Mr. J. C. Harris took his place for the evening and gave many useful pointers to those taking part. The Society was favored then with a short but pithy address from the Honorary-President, Professor Panton. Some hints were given on speaking, and the great advantages to be obtained by attending the meetings; a few earnest and well chosen words followed on the building of character. The Professor's idea was that the building of one's character should be enclosed by the four walls, Sobriety, Honesty, Industry, and Purity, the whole to be roofed in with Religion.

WE have a large supply of ice on hand now. The two regular houses are filled and the old horse stable at the south barn has its quota.

WE regret to report sickness in the College. Six boys are down at present with measles, and are having rather a dull time of it. One more has had them and gone home.

FIRE escapes have been erected at the N. and E. ends of the building. We welcome them, and shall retire to our downy couches with a greater sense of security, feeling that locked doors do not now entrap us in case of fire.

THE students have all been presented with a copy of the *Farmers' Advocate* for March, which contains a good photo. of Professor Robertson, and a short sketch of his life. Unknown friend, accept our thanks.

TWO or three of our practical student carpenters were needed lately in the granary. Owing to a defect in the construction the front of the bins burst out, and three or four hundred bushels of grain quietly commingled and spread over the floor.

LISTEN with all your ears! Miss not this paragraph whatever you do! Summon your friends and neighbors, gather them round in an expectant circle, screw up their curiosity to the highest pitch, and relate in awe-struck tones that new tea-pots have been purchased for use in the dining hall!

WE boys are getting full information from Prof. Shaw as to the feeding experiments with the steers and pigs. We ail know how important it is to keep stock clean, so we were hardly surprised, but decidedly amused the other day while strolling round the buildings, at seeing a great long fellow in the piggery tenderly grooming the sweet little porkers.

THE Creamery is being utilized this winter, as under Mr. Harcourt's careful supervision the cows over in the new stables are doing well, churning being effected by means of a "Daisy," and delicious butter marketed at Toronto. Experiments are being conducted as to the respective values of silage and dry corn stalks for feeding; we hope to publish results as soon as they are known.

PROF. HUNT is giving a series of talks on elocution to the 1st. year. The instruction is very welcome to all, and we live in hopes that this subject will be thoroughly taught here as part of the curriculum ere long. "Meanwhile the tramp, tramp, tramp sounds on" as the future elocutionists and orators of our fair Dominion hurry to their exercises on breathing and explosive vowels.

MR. RENNIE led the Y. M. C. A. meeting on the 20th. Feb., Mr. Zavitz on March 6th., and Mr. Hutt on the 13th. The Sunday afternoon Bible Class has undergone a little change lately. The President, thinking it would be well to let boys gain experience here in conducting a class, put Mr. Dean in charge on the 2nd. inst., and Mr. Zavitz and Mr. Whitley on the two succeeding Sundays.

ANYONE paying a visit to the tower would hardly need to be told that the 2nd. year are studying Entomology. Pupæ of various insects, as well as eggs, are to be seen tastefully decorating one room in particular. The Deacon will wake up one of these fine mornings to catch a *Chrysobothrias femorata* trying experiments on his clubs, or gracefully skip out of bed onto the larvæ of some *Doryphora decem-lineatus*. We wish him joy when the "little kind of louse-like arrangements" get exploring his bureau and closet.

WE have had a delightful series of musical meals lately. Sweet strains have issued from small instruments brought in by boys with large developments of time, tune and mischief. Such melodious sounds are greatly conducive to an enjoyable meal and complete digestion, and as the Professor on duty one day expressed himself as so delighted with the harmony, it may be, that if the Government is petitioned, instead of a diminutive musical box, we shall in the glorious future have a complete string band in the musician's gallery.

LAST Saturday some experiments were carried on with a new principle rope drive. The engine was set away up at the carpenter's shop and a single thin rope running over a carrier transmitted the power to this new jack at the barn door, whence the belt ran in to the separator. It worked splendidly and the gentleman from Bell's factory, who has so neatly and efficiently carried out the design, was highly pleased with it. It is so constructed that the engine can be set at any angle with the barn thus entirely obviating any danger from sparks.

MOST of the boys were out on the 13th. owing to the strong attractions down town. The Knox Church Young People gave a first-rate Literary Evening, at which Professor Hunt took part in a debate, as well as one or two of the 3rd. year; there was also a Coffee Social at Norfolk St. But the chief attraction was a concert at the City Hall in aid of St. Andrew's. Many of the dear creatures to whom the O. A. C. boys have long ago lost their hearts were there, while an excellent programme, in which some special favorites took part, was presented.

MR. A. LEHMANN, Graduate of Class '89, is now back again working as assistant chemist. There is a nice savoury analysis being made now of waste fish from the canning factories of British Columbia. The object is to see if it will be profitable to extract the oil from the refuse, if so, for what it is best adapted; and further the value of the residue as a fertilizer. We trust Mr. Lehmann enjoys the delicious perfume as much as the lady students do, who so coyly seek refuge in the evaporating room when "those dreadful boys" of the 1st. and 2nd. years are passing in and out.

IT is rumoured that a question on the 1st. year arithmetic examination paper will be to calculate the amount of mud saved from being brought into the College by the laying of a few planks round the buildings. Extended into the book-keeping department we might credit Field No. 7 and debit Real Estate, or try it with Household Expense and Store Steers. In all seriousness, though, surely round an Institution of this nature, a Model Farm, a few dollars might be spent on a sidewalk, and thus save the fearful floundering through the deep mud that we have lately experienced.

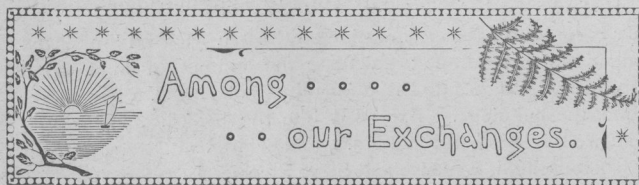
THE Literary Society's programme on Feb. 28th. opened with a violin and organ duet by Messrs. Buchanan and Morgan, which was well received and deservedly encored. Mr. Field read a very interesting account of a trip from Toronto to Winnipeg, shewing us that he possesses a great faculty of observation and good descriptive talent. The debate was "Soiling v. Pasturing" discussed in a thoughtful and amusing manner by Messrs. J. Harcourt and Gibson against Messrs. Watson and Haight. Mr. McCallum gave an extempore speech on "Pigs," and Mr. Wells concluded with a comic reading.

AN exciting pillow fight occurred on "Upper Hunt St." the other night. A party from the lower flat went up with pillows

and bolsters and commenced belaboring the occupants of the rooms, who after recovering from their surprise fought well and gradually drove back their opponents. A gallant stand was made though at the head of the stairs; the fight was waxing hot and furious when up marched Professor Hunt causing a speedy dispersion of the armed warriors. One youth was caught by the President brandishing his trusty blade on the staircase, reminding one of Umslopogaas' exploits as related in "Allan Quartermain."

At a recent meeting of the Literary Society it was resolved to give a prize of \$10 for the best essay on, "The Ontario Agricultural College as a Link in our Educational System." The length of the essay must not exceed 1500 words, and is to be sent to the Secretary, Mr. Hutt, not later than May 15th. All students and ex-students will be allowed to compete, and we hope that a number of our best men will write, that an excellent essay may be forthcoming. The object of having this essay written is, that it may be published in the REVIEW and in all the local, agricultural, and leading daily papers of the Province, so that the farmers may know what kind of work is being done at the Ontario Agricultural College, and thus induce a larger number of students to attend and thereby benefit both the agricultural interests and those of the College.

At the meeting of the Literary Society on March 7th, the programme opened with an interesting speech by Mr. Harris on the work of the ancient Druids. Mr. Hewgill's reading entitled "My Lost Youth," was nicely rendered and evidently appreciated. The subject of the debate was "That it would be better for the Advancement of Agriculture if the Graduates returned to the Farm." We had good, practical, and clever men to open this most important subject, as Mr. G. Harcourt, B. S. A., spoke on the affirmative side, and Mr. C. Zavitz, B. S. A., followed on the negative. Their colleagues were Messrs Conn and Moody, both freshmen. The debate was well sustained, and the discussion following animated; both house and committee decided in favor of the affirmative. Mr. A. Thompson, the College wit, recited in his amusing style "Uncle Ned's Defence."



We welcome to our table this month a copy of the *Young Friends' Review*. The *Review*, although of no direct interest as a college paper, contains many articles that are worthy of careful perusal.

The faculty of Wooster University, O., recently issued an edict against dancing, whereupon a "stag" dance was organized by the students to which the faculty were formally invited. A most enjoyable evening was spent, but the number of professors who attended is not reported.

The Owl has at last come to occupy the place intended for it on our exchange table. After having read many favourable comments regarding it, we of course looked forward to its arrival with doubled interest, we were not disappointed, but on the contrary, our expectations were fully realised. The present number has an article on "The Transition Period in English Literature,"

in which the writer seems up in a few columns the course literature took during this period. Many of the writers endeavoured to fill their compositions with obscene allusions, merely to keep pace with the stunts, which had become such that it has seldom been equalled and never surpassed in any age. It goes on to say that whilst the leading poets could scarcely earn their bread, the poorest play-wright could grow wealthy. From these and several other reasons the writings of this age were unfit to be handed down to posterity. Another article entitled "In the Land of the Aztecs," gives us some idea of the advantages of living in such a country.

Among the new visitors to our table this month is the *Advance* from the Wesleyan University, Kansas. The *Advance* has now taken the place of the two papers, *Lance* and *Advocate*, previously issued by the students of this College. Judging from the initial number the editors will have no trouble in producing a paper capable of replacing the *Lance* and *Advocate*. The article on "College Journalism" sets forth in a few well chosen words the threefold object of a college paper, viz., "It gives to the world the real standing of the institution which it represents, and the kind of work that is being done. It provides for the students a medium through which they may express their sentiments, and hereby profit by each others opinions on the current topics of the day." The literary columns of the *Advance*, containing such articles as "The Puritan and the Cavalier in our National Life," and "Shakespeare's King Richard III.," are especially attractive.

We are indebted to the *Maritime Agriculturist* for the following account of the life and untimely death of the late W. J. Gilbert, an Associate of '87:—

"Yet once more, O ye laurels, and once more,
Ye myrtles brown, with ivy never-sere,
I come to pluck your berries harsh and crude
And with forced fingers rude
Shatter your leaves before the mellowing year."

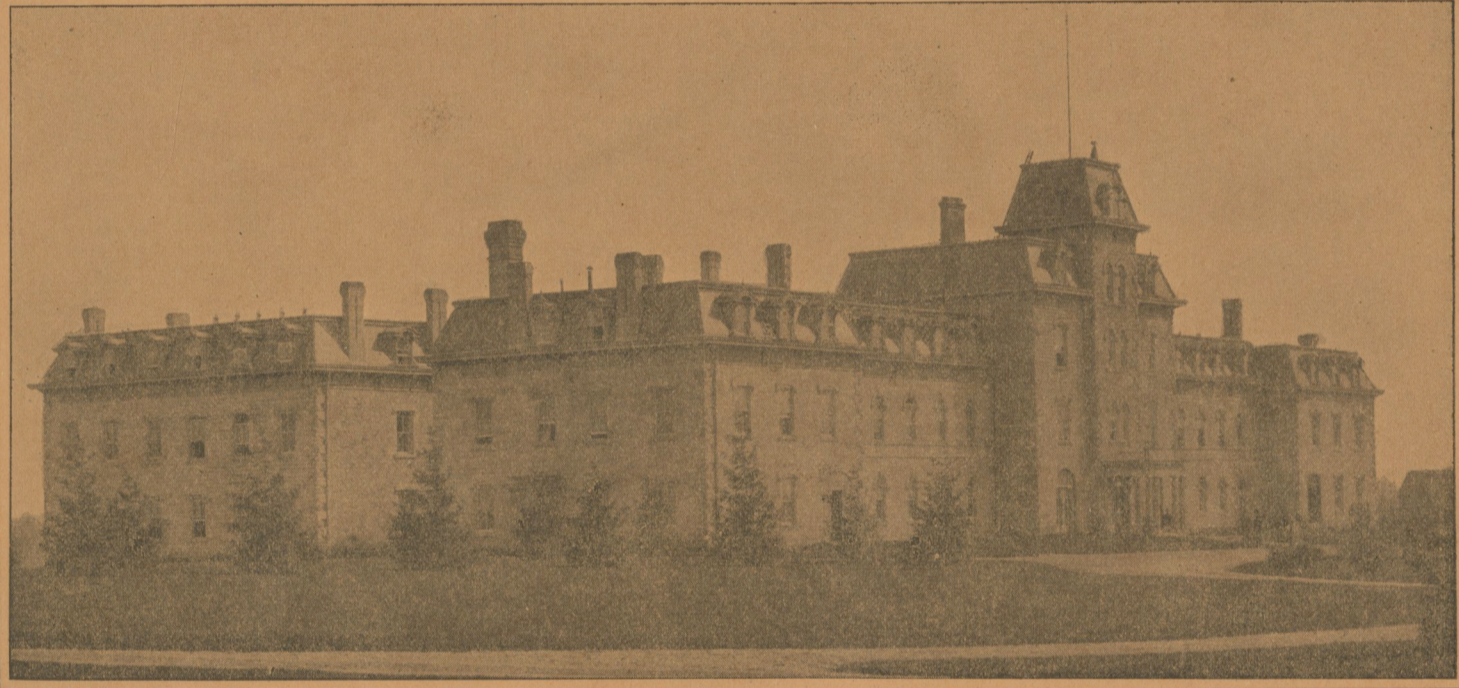
—Milton.

"It is with deepest regret that we have to announce to our readers the death of the editor of this journal. On the 7th inst., the late W. J. Gilbert bought out Mr. B. Eaton Paterson's interest in the *Agriculturist* and assumed his duties as editor, entering into partnership at the same time with his brother, the present manager and proprietor. The new firm was to have done business under the name of "Gilbert Bros.," but before the change could be made known to the public, Mr. Gilbert was stricken down with congestion of the lungs, at his residence, Willow Farm, Dorchester, N. B., and died in a few days. He was a young man of very superior education, having attended the Collegiate School, Windsor, N. S.; Trinity College School, Port Hope, Ont., and the Ontario Agricultural College, at Guelph. The last mentioned Institution he graduated from with high honors, and was a class mate of Mr. Paterson. He has farmed successfully at Dorchester for the last three years, and by his death this journal has lost the assistance of a scientific, practical and enthusiastic farmer. Our former editor, Mr. Paterson, will attend to the editorial work of the *Agriculturist* until definite arrangements can be made. All letters and manuscript intended for publication will be addressed to the "editor," and business communications will be directed to Robert Jarvis Gilbert, manager and proprietor."



THE

O. A. C. REVIEW.



Published in the Interests of the Literary Society of the O. A. C.
..... GUELPH.



APRIL, 1890.

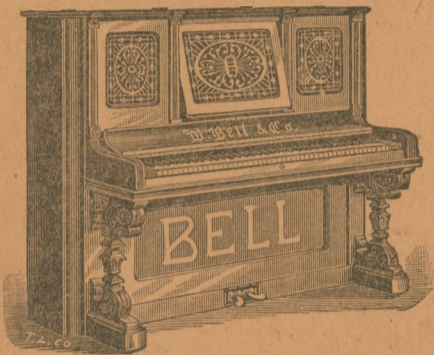


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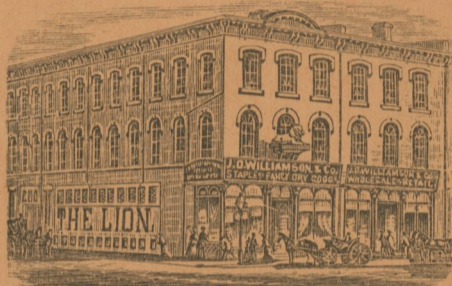
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THE O. A. C. REVIEW.

The Dignity of a Calling is its Utility.

VOL. I.

GUELPH, ONT., APRIL, 1890.

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SUBSCRIPTION RATES.

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THE O. A. C. REVIEW will spare no endeavor to furnish reliable news and information to those interested in farming operations.

Ex-students will confer a great favor on the Editors of this Journal by sending news, particularly experiences of practical value.



Our readers will notice a change in the staff of the REVIEW this month. The Exchange Editor having resigned on account of leaving the College, a new one has been appointed in the person of Mr. McCallum, who no doubt will put that energy into his new work which is characteristic of him. We can assure our readers that the Exchange Department will be conducted with as much zeal as formerly, and although we are sorry to lose so energetic and genial a gentleman from our staff as Mr. Gelling, yet in our present editor, doubtless, the readers of the REVIEW will find a worthy successor.

* * *

STRANGER—Can you tell me where the green-house is?

STUDENT—I shall be very glad to take you to it.

STRANGER—Is this old low building the green-house at the Ontario Agricultural College?

STUDENT—It is; but we are hoping to get a better one before very long.

STRANGER—What is that dirty-looking mark about three feet high all around the base of the house?

STUDENT—O, that is where they pile manure around it to keep out the frost.

STRANGER—That certainly is not a very good example to set before students, and gives strangers rather a poor opinion of the management of the horticultural department. But what is all that smoke I see issuing from under the building; and, yes, it is even in the house?

STUDENT—That smoke comes from the furnaces which heat the houses. They are not much good and are supposed to be of same pattern as those used by Noah. We students cut most of the wood for these old furnaces, and it requires a large amount to keep them going. They will burn as much wood in one day as the "Colonel" and three or four students used to cut in three afternoons. This is the room where the coal, flower pots, lawn mowers, baskets, sand for propagating, etc., are kept, and the general store room for all the garden implements and other requisites for gardening—be careful there, or you may tumble through that trap door into the lower regions. Will you step into the propagating house?

STRANGER—I guess it will be necessary to remove my hat before going in or it will get knocked off in that low house. The young plants seem to look well considering that they are in such a poor place.

STUDENT—Yes, the gardener is very attentive and understands his business, but as you can see he has not a fair chance in such a building. The next apartment is where the plants are kept for a while after being placed in pots.

STRANGER—How do the ladies get along this very narrow passage without soiling their clothes? They must often be debarred from the pleasure of inspecting this house for fear of tarnishing a portion of their clothing.

STUDENT—That is quite true, and a great many ladies, especially those inclined to grow tall sideways, do not venture in here at all; if they did they would be compelled to stay here or back out, there not being room to turn around.

STRANGER—What are those students doing there?

STUDENT—They are washing flower pots. You see, they get a large tub nearly filled with warm water, and when the horticultural foreman has nothing else for students to do he sets them washing pots.

STRANGER—It looks rather strange to see men washing dishes, and reminds me of when I was a boy and used to wash dishes for my mother. You see my sisters were not grown up and so I had to be dish washer and do the girls work, but now—

STUDENT—Yes, I've heard that story before, but,

"We think our fathers fools so wise we grow,
Our wiser sons no doubt will think us so."

In this room, also, the students are taught how to graft on limbs, which are brought in for the purpose; but the appliances are very crude. Here, too, the art of potting plants is explained and prac-

tised, but the room is so small that it is very crowded for more than two or three to work at once.

STRANGER—What is that small room for in the corner?

STUDENT—That is the foreman's office and there is just room for him and the cat. In fact we expect that some day the partitions will have to be torn down to extricate him from his small box. He is perfectly safe in there from any attack, as when he gets in there is not room for anyone else. This other house is for the flowering and large plants.

STRANGER—How nicely they look and how tastefully arranged! You seem to have some large plants which have scarcely room in height.

STUDENT—Yes. Unless a change is made before another year the greater part of these large plants will have to be thrown out or given away. There is not room for them to grow more than another year, and after that something must be done. These are mostly rare plants such as the Australian cypress and gum tree; also palm trees and some very large Agaves, all of which have taken a great deal of time and trouble to bring them to their present state.

STRANGER—It is a great pity that such fine plants should be compelled to seek a home elsewhere or be put out to the mercy of the frosts of winter for the want of a suitable place to keep them, and I hope that it may not be so. Does it not require much time, and is not considerable expense to keep these old glass roofs in repair?

STUDENT—Yes, it takes "Laddie" and a couple of lads a great deal of time to keep them in order. In hot weather the sun shines through the glass so strongly that it almost cooks the plants, and the gardener is compelled to construct shades with newspapers or anything that he can find.

STRANGER—It must be considerable trouble to water the plants properly, is it not?

STUDENT—Yes. The gardener sprays them with an old fashioned sprinkler, and, as you doubtless are aware, plants require a great deal of water, and it makes this portion of the work quite laborious.

STRANGER—I presume that horticulture is on the curriculum at the College, and that considerable stress is put upon the subject as it is a very important branch of agriculture and a profitable one as well?

STUDENT—We have a full course of lectures on horticulture from one of the Professors, and a course of practical lectures from the gardener; besides these we do practical work in the greenhouses and on the garden. The appliances, however, for teaching practical horticulture are very limited, and this branch of the course does not receive that full attention, especially in the practical part, which its importance demands. There is probably no branch of farm work which requires more skill, and in which greater improvement is needed than in the management of the horticultural department on the ordinary farm, and I think that we students ought to go from here with a much better knowledge of practical and scientific horticulture than the average farmer possesses, and this knowledge cannot be obtained in that degree which it ought to be, without better means for teaching and practising the science. How nice it is to see farmers' houses tastefully decorated with beautiful flowers; the lawns and walks nicely arranged and kept clean; the orchard and fruit garden the very best that can be kept; and everywhere signs that the owner is a progressive farmer and has an eye for the beautiful. The boys and

girls that grow up in such homes will be a credit to the community and will possess that refinement which a constant association with the objects of nature and the influence of horticultural pursuits has a tendency to produce.

STRANGER—You wax eloquent, my young friend, and I heartily agree with the sentiments expressed by you. But when do you expect that new houses will be built?

STUDENT—That I do not know. They have been promised for about twelve years and had it not been for recent losses by fire we would doubtless have had them before this. I will tell you something that you need not tell to everyone—a little confidence story—you see, there is likely to be a general election before long and the Government wishes to be as economical as possible, especially at such a time.

STRANGER—Well, my young friend, I hope that your wish will be realised and that before I come again you will have new houses which will be a credit to the Institution. I am exceedingly obliged to you for your kindness in showing me around the place and shall be happy to return the favor. Good-day.

STUDENT—Thank you for your kind words. I hope to see you again, and to see before long what you have so kindly wished. Good-bye.



SYNOPSIS OF AN ADDRESS

By Prof. James W. Robertson, Dairy Commissioner, at the Meeting of the Ontario Experimental Union, on "The Need and Uses of Experimental Work in Dairying."

Improved methods of agriculture have grown out of experimental work, pursued with more or less intelligence and care since the times of Adam and his remarkable son, whose jealousy and envy at Abel's success seem to have become the possessions or possessors of some of his craft, by whom every effort to do things in any other way than according to their preconceived notions, is taken as a personal rebuke and cause for dislike to this day. An increased knowledge of the laws that govern the changes in nature, which farming seeks to bring about and control, has come from crude and intermittent experiments as well as from the well-planned, skillfully-conducted and continuously-pursued investigations, which have been made at the Experiment Stations, so literally devised and supported by Governments on this continent during recent years. In time to come, experimental work in dairying should not be confined to the Government Experiment Stations. The Ontario Experimental Union may, with advantage, take up some branches of it, with the certainty of giving valuable service, enlightenment and encouragement to the farmers of the Province. The need of further investigation, through experiment, has increased rather than diminished. The purpose of all intelligent effort in farming, is the creation of wealth and the making of profits for the persons who are engaged in that occupation,

In exchange for the products of the fields and animals, the farmer obtains what may be called here, "Gross Receipts." The "Gross Receipts" may include, cash, goods received in trade or exchange, house-rent, board, lodging, the use of horses for pleasure and work, etc., etc. A large proportion of the "Gross Receipts" of most men, except farmers, must go out as "Expenditure" for those things which the farmer gets from his products over and above the cash which he handles. A small cash income does not always mean a small income nor does a large sum as "Gross Receipts" always indicate a large profit. The measure of profit is the difference between "Receipts" and "Expenditure." All experimental work that helps to show how "Expenditure" or cost may be reduced, without lessening the quantity or degrading the quality of the products in dairying, is legitimate work worthy of your Union.

Investigation may be directed profitably by one or more members, towards the discovery of how far and in what ways, "Expenditure" or "Cost of Production" can be lessened under the following heads:—

I. *The use of feed of cheaper sorts.*—Can corn ensilage be produced at a cost of \$1.75 per ton on the ordinary farm? How much of it will produce as much milk as one ton of hay? How does the cost of soiling compare with that of pasturing for milk production in different districts of the Province? Are roots as economical for a succulent feed as corn or other ensilage?

II. *The mixing of feeds into the best combinations.*—Is the nutritive ratio theory sound, when acceptability of flavor is ignored?

III. *Providing and preserving fodders and grain in the most acceptable condition of flavor.*—What is the worth of a ton of hay, that has been exposed in the feeding passage for a day and mused over, compared with a ton of hay of equal quality fresh from a compact mow? Does digestibility of feed depend in any degree upon its palatability?

IV. *A reduction in the quantity of feed offered to cattle.*—When a cow eats too much rich feed, an immediate consequence is a lessened flow of milk of impoverished quality. Are many cows spoiled by over-feeding?

V. *A lessening of the cost of labor and expense in producing, manufacturing and marketing.*—Is there an advantage in carrying on dairying in winter in respect to the labor available on the farm during that season? Can butter and cheese be made as economically in small lots in private dairies as in co-operative factories? Can dairy goods for the home market be sold best direct into the consumers' homes from the producers? Will it pay the producer to sell always, when perishable goods are in the best condition, regardless of the current or prospective price?

I have used a great many interrogation points. In trying to answer the enquiries, every honest investigator will learn much and to some extent become a teacher to instruct and stimulate others.

The tendency to devote one's whole attention to the "Receipts" as the source whence may be obtained an increased profit is a common weakness of judgment, when a business calculation is being made. The reduction of "Expenditure" or "Cost of Production" is a more controllable factor in profit-making, and still there are safe and economical ways in which "Receipts" can be legitimately and certainly augmented. Practical enquiry may seek to learn from experimental investigation, to what extent that may be accomplished under the following heads:—

I. *Enlargement of the capacity of the animal.*—May not the capacity of every dairy cow be enlarged, until she gives annually as many pounds of solids in her milk as her live weight?

II. *Improvement in the quality of the product.*—How far can the quality of milk as to its per cent. of solids be varied by feed and treatment of the animal? How far does the quality and the kind of feed influence and affect the flavor of animal products. The quality of all food products not only modifies the market price, but gives stability or uncertainty to the demand in degree as it is uniformly fine or irregular and inferior.

III. *Selling most of the product at a season of the year when prices rule highest.*—Is cheese-making in summer and butter-making in winter the best dairy practice for the farmer, under ordinary conditions in Ontario?

IV. *Marketing products in the best concentrated form.*—Will the labor and expense of special preparation, in giving products an attractive appearance for the market, add more to their value than the extra cost involved? Will such a preparation help to secure a class of customers able and willing to pay the highest current prices.

V. *Making the most of by-products.*—Animal products from the dairy retain an average of less than 20 per cent. of the total nitrogen, phosphoric acid and potash in the feed consumed. The manure which contains the residue of these from the feed is the first by-product. Although it contains over 80 per cent. of the valuable constituents of the feed, it is not worth 80 per cent. of the original value. How can it be saved and used to yield the greatest value? Skim milk, butter-milk and whey are by-products. In what combinations can they be fed with most profit to calves, colts and swine?

The common dairy practice is a reproach to the business judgment of the farmers. Many cows are fed at an annual loss. They board on men who can ill afford to support indigent cows on the out-of-door-relief plan. Single cows in some herds, like the Egyptian lean Kine, in everything but appearance, swallow up the profits of two cows which are exercising the profit-making talent. Thoughtful experiment in any kind of a way, along the line indicated, cannot fail to convince any farmer of the possibility of realising some profit from dairying and may stir him up to try for more while helping him to succeed in getting it. An experimenter generally becomes enthusiastic; enthusiasm is contagious and practical investigations keep it operative in beneficial ways.

BETTER THINGS.

At a recent convention this was the subject of the last address. The speaker briefly pointed out the difficulties of the past, of the present, with the efforts that were being made to overcome them, and the success with which they were meeting, then drew a bright picture of the better things in store for his hearers. This was not at a dairy convention, yet it is just as applicable to the dairy industry as that to which it was applied. Do we need better things in the dairy? We do, without doubt, and in consideration of all that has been, and is being done to advance the dairy interests of the Province, we surely have a right to expect better things. Slowly but truly the Dairy Associations of our Province are extending their influence. Can this do anything else than bring about better things? Will not the dairy literature that is being spread broadcast through the country bring about better things? Combined with this we have a beginning of an awakening of the

farmers to the fact that the happy grain-growing days are over for the Ontario farmer; not that we cannot grow grain successfully, for we can, but we must feed it, and sell the product rather than the grain itself.

Our attention, consequently, is now being turned to stock raising with special reference to the dairy. The question arises, then, what may we expect in the way of better things in the dairy line? Perhaps a greater realization of the importance of this dairy industry, and the relation it bears to the future success of the farmer, may be the means of fixing its position more firmly in our minds, and rousing us up to more active and careful work in the future. There are about 700,000 cows in Ontario, the value of the product made from the milk sent to the cheese factories, and from the cream to the creameries during the summer of 1888, amounted to about \$7,000,000. There would be as much not sent, making another \$7,000,000. We have then the product for the remaining portion of the year, which should make more than another \$7,000,000, in all \$21,000,000, this is only about thirty dollars a cow. Is there not room for improvement here? Are we satisfied with that? Every farmer keeps a few cows, whether for the fun of boarding them or not he doesn't always know; now, if they were kept to make a profit after paying for their board there would be a big increase in the returns in the dairy industry. We fail to realize the vastness of the industry because we have only a small connection with it.

The farmer seems to be looking for help of some kind outside of himself to turn the wheel of fortune and bring about prosperous times, it is thought that legislation might do this. It is all a mistake. Legislation cannot do it; no body of legislators can give us markets that will be the means of making us rich, they may help things somewhat, but our success depends upon our own individual exertions and not on our legislators or outside influence.

"The fault, dear Brutus, is not in our stars,
But in ourselves, that we are underlings."

I would that every one of us would take this more thoroughly to heart, depend and rely on ourselves to carve our way to success, rather than sit by idly waiting for something to turn up or for our legislators to do something for us before we make a move ourselves. "Heaven helps the man who helps himself," so runs a quotation an old friend of ours was in the habit of frequently quoting, and there is as much truth as poetry in it.

Since our attention has been turned to the dairy let me say, there is no one thing a farmer can do that will lead him to success and bring him in such direct returns for the extra labour expended, as the introduction of better things in his own dairy. To do this it is imperative to commence at the bottom, better stock, more care and judgment must be exercised in the selection and breeding of the dairy stock. The scrub must go and an animal take its place that will give profitable returns for her feed and care. This does not necessarily imply a pure bred animal, as good first-class milkers can be obtained through our common herds, by judicious selection and the use of a pure bred male animal of recognized milking strain. These alone, however, won't do it, as proper care in housing and feeding must accompany them to attain successful results. Will cows running around the straw tack, with only enough feed to keep them from starving, give a heavy flow of rich milk? Will these same cows, when turned out in the spring on the best of pasture give as good returns as cows that have been well fed during the winter? Yet this is what many seem to think; nay, believe; for they practise it, then growl

and say dairying doesn't pay. It takes a certain amount of feed to sustain life in an animal, *i. e.*, to supply material for the wear and tear of the body and to keep up heat, the profits in feeding, comes from what is fed above this amount. If you have a properly reared cow, it must begin with the calf. A poor, ill-fed, unshapely calf is a sink hole for feed; its power of making the best use of its food has been destroyed; thus it does not give the returns for the feed consumed that a properly fed calf will do; this state of affairs is only increased when the calf becomes a cow. Either breed alone, or feed alone will not produce us the better things we desire, the two must go hand in hand, controlled by the wise guiding hand of a man whose aim is to make the animals under his care patterns of the ideal animal he has in his mind. Bright, well ventilated and comfortable stables are necessary for the proper housing of the animals, and we hope in the near future to see these stables used in the summer as well as the winter, the animals being thus protected from poor dried up pastures, the scorching rays of the sun and annoyance of flies and dogs. We believe it will be found to be cheaper to feed animals in the stables on the soiling plan than to allow them to run at pasture. The growth of fodder corn and the introduction of the silo will materially change the feeding system in some parts of the country, and is one of the better things introduced the last few years.

Having better cows with better feed, and housing, may we not justly expect better milk yields? The man having this better stock will be a better man. Will he not look after the products of his cows in a better way? May we not expect much improvement in the handling of the milk from the time it is drawn from the cows until it leaves his hands for the factory, or if butter is his marketable product, will he not see milk set for as rapid cooling as possible, taking all due precautions for variations according to the season. Better products will result from the better care exercised in handling the milk and in its manufacture. Better products means better returns, for a good article will always command the top price. This, then, really means better markets. Better markets are best obtained by educating the public taste to the standard we wish our products to take, not by legislation. Thus, by putting more skill into our work along the lines mentioned, we will surmount our difficulties and attain true success. Then, and then only, shall we rise to the position which is ours by right, and by our skill and industry elevate our profession to its true and noble birthright as the most honorable of all occupations.

ANON.

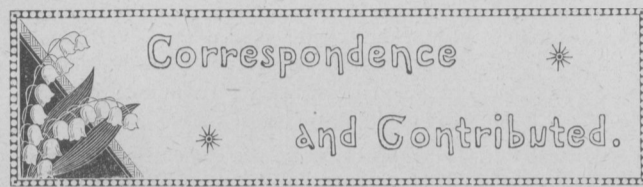
"Power to do good is the true and lawful end of aspiring."

"There is nothing makes a man suspect much, more than to know little."

"For a man to give his opinion of what he sees but in part, and in its beginnings, is an unjustifiable piece of rashness and folly."

"Nothing that is not a real crime makes a man appear so contemptible and little in the eyes of the world as inconstancy, especially when it regards religion or party."

"A man that is young in years may be old in hours, if he has lost no time; but that happens rarely. Generally youth is to be the first cogitations, not so wise as the second. Men of age object too much; consult too long; adventure too little; repent too soon, and seldom drive business home to the full period, but content themselves with a mediocrity of success."



Farmers' Institutes of the Eastern Central Division.

PAPER II.

In our last paper we were ready to leave Peterboro'. Next day being Sunday we stayed there until Monday. On Monday morning to our great surprise and delight we were joined by Prof. Fletcher, of the Dominion Experimental Farm, Ottawa, he having been invited to attend the next two meetings to be held in Norwood and Keene.

Taking the C. P. R. at Peterboro' we reached Norwood about noon in the midst of a terrible wind storm, which did considerable damage in some parts of Ontario. This, with the unfavorable condition of the roads, caused the afternoon meeting to be rather thinly attended. We had a profitable session, however, and here we met Mr. W. Birdsall, an O. A. C. boy, who read a very interesting paper on "The Leakages of the Farm." He rather surprised the people. In the evening the attendance was considerably increased, and among other addresses delivered, Prof. Fletcher gave a very interesting one on "Window Gardening."

Accepting an invitation from friend Birdsall, a ten mile drive brought us to his home about midnight. Next morning we reconnoitred the situation and found that we had travelled along a range of hills nearly all the way. The country here is quite rolling and Norwood is a thriving inland village.

Mr. Birdsall has a promising outlook and is pleasantly situated. About noon we arrived at Keene, a small village near Rice Lake, examining on our way his uncle's silo, which is giving good satisfaction. Here we met our party, which had gone through a rather annoying experience. The "big man" and the "old man" took, as they supposed, a rig to carry them to the station of Norwood, about two miles distant. After riding some time they enquired about the bearings and found to their astonishment that they were in a stage going to Hastings, a distance of 10 miles, and this before breakfast. The "big man" enjoyed the joke; but the "old man" felt a little crusty as Keene was to be his last meeting.

Here we were greeted with a good turnout in the afternoon and a packed hall at night. The meeting passed off pleasantly. Mr. Blizzard, M.P.P., taking an active part. The evening meeting was enlivened with music and a loyalty speech from a learned M. D. of the village. An amusing little incident occurred at the close of the meeting. While one of our party was talking with some of the citizens, he chanced to remark how sleepy he had felt during the afternoon, which was innocently met by the prompt rejoinder from one of the company, "Why I had a good sleep while you were speaking to-night."

That night we parted company with Mr. Croil who went home, and next morning with Prof. Fletcher, who returned to Ottawa. However, on boarding the train we were partly compensated by meeting Mr. Wolverton, of Grimsby, "the little man," who was to accompany us the remainder of our journey. Arriving at Hastings, a bustling little town on the River Trent, we were met by a Mr. Honey, who drove us to Warkworth, ten miles distant. The

road lay through a very rolling country, but a good fall wheat section.

At Warkworth ensconced behind a high hill we met a large gathering of enterprising farmers, among whom were Mr. Carlaw and son, the latter an O. A. C. boy, and Mr. Boyce, a member of the Advisory Board. There were some enthusiastic dairymen present who held that it paid to feed the dairy cow. An orchardist gave us considerable information on evaporating whole apples instead of slicing them, the usual practice. The apples best adapted for this were the Golden Russet and Pomme Grise. The former gave 10-11 lbs. of dried fruit per bushel and sold at 11 cents per lb.

Mr. Boyce paid the College and farm a high compliment in stating that his few visits to the College had been of great service to him; as, previous to seeing how things were managed there, he said he had thrown away hundreds of dollars almost in useless or extra feed to stock. At the evening meeting the large hall was literally packed, but it soon became apparent that they all didn't come to hear us speak. It was a combination affair, a troupe was playing during the week. We didn't detain them long and had the advantage of a free show. On invitation we spent an evening at Mr. Carlaw's and saw his silo. His ensilage was very good, and this being his second year, he expressed himself as greatly pleased with it.

Next morning we started for Baltimore, a small village five miles north of Cobourg, and about twenty-six from Warkworth. The day being fine we greatly enjoyed the drive through the rolling country. The farmers turned out well and were quite ready to discuss the different topics. Both the afternoon and evening sessions passed off pleasantly and every one seemed well pleased. We drove into Cobourg the same night and here Mr. Hobson left us to our fate, he being compelled to go home.

The "little man" and I fired away at not very large gatherings, but quite interesting ones. As I had prepared myself on the scientific side of Mr. Hobson's subjects, we were able to carry out the program, but not so effectively as if the "big man" had been there in person.

We spent Sunday in Cobourg and had a very pleasant time with friend Field, of the O. A. C.

Monday morning we started for Bowmanville. We found quite a number of farmers gathered, and the "little man" and I alone to entertain them as at Cobourg. We managed to satisfy them fairly well, I think, and to our great satisfaction found that Mr. Hobson had arrived for the next meeting.

Next morning we prepared for a fifteen miles drive north to Blackstock. We held a morning and afternoon session with a comfortably filled hall. The discussions were good and some thirty became members of the Institute. Returning that night to Bowmanville we stayed all night and next morning took the train for Oshawa where our last meeting was to be held.

We were greeted by a large gathering at Oshawa, especially in the afternoon, among those present were Mr. Dryden, M.P.P., who read an interesting paper on sheep husbandry, and Mr. E. Lick, A. O. A. C., who lives near the town, and is prospering in his calling.

We had no evening session at Oshawa, and the next morning our deputation bade one another good-bye, feeling that we had had a pleasant and profitable time together.

In conclusion I will make a few observations:

1st. That a good live chairman goes a long way in making a successful meeting.

2nd. That the best class of farmers usually attended the meetings, especially those who are reading the agricultural papers.

3rd. That an address fairly well given is much preferred to a paper well read.

4th. That the professors, who in past winters, had visited this section had done good work and left favorable impressions behind them.

5th. In making a statement of any kind one must be prepared to back it up.

6th. That there is a great deal to be learned by exchanging ideas.

T. RAYNOR.



IF you want more cheese, ring the front door bell.

WE commenced ploughing on the 14th. inst., and the seeder began its travels on the 17th.

IT is understood that a new "Breeder's Card" in the *Live Stock Journal* will read:—Joe Beef, A. O. A. C., Guelph, importer and breeder of recorded Shropshires. Stock for sale.

THE new Clyde team arrived on the last day in March. They cost \$450, weigh 3280 lbs., and give promise of much serviceable work. One foaled on the 17th. inst.

A TEAM was up from the City on the 19th. to test our efficiency at baseball. Although our pitcher and catcher were away, we had a good game and won by 8 to 6.

VACANCIES on the F. B. C. were filled by Buchanan (Sec.) and Webster; the club has entered for the District Association Cup and with practice should stand a fair chance of success.

CRICKET has commenced with prospects of a stronger club than last year; matches will be arranged with local clubs as soon as "Whitie" has recovered from his present fit of abstraction.

ENGLAND versus Canada at baseball made a good game; though the former were beaten by 31 to 13, they made a good stand after the 3d. innings, mainly through the brilliant fielding of Dode in left field.

THE Tennis Club has reorganized for the coming season: McCallum in the chair. Officers elected were:—Hon.-President, Prof. James; President, R. Musgrave; Hon.-Secretary-Treasurer, J. C. Harris; Committee, Buscarlet, Ransom and Field.

THE Y. M. C. A. meetings have been led by Messrs. Haight, G. Harcourt, B. S. A., and Cuppage. On the 10th. inst. Professor Pantou was present and gave some beautiful thoughts on the Fatherhood of God, just working out by Bible references, the two ideas of guidance and protection.

WE understand that Mr. Wilson is making extensive preparations for a large crop of spring whiskers, as he has been informed that the farm foreman pays large wages to those who cultivate a good quantity of hirsute appendages. Probably Mr. Cox will enter into partnership.

GOOD Friday and Easter Monday we were free from lectures and work and devoted much time to a good cram. On the evening of the former day a lot of the boys attended the Norfolk St. Easter Social, while at a meeting of the students on the latter, Mr. W. A. McCallum was unanimously elected Exchange Editor.

THE usual 3rd. year supper was not, for some mysterious reason, held in the College this year, but Professor Shaw kindly opened his house to them, so the boys fed there mightily on the 1st. inst. The same house was in requisition again on the 16th. when a select party assembled for a very enjoyable "sugar off."

ON the 20th. ult. our Y. M. C. A. had the pleasure of a visit from the Rev. G. Turk, who gave us a stirring address. These meetings with the City ministers are always welcomed by the boys, and this one was particularly enjoyable. The singing was good, led by Mr. Turk's rich voice, so that we rejoiced for once in the absence of the organ.

THE Easter Examinations were held on the 10th. to the 15th. of this month. A very interesting feature was the constant ringing of the bell outside leaving us in some doubt as to what was really intended. The first year boys were in a great fright one morning, as after the practicals of the second year on sheep, cattle and horse, they feared the 8 o'clock knell summoned them to practical hen!

BOOTS or stockings found on the river are to be sent up to the College to be identified by Musgrave, Faithfull and Little Lewis, who one day returned from a ducking minus the above mentioned articles. Harris is going to claim damages from Pringle for charging \$1 to dry the works of his watch. Bayne and Harrison, together with those already mentioned, report the water to be very cold for this time of year.

A DAY or two ago we noticed some rather curious work performed by an inexperienced student learning how to team. He first of all attempted to buckle the hames where the saddle should go; being put right he proceeded to hitch poor old Fred. to a wagon. Luckily the farm foreman came along and explained the difference between a wagon and a cart. Having completed his afternoon's work he carefully put the horse away, somehow getting the halter on the wrong way round and upside down.

A YELL in the dining-hall the other night was "Newcomen's got his bracelets on." We wondered greatly what it could mean, but after diligent enquiry our special reporter says that he marched in to supper bedecked with a lady's watch and bangles, two brooches, two scarf-pins, two rings, a necklet and locket, and seventeen bracelets. We are still unable to ascertain if this gentleman has been attending lost property sales, whether he has ransacked a second-hand jewelry store, or has been borrowing or stealing these delicate articles of adornment.

JUST as our last issue was in the printer's hands the fire in the barn occurred, so was not then noticed. It is most probable that a piece of metal went through the cutting box and that the resulting sparks fired some of the dry hay, which smouldered till Mr. Carruthers very fortunately discovered it. We were all exceedingly thankful that he happened to be round just then and so was able to extinguish the blaze, for, but five minutes more and the barns must again have suffered destruction. The total damage was about 5 square feet of lumber and a small quantity of cut feed damaged by subsequent heating.

THE boating season has commenced again, and with it the involuntary cold baths. If venturesome little boys will essay to paddle their own canoes in the rushing waters of the mighty Speed it is only to be expected they should get a ducking. These upsets cannot pass unnoticed, for however quietly the wet boys crawl into their rooms the next lot embarking at the boat-house get to hear of the wet cushions and carpets. We have often wondered why the river cannot be cleaned out, but something might be done by each boat load if a few minutes would be given to pulling up some dangerous water-logged snag. "Many hands make light work," and as we witnessed two boys pulling one out the other day we thought it well to drop a hint here.

A MEETING was held on the 24th. ult. to reorganize the Baseball Club. The following is a list of the officers for the season:—Hon.-President, Mr. McCallum (Bursar); President, N. Monteith; Captain, McFarlane; Sec.-Treas., McCallum; Committee, Campbell, Buchanan, Dolsen, Gelling and Watson. We trust to see good work done this term with such able men at the head of affairs. There is a sum of \$15 in hand to commence operations with, being the balance from last year's accounts. Variable March weather saw a game of cricket in progress the day before the terrible storm of the 28th., the one that committed such sad havoc in the States.

WE experienced a pretty severe snowstorm here on the early morning of the 28th. ult., and in fact the whole of the day. The drifts were pretty deep, not only outside but in some of the rooms too. A staircase window blew in so there was plenty of snow in the halls and down those particular stairs. Through the ventilator in the roof of the laboratory the melting snow dripped till a nice little pool formed in one of the chairs. Rushing impetuously into lecture after a climb through the drifts poor Dave sat right down in the said pool, but quickly transferred himself to the radiator to dry. The kitchen chimney was on fire the night previous, but was speedily controlled.

By special request we insert the following paragraph:—A certain student in the first year brought out with him from England a stock of some of the prettiest neckties ever seen round the College. The novelty and richness of the designs, combined with their fresh, lustrous, appearance so excited the envy and admiration of certain visitors to the College, that this poor fellow was rudely pounced upon on two separate occasions and two of these lovely ties were forcibly torn from his neck by a Toronto and a Cobourg girl. However, they nobly made amends by making a special visit to the City one day and purchasing a necktie of chaste and elegant pattern for the sum of 7c.; this fascinating specimen may now be seen decorating the wall of No.—, surmounted by a charming green rosette.

THE Literary Society's meeting on the 21st. ult. opened with an extempore speech by Mr. Whitley, followed by Mr. Wilkin in a very unique address on the "Future of the Ontario Farmer." The debate for the evening was "Resolved, that Bee-keeping is preferable to Poultry-keeping in Ontario." Messrs. Hewgill and R. Shaw opened the affirmative side, opposed by Messrs. Sleight-holm and Wilson. A very interesting feature was the array of extraordinary arithmetical calculations brought forward by the leader of the affirmative against Poultry. The subject was well handled by these practical men who eventually gave us good data on which to work for profit and loss. The committee decided in favor of the negative, but the house voted for Bees. Mr. Webster

then, in an extempore speech, declaimed on the benefits of Under-draining, and Mr. Monteith on "Scientific Agriculture."

EASTER brought with it the customary changes of students entering and leaving. We felt more than the usual regret at the departure of J. A. Gelling and P. Shaw. "Peter" has for over 18 months contributed largely to the fun round the College, and by his merry jokes and unfailing good spirits has made himself always and everywhere welcome. He has gone to try his fortunes in the great Northwest and our best wishes accompany him. Gelling has been here for nearly the whole of the three years' course, and in that time has endeared himself to all students. We have lost in him our best all-round athlete, for whether cutting the "double grape-vine" backwards on his acme skates, dexterously guiding his toboggan down hill, wielding his racquet in a game of tennis, or best of all on the football field executing one of his plucky runs, his slight, but supple and sinewy form was always noticeable for its grace and activity. By his departure the first break has been made in our Editorial Staff. His work as Exchange Editor involved much careful reading, and the results have been visible in our interesting monthly "exchanges." His brothers in this local literary world join in acknowledging the "ability to pick" that he possessed in no small degree, and the faithfulness with which he discharged his duties in connection with the REVIEW, and in wishing him God-speed in his new career. Some 14 or 15 students assembled down town at a farewell supper on the 3rd. inst. and shortly after accompanied him to the station and cheered him till out of hearing. Long may those cheers and cordial parting words ring in the ears of his memory. He has gone to join his brother in the Northwest, and the hearty good wishes of all students here for success and prosperity in all his undertakings, go with this enterprising Nova Scotian, as well as with the young Englishman who accompanied him.

THERE was no lack of fun round here on All-Fools' Day. Proceedings opened by some imbecile anxious to murder sheep perambulating the halls with the gong at 5.30. Not very many got fooled over that, but half an hour later when the breakfast bell was vigorously rung, several tried the dining hall but got sadly left. Several minor jokes were played during the morning, not the least amusing was telling a Prince Edward boy that he was wanted over at the Bursar's by the daughter of the house to arrange for an evening party. He accordingly dressed very carefully, and after ascertaining the information was strictly correct and "no coddling," away he sallied to pay his early morning call, to find of course that his presence was not desired. But—a really good joke was played and deserves recording here especially as a slightly incorrect version was published in the *Herald*. Overnight two boys went down town to pay a visit, No. 1 took off his boots three doors away from the house and hid them inside the fence, putting on his patent leathers with which to charm the fair sex. During the evening No. 2 told one of the girls, who being by no means averse to a little fun carefully secured and secreted the boots. A pair of rubbers lent by a kind friend evaded the difficulty of the walk back. In the morning No. 2 made arrangements by telephone with a boy down town, and the message soon came up to No. 1 that his boots must be applied for at the office of the Chief of Police or they would be sent to Toronto by the 10.00 train. Getting excused from the President, who apparently had some inkling of the joke, the poor fellow sallied down town and is reported to have been sent by the Chief to the court-house, there to wait patiently till his case came on!

THE closing meeting of the Literary Society was held on the 28th. ult. After the singing of "The Lost Chord," by Mr. Whitley, an impromptu speech on "Cleanliness and Tidiness" was given by Mr. Morgan. Mr. Seymour was next called on for an organ solo, which he rendered in his usual masterly fashion. Mr. Burns followed with a capital speech on "Agriculture in Nova Scotia." We venture to prophesy that this gentleman will develop into a first-rate platform speaker. Mr. Thompson then recited "Doomed to Death"; and Mr. Hadwen gave a very taking song, "Beautiful Language." Mr. Rennie drew "Nothing" for his extempore speech, but spoke in a very stirring manner on "Life," urging the boys not to be sponges, but to rise to the dignity of rational, earnest, vertebrate animals. Prof. Pantou, who, at the commencement of the session intimated his intention of giving a prize to the best speaker in the Society, announced that a vote of members who had attended two-thirds of the meetings would be taken with the view of deciding the contest. The voting resulted in a tie between Messrs. Dean, Monteith and Whitley. The former being ruled out by the Professor on account of his being President of the Society, the final decision of the members declared Mr. Monteith the winner, who thereupon vied suitably responded to the hearty applause. A feature of the closing meeting is always to have a short speech from each member present, so the 3rd. year men led off, relating their experiences in connection with the Society and the advantages they had derived from attending. A comic song by Mr. Hadwen followed, and then the 2nd. year men spoke. Mr. Morgan sang a couple of songs and the 1st. year very ably brought up the rear. Closing speeches were next given by the President, Secretary, and Critic, and a vote of thanks to the officers terminated the proceedings. The Society has had a very successful year and deserves to be remembered forever for launching the REVIEW on its career, and offering the \$10 prize for the Essay as announced in our last issue. The treasurer's report shows a balance in hand of \$21, but this will all be expended in the prize, and rent of piano and organ.



T. C. Mackinson, of '89, is farming down by the sea at Brigus, Nfld.

W. K. Farlinger, of '77, formerly of Morrisburgh, Ont., is now engaged in sheep farming in Southern Australia.

At the recent examinations held at the Ontario Veterinary College, Toronto, H. Marsack, of '89, took 3rd. prize in Chemistry and honors in Pathology.

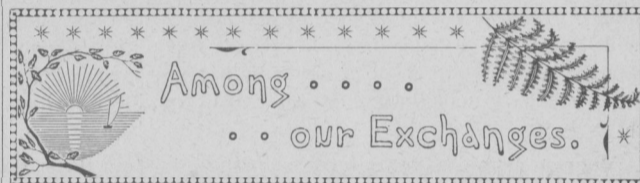
A. D. Harkness, of '87, is one of the successful farmers of Dundas Co., and takes an active part in the work of the Farmers' Institute, as all ex-students should.

That the personal department may be interesting, we would esteem it a favor to receive jottings from ex-students, as to their whereabouts, their occupation, or any news of general interest.

J. A. Derbyshire, A. O. A. C. '89, is engaged in the cheese and butter export business in company with his father, at Brockville, Ont. John has taken up type-writing and has become quite proficient in the art.

E. M. Jarvis, of '88, now farming at Clarkson, Ont., has been elected a director of the Shire Horse Association of Canada, also Treasurer of the Dominion Hog Breeders' Association. It will interest some of his classmates to learn that E. M. has taken to himself a better half, a fact no doubt that contributes in a large degree to his success as a farmer. Our advice to those who are still lingering is to go and do likewise.

From the *Live Stock Journal* we take the following:—Mr. Wm. Ballantyne, of the firm of Ballantyne & Son, Stratford, is succeeding admirably with his Scotch Shorthorns. It was Mr. Ballantyne who supplied the Messrs. Green Bros. with a stock bull, to take the place of the Earl of Mar, once the sweepstakes bull of Ontario. Further, it was Mr. Ballantyne who bred and fed the first prize Shorthorn steer, at the last Christmas Fat Stock Show at Guelph. Mr. Ballantyne is a graduate of the Ontario Agricultural College; a source from which the leading stockmen of the future are likely to come, at least a large proportion of them.



Another new caller, and one we are right glad to welcome, is the *Reveille Chester*, published by the cadets of the Pennsylvania Military Academy. It presents a good deal of taste, both in its dress and in the various articles that it contains. A very appropriate article adorning the first page is one on "Our Military System," in which a good description is given of the present condition of military affairs in the United States, and ably shows the disadvantages which they would undergo in mobilizing a force in case of necessity. It also contains a great many other well written and instructive articles, such as "The Theodore," "Hyatt Memorial" and "The Jerseymen."

With pleasure we welcome to our table the March number of the *Maritime Agriculturist*, published by R. J. Gilbert, Sackville, N. B. The quality, if not the quantity, of the matter contained in the *Agriculturist* easily excels more pretentious journals. Through its columns we are informed that Prof. J. W. Robertson, of the Canadian Department of Agriculture, delivered three lectures in the City Hall, Fredericton, on Wednesday, March 26th, on the subjects, "Dairy Farming," "Creameries and Cheese Factories," and "Agricultural Education." By the large number which attended his lectures we can infer that the opportunity to hear so distinguished and experienced an exponent of matters in connection with dairying was not lost.

The welcome number of the Upper Canada College *Times* to hand. It cannot be compared in size with some of the journals published on this continent, but nevertheless, it is a spicy little sheet, and contains some really good and interesting paragraphs. In glancing over it, one article especially noticed was that on the "Cricket Outlook for 1890." There can be no doubt but that in Upper Canada College, as well as in every other school, cricket ought to be put as one of the leading games. Although there are not more than two or three dozen boys who take an interest in cricket here, yet the outlook for some very good matches this season is excellent, and it is to be hoped that in future years the cricket club of the O. A. C. will be a credit to the institution.

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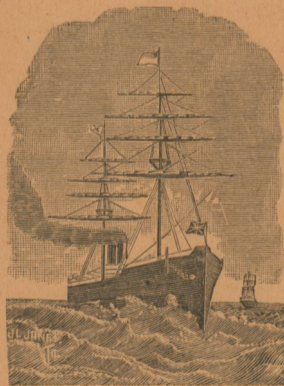
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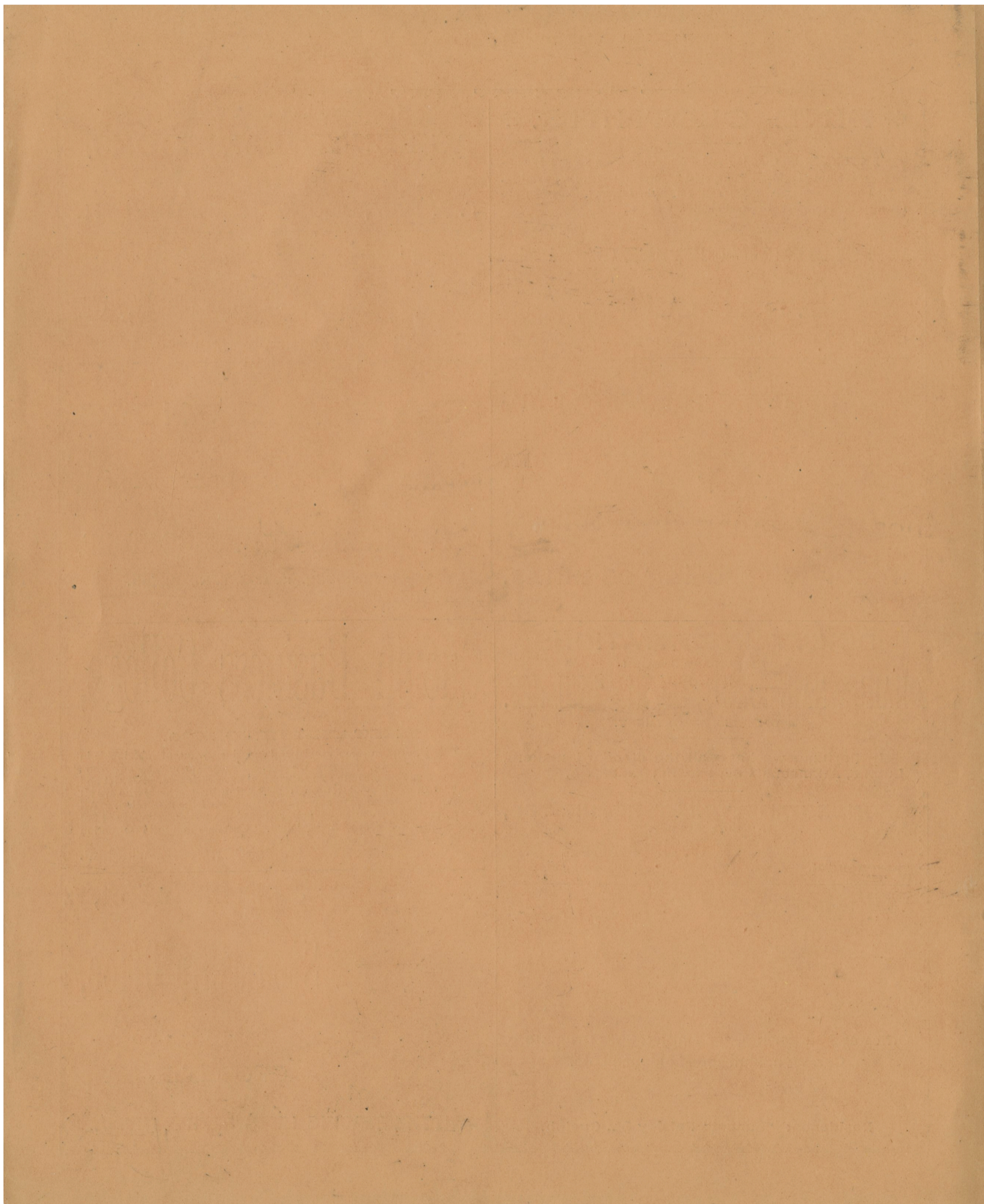
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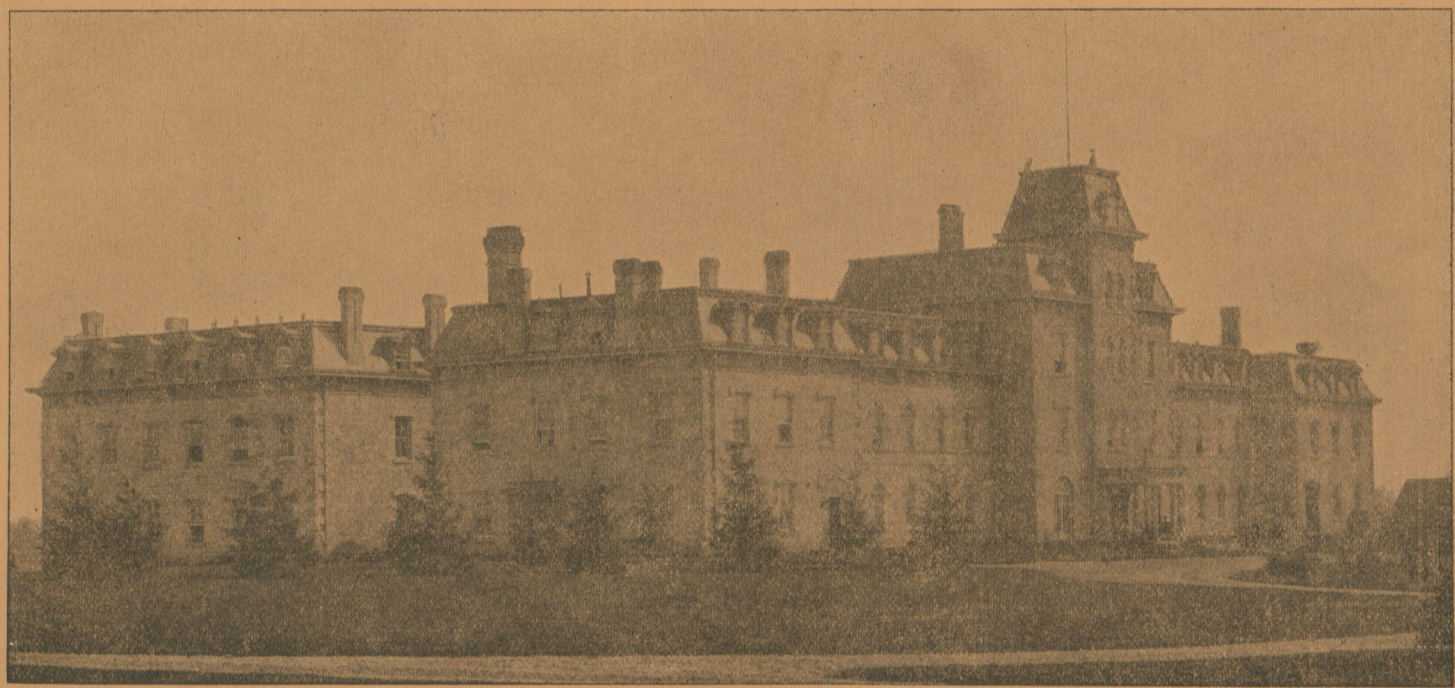
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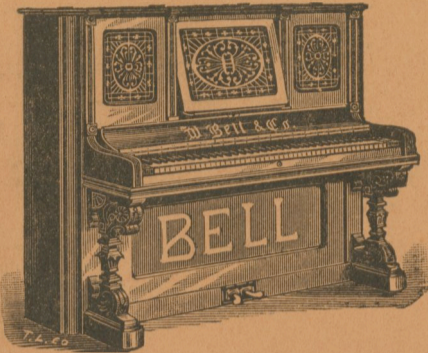
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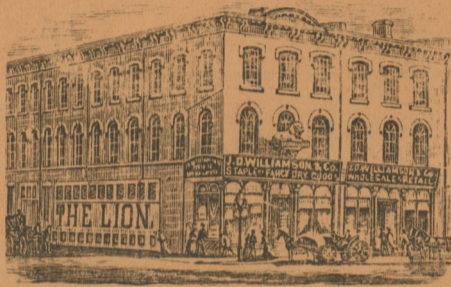
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THE O. A. C. REVIEW.

The Dignity of a Calling is its Utility.

VOL. I.

GUELPH, ONT., MAY, 1890.

No. 7.

THE O. A. C. REVIEW,

PUBLISHED MONTHLY, DURING THE COLLEGE YEAR, BY THE LITERARY SOCIETY OF THE ONTARIO AGRICULTURAL COLLEGE, GUELPH.

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THE O. A. C. REVIEW will spare no endeavor to furnish reliable news and information to those interested in farming operations.

Ex-students will confer a great favor on the Editors of this Journal by sending news, particularly experiences of practical value.



When the sun rides in Taurus, and the earth is endeavoring to look as gay as the garlands of spring can make her, with what new energies they seem to inspire us. While these two, father sun and mother earth, have been doing their utmost to make things beautiful and pleasant for us, and have been causing the leaves to gradually expand that they might also assist in the work, we thought, as we watched the Syringas struggling into bud and then into leaf, how much they resemble the intellect of the student which is being gradually unfolded until the parts are developed.

Sometimes development is hindered by frosts which are the discouragements a student receives in life, but he should imitate the plant and pursue his course with a determination to produce leaves, then flowers and fruit. Sometimes the weather is very changeable in spring and so is the mind of the young; but as sudden and many changes of atmosphere are not good for plants neither are sudden and many changes good for the development of the intellect. Have an aim in life and pursue that with the tenacity and persistency which is characteristic of plants; for example, an oat will produce an oat; barley, a barley; and wheat, a

wheat; and if given suitable conditions all the power of man cannot make them produce any other than their own kind; so, if you intend to be a farmer, resolve to be one of the very best farmers, and this you cannot do if you are a farmer to-day, a mechanic next week and a merchant a month after; and so it is with every occupation—"seek to make thy course regular so that men may know beforehand what they may expect."

* * *

While in one of our cities on a Saturday evening not long ago, we watched for a few minutes the throngs that kept promenading up one side of the walk and down the other, and as we looked upon them we thought what a great waste of time. Young people who ought to be improving every moment to fit them for life's sterner duties, seemed to be sauntering back and forth with no thought, apparently, for the future. The crowd still keeps on its ceaseless round—but see! On the other side of the street is an old man clothed with rags. As he goes along he too, doubtless, glances at the idle multitude and reflects upon the time when he was young and wasted his energies in a frivolous way as these are now doing.

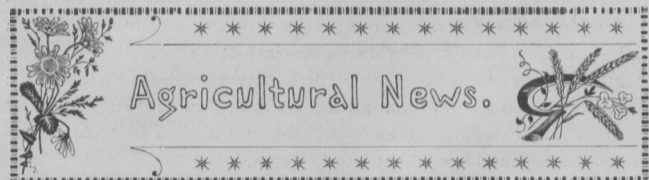
Young people, stop! On the other side of the street is a type of the person you are likely to become if this needless waste of time is persisted in for a few years.

What hours and hours are wasted by young men and boys in loitering around the corners, villages and streets. If this valuable time were improved in developing the physical part of their nature or in cultivating the intellect, how different would be the persons that soon would inhabit our villages, our towns, our cities and our farms. What need would there then be for houses of refuge or jails, constables or police, turnkeys or guards? All these might be dispensed with and their labor directed into more profitable channels. Idleness is the great cause of crime. If means could be devised to occupy the whole of the time of young people while not engaged at their occupation, either in pursuits tending to elevate them physically or intellectually, the moral standing would be raised and a great many persons who now obtain their living from the results of crime would be compelled to seek employment elsewhere.

But all time that is wasted does not occur outside college walls. Time is idly spent in the halls, in other fellows' rooms, in silly conversation and in many other ways which college men, if they wish, can find to kill time. Not to dwell on these, but when we consider the great amount of time that is almost wasted in cramming for examinations, would it not be better to make as few as possible in a year. Two in a year are plenty (one, better still) and it would have the effect of making better men, men of broader knowledge, wider reading, and better able to grapple with a subject. They would learn how to read and digest, instead of performing feats of the memory, such as memorising three months lectures, which, as Bacon says, may be classed with exhibitions

given by rope dancers and tumblers: "The one is an abuse of the powers of the body; the other is an abuse of the powers of the mind. Both may perhaps excite our wonder; but neither is entitled to our respect."

"Waste not want not" is an old adage and one that ought to be considered by everyone, but especially by young persons. Then shall we not all resolve to waste no more of the moments that are allotted to us? Let us determine that all our time will be spent in improving ourselves physically, mentally, morally and spiritually.



During the past week there has been sold from the Experimental Farm, fat cattle to the value of \$1,171.74, and fat hogs to the value of \$102, making a total of \$1,273.47.

The number of tests upon the plots in the Experimental Department of this Institution has been considerably increased during the present year. There are sixty varieties of fall wheat, sixty-four of barley, ninety-five of oats, twenty-six of peas, seventy-five of spring wheat, thirty-six of potatoes and ninety-one of field roots at present sown. A number of experiments is also being conducted on different methods of corn, rape and potato cultivation, on different dates of seeding with oats, barley, and wheat, and on different systems of growing lucerne, besides tests with the various European grasses in Canadian climate, with fertilizers upon cereal crops, with the application of salt upon four kinds of soil, etc., etc. The experimental plots, varying from one-hundredth of an acre to one acre in size, occupy during the present year an area of upwards of fifty acres.

ENSILAGE AS CATTLE FOOD.—An experiment was commenced in the college stable at the close of 1889, for the purpose of gaining some definite knowledge regarding the value of corn ensilage as a cattle food as compared with some of the other foods more familiar to the Ontario farmer. Six steers, as uniform in every respect as could be obtained, were selected for the test and were divided into three groups of two animals in each. On December 31st, 1889, after the animals had received similar treatment for a few weeks previous, the experiment proper was commenced, and continued up to April 29th, 1890, making a period of 119 days or exactly seventeen weeks. All the food given to each animal was weighed and a note was taken of any left uneaten. The feeding took place three times and the watering twice daily, and the animals were carefully weighed twice each week. Those in No. I group received all the corn silage, and those in Nos. II. and III. groups received all the hay they would eat.

The following table gives the daily ration fed to each animal in the different groups:—

FOODS.	GROUP I.	GROUP II.	GROUP III.
Meal—Equal parts barley, oats, peas	12.7 lbs.	12.7 lbs.	12.7 lbs.
Corn Silage	79.4	41.6
Roots	41.6
Hay	11.3	14.3

The animals of No. I. group gave an average increase of 1.850 lbs., those of No. II. group 1.857, and those of No. III. 1.697 lbs. per day.

The steers were bought in October, 1889, for \$50 each, and sold on May 15th for slightly over \$89 per head.

Road Making.

The ordinary road making in the country is not creditable, and I suppose for the reason that the road makers do not try as they might to make it so.

There are, doubtless, difficulties in the way, but every farmer may have a tastefully built piece of road opposite to his own farm, if he is so minded. There may be obstacles in the way of this in the form of stumps and stones and unevenness, but these are far easier of removal than the apathy in the mind of the average farmer in regard to this sort of improvement.

The aim should be in all road making to combine good taste and utility. Evenness and uniformity of grade throughout the entire length of the road should be sought, with shallow ditches made straight as a line, and the sides of these so sloped that even a mower could run along them and do effective work. Then the portions between the ditches and the fence should be made level as a cultivated field, free from every form of lettering, and should be planted with trees at intervals not too near. The reformatory is the proper place for the man who litters the sides of his own highway.

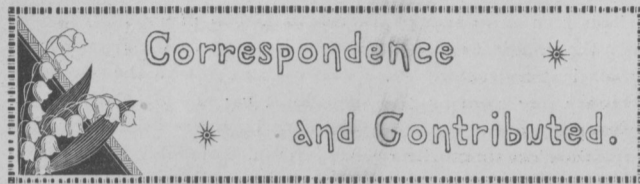
To admit of tree planting in best form it will be absolutely necessary to prevent live stock of all kinds from running at large upon the highway, to the endless annoyance of every one concerned, including the benighted owner of the said stock.

It seems almost incredible that townships under the shadow of the Ontario Agricultural College are so far behind the age as to allow stock to run upon the highway. If the councilmen of these Townships do not take action lest they should lose their seats by so doing, they are simply what the Norman Rose would have been had he and his followers kissed the Archbishops foot—that is—*cowards*.

When highways are thus built they require no further additions for a century by way of grading, or for that matter for many centuries. Repairing sluiceways, putting on gravel when needed, and keeping grass and weeds cut with the ordinary mowing machine are all that is required when the road is once made. Where gravel is not to be had they may be made smooth in summer by running over them after heavy rains with the road scraper, but on no account allow them to be meddled any more by that semi-barbarous individual in his modes of doing the work—I mean the ordinary overseer of highways.

"He that hath wife and children hath given hostages to fortune; for they are impediments to great enterprises, either of virtue or mischief."

For taste, systematic arrangement, and careful selection of material, the *Argis*, from Wisconsin University, is equal to our leading exchanges. The literary portion of the paper attracts special attention for the well written articles, which gives a cheerfulness to the reader we will be always glad to welcome the *Argis* as one of our exchanges.



Museum Evolution.

Having been requested to contribute something for the present issue of the O. A. C. REVIEW, the writer has thought a few words referring to some phases in the development of our museum might be read with interest by the students of the past, and those now with us. Many of our first students will be at a loss to recall the appearance of a museum in their day; their immediate successors will remember the old cupboard-like cases that stood around the upper class-room, now entirely occupied as a museum.

The collection then consisted chiefly of innumerable bottles filled with many varieties of grain that had been exhibited in '76 at the Centennial Exhibition, Philadelphia, and a few fossils, many of which had been presented to the College when the present lecturer on geology was a student in Toronto University. For a few years the museum continued in this larval condition, but in due time the building was enlarged, the upper class-room was left to be used as a museum, and lecturers were confined to rooms upon the ground floor. Not long after this the Educational Department at Toronto underwent a change; its natural history museum was abolished and the specimens donated to Toronto University and the College at Guelph. This was a great boom to our empty room, it at once formed a good nucleus for a museum and afforded an interesting place for visitors to frequent. However, this scarcely met the demands of an institution pre-eminently practical in its instructions, for many of the specimens were more curious than instructive. Consequently as the years have passed an effort has been made to introduce specimens which are calculated to illustrate, in a marked degree, the instruction given in the class-room. The old cupboards with their bottles of grain still had a place around the walls and were associated with the great company of lifeless animal representatives about them. But this state of affairs soon changed, a higher altitude reached and the standard of progress shifted nearer the curator's ideal.

A gallery was placed around the room, a large gaselier suspended from the centre of the ceiling, the old seed cases passed out of sight, and the whole place assumed an air about it, never possessed before. The gallery has been set apart for specimens in geology and entomology, while the first floor is devoted to the departments of zoology and botany. The cases in geology are so arranged that the systems of the geological records follow in consecutive order, each case containing the characteristic numerals and fossils of a system.

The insects, as far as possible, have been grouped according to the plants they affect, and in each case where they could be obtained, egg, larva, pupa and imago represented. One of the latest improvements in the museum will be in this department, as an effort is being made to have the complete life history of each injurious insect illustrated in a single box with glass over, 12 inches long, 8 wide, and the whole so arranged that the student may see any type represented. Another essentially practical feature has been lately added by putting glass cases upon the wall on each

side of the entrance to the botanical laboratory. These are to contain specimens of the most common weeds found in Ontario. The case are so arranged that they will exhibit 40 orders and some 75 specimens. Reader, if you are one of the early students, you will at once be struck with the advance made in this room, now commodious, bright, cheerful and attractive, yearly becoming more and more practical. You and all others who are interested are asked to aid in this work by contributing to its collection. There are many things to be added, and some of these you might readily present. Specimens presented are labelled and bear the donors name.

It would be much more pleasing to see our specimens largely derived from donations made by our students, than to purchase them where we see fit. It is pleasant to see the names of the students, who were once with us, attached to gifts made for the advancement of science. It recalls pleasant memories and many a time suggests periods in the past that might never recur to memory were it not for the specimens that bore a student's name.

Let our museum be to student visitors, and officers an album, to recall the plodding, the faithful and the true, we meet in life, while sojourning at the O. A. C.

Before sending any specimen it would be advisable to inquire if such is now on the collection, for if such a course is not adopted in many cases contributions will be useless. We are much in need of the complete life history of several insects, and require good specimens of some weeds. Student, reader, you are asked to contribute. What shall it be? We want to read your names after you have left us and entered fully into life's battle. Ours should be more than passing interests in each other. We have touched on the stream of life, and though we sail out on the great oceans, and become widely separated, yet to some extent we should take pleasure in being remembered. Your name as a donor will aid in this.

J. H. PANTON.

The Gymnasium as an Aid to Morality.

To the Editor of the O. A. C. Review:

SIR,—The urgent need and the advantages of having a gymnasium at this College were so well set forth in by Captain Clark in the December number of the REVIEW that one might think there is little left to say on the subject. However, one aspect of the question, and that, the most important aspect, remains to be noticed—the moral aspect.

The "Forum," for February, has a paper on "Moral Aspects of College Life" by President Adams, of Cornell University, which should be read by all who take any active interest in higher education. He states that "the only way to improve morality is either to strengthen the moral impulses or to weaken the forces tending to immorality." While discussing the influence of four forces to strengthen the moral impulses, viz.:—Religion, public opinion, philosophy, and good example, he clearly shows how in each case the forces "that make for righteousness are much more active and more potent in Colleges than in the community at large." After proving that in all these things that strengthen the moral impulses the student has the advantage of his brother in the street, or in the shop (or on the farm), he goes on to speak of the means to weaken the forces tending to immorality, as follows:

"It cannot be denied that what may be called the subjective forces tending to immorality in our colleges are strong and in need

of constant restraint. So far as these forces are amenable to moral and spiritual influences, they have already been considered. But they are largely physical in their nature; they are therefore influenced by physical as well as by moral considerations. Here, for example, is a young man of overflowing physical vitality. Following either his own desire, or the desire of his parents, he finds himself in College. He may be a strong scholar, or a weak one; but the time comes when his pent-up physical energies demand scope. Twenty-five years ago this exuberant vitality had a vile habit of spending its energies in the unchanging of gates, in the tearing up of sidewalks, in those multitudinous escapades with accounts of which the alumni of '50 or '60, with more or less of shame, are now apt to regale one another. It is certain that a great change has taken place. Nothing is more true than that there is vastly less of riotous disorder in our Colleges than there was a generation ago. What has been the cause of this? The answer, I have no doubt, is to be found very largely, if not chiefly, in the moral power of regularly-prescribed gymnastic exercise and athletic sports.

The nature of this influence needs only to be stated to be fully understood. It has sometimes been said that the College gymnasium is chiefly used by those who need it least; that those who are already strong are the ones who resort to it most frequently and most willingly. It is inferred that because the weak need not a physician, therefore the strong need not a gymnasium. But this assumption is based on nothing better than a very incomplete view of the truth. Those who take this view must suppose that the only function of physical exercise is the invigorating of the body. But, important as this purpose is, there is another advantage in careful and vigorous physical training that must not be overlooked. I believe there has been far too little understanding of the moral import of college athletics.

And here perhaps I may be permitted to declare my belief that the best results of gymnastic training will never be secured, unless regularly-prescribed exercise be rigorously made a part of the work required of all students during the first two years of the course. . . . The sermon I would here preach, if there were time and space, would be devoted simply to the moral uses of the gymnasium and of the athletic field.

Everybody knows that the time when College boys, as well as others, incline in mischief, in the evening and the night. The work of the day is done, and, if there is no anxious fear of coming examinations, the temptation to physical exuberance is just in proportion to the degree of healthy physical vitality. Now, if those hours can be tided over, if the exuberant impulses can be turned to other uses, if the physical energies can be cared for and satisfied in some well-regulated way, a great moral end will have been subserved. And this is just what the gymnasium is admirably adapted to do. *At four or five o'clock in the afternoon, an hour or an hour and a half, under the direction of a skillful teacher of gymnastics, does the work completely.* The moral use of the gymnasium, therefore, is in the fact that it breaks the force of temptation by furnishing an outlet for all superabounding physical energy. The boy that has had to keep his arms and eyes a flying for an hour is in no mood to do what used to be called "making night hideous." He yields himself to the prosperities of life with the utmost docility, and prepares himself by a fair amount of study and a large amount of sleep, for the duties of the next day. While the physically weak, therefore, are developed, the physically strong are kept in moral, as well as physical tone."

This recommendation of President Adams would fit in exactly with the peculiar circumstances of this college. We already have an efficient instructor. The students studying in the afternoon, who are free from four to six o'clock, have no place, during the greater part of the year, to work off their superabounding vitality except the class room, the reading room, the dining room, or the College halls. Is it any wonder that they find it impossible to keep the regulation about "noisy and boisterous conduct?" Is it any wonder that lights are seen in rooms long after John's call at the eleventh hour, "Lights out, gentlemen, please?" Is it any wonder that sleepless heads protrude at midnight from the fanlight to see if the lamp of the Professor still shines as a danger signal from the radiator in the hall?

Every farmer knows that many substances which tend to corruption may be and are converted into the beautiful flower that gladdens the eye, and into the luscious fruit that sustains the life. In like manner *with a gymnasium*, the raw material of the impulses and passions, which are now at the maximum, may be converted not only into increased physical strength, but into robust cheerfulness of disposition; at the same time the aesthetic tastes may be educated, a seasonable self restraint developed, and the moral fibre of the student preserved. *Without a gymnasium* this will produce lewdness of thought, coarseness, and a selfish disregard for the rights of fellow students. Those intimate with life at the O. A. C. will at once perceive the writer's meaning.

A College becomes the guardian of the young man at the most critical period of his life. The O. A. C. receives the pick of the young men from the farms of this Province. The College should not only give them a knowledge of agriculture and the kindred sciences, but at the same time should lay the foundation of a broad and liberal culture, and send them back to the farm with a strong and refined manhood. For this purpose it is important that the most potent influence, the teaching staff, should consist of men of the highest christian character whose life and words give evidence of diligence, integrity, dignity, firmness, gentleness, and all that is becoming to the scholar and the man. Such examples will foster in the student an admiration for scholarship and manliness. But this power will be weakened in every instance, and rendered wholly inoperative over many students so long as such places as the dining room and the reading room must serve as a gymnasium.

The question then is not whether the Government ought to provide a place of amusement, but whether it is not well, nay imperative, to provide so important and indispensable an agency in the physical, the mental, and especially the moral upbuilding of the young men who are to be the leading agriculturists of the future, and who are to mould our national life.

"RURAL."

The Division of Labour in Agriculture.

It is a matter of common knowledge that in large manufactories the cost of production is lessened by limiting the extent of the work performed by each individual so that each requires to produce more than would otherwise be possible. Thus the man who manufactures nails is employed at nothing else, or it may be that more than one is thus employed, each having his particular part of the work to do. The result is more nails are produced than if each person requiring nails were to occupy himself at their production for an hour and have some other employment for each hour of the day.

Upon attempting to apply this to agriculture it is at once apparent that no such mode can be adopted. The farmer must sow in the seed time and reap in the harvest. He cannot plow all year, neither can he cultivate beyond a certain period. There is a season for doing everything and everything should be done in its season, or it may as well not be done at all.

At this point the application usually drops. I think, however, that a closer consideration of the subject will show that a relationship exists between the producer who is a manufacturer, and the producer who is a farmer. They appear both to be subject to the same conditions and the remedy would seem in both cases to be the same.

The great consideration with the manufacturer is to secure a market. In order to obtain this he must produce an article equal to those already offered for sale, which he must sell at a price as low. His success in the former will depend upon his inventive genius, that of the latter upon his ability to reduce the cost of production. Wherein competition is a "spur to prick the sides of my (his) intent." One mode of securing this end we have already noticed.

The produce of the farmer is also subject to competition. He too must reduce the cost of production. He must acquire a dexterity in some line which will enable him to increase the quantity of his produce. And not only the quantity but the quality as well, for it is the nature of a competition that the best should win. The best always follows the application of the best methods and the greatest care. Then, too, it is necessary in order that the best article may be produced that the natural facilities be favorable for the production of that article.

If this be true the natural conclusion is that the farmer should work on an intensive system, cultivating no more land than he can thoroughly manage, and producing only those articles for which his circumstances are adapted. Should it be necessary to cultivate a less number of acres there will be no loss sustained. Besides the advantages we have indicated there are many of a practical nature which would result from this division of labor. Weeds would be less prevalent than they are, and others which are at once apparent.

W. RUSSELL BISHOP.



Local News.

THE sparrows on the roof chirrup "Liz, Liz."

LODGINGS to let on Upper Hunt Street. Apply to H. Wills.

THERE are plenty of tetradynamous test-tubes on view in the laboratory.

THREE new Holsteins arrived on the 22nd. ult.—a bull, a cow, and a bull calf—from the herd of Mr. Hallman, New Dundee.

GUN drill has re-commenced under the careful instruction of Capt. Clark and Major Davidson. We hope to send a good large contingent to camp.

CHUMPEY'S Army waxeth strong, and Chumpey's Band practiseth nightly; yea, verily, doth it make twilight hideous by its discordant sounds.

THROUGH the kindness of Mr. Crowe, we recently had the pleasure of thoroughly examining, in the live stock class room, one of the prettiest and best Jersey cows in Canada.

THE appearance of the farm is being rapidly improved. The lanes are being laid out, and a big undertaking has just been commenced with a long stretch of new fence on the Brock Road.

THE third year examinations commenced on the 8th. inst. We trust that those who have worked so steadily since October last will be eminently successful in battling with the protracted series of "tough" papers. Mr. E. C. Jeffrey, B. A., is again presiding.

IF the student who so habitually pilfers matches from No. 35 will call round, the mighty Cæsar, on whose manly shoulders the king-becoming graces sit so well, will forthwith provide him with cents enough to ensure a plentiful supply till the end of the term.

STUDENTS and ex-students will be glad to hear of the success of Mr. S. Calvert, of class '86. After taking a post-graduate course here, he entered the 2nd. year at McGill College, Montreal, and has just taken his B. A. Sc. with high honors. He called here last week.

THE G. A. A. A. concert on the 1st. inst. was largely attended by the boys who thoroughly enjoyed the programme, in the first part of which Mr. Worthington sang. The second part had special attractions, for then some 30 or 40 charming young ladies of the city tripped lightly on to the platform to receive medals and prizes.

THE second year had the "shop" examination on the 9th. inst. The practical work consisted in the making of an experimental stake and board from the rough lumber. L'Allegro and Il Penseroso worked at opposite benches, the former was *gay* as becometh his nature and made the best time, but the musing and thoughtful man did not get his "rude axe" to work in very good shape.

A PLEASING innovation was made on the regular routine of the Y. M. C. A. meetings on the 24th. ult., by the holding of a song service. The hymns were from our regular book, while other selections were rendered by Messrs. Ransom and Newcomen on the violin and flute with organ accompaniment. The music was bright and cheerful all through and thus a pleasant and profitable hour was spent.

ON the 23rd. ult. we received a visit from Mr. C. Orsman, who was on his way back to England. He has had some wonderful experiences up N. W. since leaving the College last spring and entertained many an open-mouthed crowd with accounts of his performances at cooking, dairying, etc. There was no paper chase organized for his benefit during his brief stay here, neither had he time to go out to Paisley Block.

THE experimental steers have turned out remarkably well, and great credit is due to Mr. Cuppage for bringing them through the winter so carefully and presenting them for sale in such fine condition. The ten, to whom in 5 pairs of 2 various rations have been fed, averaged 1,563 lbs. apiece. They were bought with 5 other head at 5¼ cts. per lb. by Mr. Snell, of Galt, who paid for the whole lot the respectable sum of \$1,171.47. We hope the farm will pay this year. A few days later 6 hogs were shipped which averaged 300 lbs. and were sold at 5¼ cts. per lb. Several valuable experiments are just being started with regard to hogs, soiling, milk from cows, and actual weight of manure from an animal.

THE river seems to have special attractions for boating parties, for we noticed recently, despite the continuous rain, a select few carefully make their way up stream muffled in waterproofs and covered with rugs. Umbrellas were of course in demand, and stilts would not have been out of place for one boat leaked badly. The return to the College was a triumphant procession of bedraggled skirts and soaked blazers. Playful allusions to that row up the river in the rain are still heard with patience by the long suffering local editor.

OUR readers will hardly be surprised to learn that the O. A. C. has still its old attractions for Messrs. T. B. and N. Willians, who arrived on the 30th ult., and are now nominally on the look-out for work. We must say they hardly appear to be actuated by any stronger desire for exertion of any kind beyond that compelled by the exigencies of tennis and bicycling. Some allowance must be made, however, on account of the influence of W. J. Palmer, A. O. A. C., of '88, who is again with us preparatory to taking the 3rd. year work, and is now open for engagements to instruct students in picking stones or playing tennis.

WITH great regret we have to announce that Mr. Ellerby has left us. During his stay here he has endeared himself to almost everybody by his frank and kindly manner and unfailing good humor. Several boys assembled in the grey dawn of the 17th. inst. and lustily cheered him as he departed. He leaves behind many warm friends who cordially wish him every success. Reports says he may be enquired for at Ottawa. Remembering his own experience here on the night of his arrival, he will not be surprised to hear that Mr. Putman, his successor, had to hunt for his trunk and eventually found it on top of the lockers.

WE had the pleasure lately of a flying visit from Mr. A. E. Shuttleworth. It will be remembered that he was 1st. silver medalist of '82, and then for three years and a half had charge of the experimental work. In the fall of '87 he entered the 2nd. year at McGill College, Montreal, with Mr. Calvert, and, like him, has done splendidly, taking a very high position in the lists for the B. A. Sc. We all tender him our hearty congratulations on his appointment as lecturer at Prince of Wales College, Prince Edward Island, on Agriculture and Agricultural Chemistry, and we trust that this work for which he is so eminently fitted will prove very congenial.

WE were all glad to have Professor Robertson with us for a short time at the beginning of this month. He only had time for a few brief words with us late one Saturday night, when in his own intensely amusing style he sketched the delights of sleeping on the hard slats of Nova Scotia accommodation cars. Bobbie looked particularly amused and radiant when a high compliment was paid to the belles of that Province, but we all sobered down to listen with attention and eagerness to the earnest words of our revered Professor when he endeavoured to instil into our minds the principles of true unselfishness and hopefulness. We again felt the power of his magical influence; and the cordial grasp of the hand, as the beardless youths filed out, convinced us that "touch" is not yet broken with the boys. May it never be!

WE regret to report two recent driving accidents which happened within a few hours of one another. Some visitors from the city had the misfortune to be run against the post at the entrance by their frightened horse, the result being that one of the front wheels was smashed to pieces. After a few yards of most

uncomfortable travelling the animal was stopped: fortunately nobody was hurt. We all sympathize with the Chief of the Fire Brigade in the loss of his fiery steed. Mrs. Angell was driving from the College when the animal fell and broke its leg: an end was put to its suffering in a few minutes by a well directed rifle bullet. A noble army sallied forth in the afternoon to bury it, and returned to the class room with spades, picks, and dissecting knives all completed, meanwhile whistling the "Boulanger March" with great gusto.

Good old "Dr." Rennie has left us. The last quack was uttered in the dining hall on the 22nd ult., when in a forcible and manly speech he wished prosperity to all students here and bade us a kindly farewell. We shall miss him very much, especially those of our number who at any time fall sick, for in waiting on the afflicted ones, and administering timely relief to any in dire necessity, the doctor shone at his best. He has made a specialty of dairy work while here, in fact almost the last time he was seen outside was on the occasion when conducting an experiment in milk analysis, he was discovered in the barnyard endeavoring to urge a mild colley attack an irascible cow to see what effect the chasing would have on the lacteal fluid. Several interested students offered doubtless valuable suggestions, but we fancy "bossy" got the best of it, for we left the scene with a last glimpse of the chief, lashed to the dog (or the dog lashed to him, it matters not) rushing madly round the yard, pausing by whites either to give the dog a breath, or else dodge a pool or skip over the tank when the cow turned on to her pesterers. We understand Mr. Rennie has gone to Watford there to run a cheese factory.

THE results of the Easter examinations are as follows:—

PASSED IN ALL THE SUBJECTS.

First Year—(Ranked according to standing in general proficiency), 1 Gibson, D. Z., Willowgrove, Ont.; 2 Newcomen, W. F., Epping, Eng.; 3 Burns, J. A. S., Halifax, N. S.; 4 Morgan, R. N., Kerwood, Ont.; 5 Wilkin, F. A., Calgary, N. W. T.; 6 Carlyle, W. L., Chesterville, Ont.; 7 Ransom, S., Sydenham, Eng.; 8 Harris, J. C., Calne, Eng.; 9 White, E. F., Clarksburg, Ont.; 10 Perry, E., Smithville, Ont.; 11 Conn, W., Heathcote, Ont.; 12 Cox, E. P., Rosehall, Ont.; 13 Harrison, F. C., Rondo, Spain; 14 Wills, H. G., Toronto, Ont.; 15 Haight, W. L., Wellington, Ont., and Thompson, A., Thorton, Ont.; 17 Worthington, F. H., Brockville, Ont.; 18 Murphy, A., Sydney, C. B., N. S.; 19 Milne, H. C., Brown's Corners, Ont.

Second Year—(Ranked according to standing in general proficiency), 1 Hutt, H. L., South End, Ont.; 2 Harcourt, J., St. Ann's, Ont.; 3 Cowan, R. E., Galt, Ont.; 4 Buchanan, D., Hensall, Ont.; 5 Sleightholm, J. A. B., Humber, Ont.; 6 Whitley, C. F., Enfield, Eng.; 7 Hadwen, G., Lille, France; 8 Hewgill, E. A., Heathcote, Ont.; 9 Mulholland, F., Yorkville, Ont.; 10 Elliott, R., Seaforth, Ont.; 11 Dolson, W. H., Chatham, Ont.; 12 Cowan, J. H., Galt, Ont.; 13 Brown, H. H., Chatham, Ont.; 14 Field, H., Cobourg, Ont.; 15 Webster, F. E., Creemore, Ont.; 16 Holliday, W. B., North Shields, Eng.

AT about 8.45 last Tuesday evening the peaceful hour of study was rudely disturbed by a fantastically apparelled figure rushing along the halls crying in hoarse, discordant tones the appalling words fire! fire! In an instant the most intense excitement prevailed, as scattering notebooks, pens, and chairs right and left, forth from their several rooms rushed the breathless students to gather for a moment in anxious groups about the dim lights of the 2 feet

gas jets and eagerly exclaim where? barn, office, or what? Having satisfied themselves that everybody was trying to find out and that nobody knew definitely, they cleared the stairs at a bound almost precipitating themselves into the arms of some ladies at the foot, who in a startled knot re-echoed the the blank enquiry—where? On yet, but at another turn of the corridor the mystery was solved. During the rounds of the Professor on duty the serpentine coils of rubber tubing, which connect the pipe in the wall with his portable gas lamp, had tumbled from their support dragging the stand on to the floor. The burner being jerked out in the fall a huge jet of gas flared away across the carpet and issued beneath the door. Fortunately at that moment a student noticed it, and no key being available, a violent rush against the door by two others forced it open, when the tap was quickly turned off. Hardly five cents worth of damage was done, but the loss must have been serious if the flames had remained undiscovered for two minutes longer. Meanwhile, the fire drill standing the boys in good stead, the hose had been got in readiness but poor Jack was baulked of his fiery prey, and subsequently could hardly be restrained in his overwhelming desire to test the dissolving power of water on the crowd that had almost instantaneously gathered even from the remotest rooms in the building. Rumor says that the small youth upstairs had his trunk packed in a twinkling, and after running down town to get his life insured, could hardly be persuaded to return to his lonely roost. Another frightened one retired to the bath room and burying himself chin deep in the water remained there so thoroughly scared and mute that he got locked in.

FOOTBALL.—In order to get the team up to cup form, two matches were arranged with the town. The first took place on the College lawn; though we had the game mostly under Guelph's goal yet owing to inferior shooting we were unable to score, while by two hot grounders Orton credited a win for the town; Bayne scored the only goal for the College by rushing through. The return was played on the Exhibition grounds, when the College reversed matters by 3 to 1. The game was most agreeable, it being evident that the College forwards had improved in their attacks though they might still do better shooting; all their goals were gained by Bayne rushing through. On the average the team is heavy, especially in the back division. The forwards have plenty of pace, but should check and shoot more. The second eleven have some first rate material and can give the first a good game.

On Saturday the 17th. inst. a game was played on the college campus before a moderately large attendance, between the O. A. C. and Elora, it being the first draw for the Wellington district cup of the Western Association. At 4.30 the ball was started by Elora against a strong wind. With this advantage the college soon had the game in close proximity to the visitor's goal. Shot after shot were put in but owing to the grand goal-keeping of Norris no point was obtained; a relief by the Elora backs and good passing of the forwards carried the ball into the College territory, when McFarlane became very busy—several times using his hands. Elora then put the ball through but the point was disallowed owing to an appeal by Elora for hands. After a couple of corners to Elora, from which nothing resulted, the ball was carried by a combined dribble of the College forwards to within shooting distance, nothing, however, resulted. "Time" being called soon after the teams changed over, Elora now having the advantage of the wind. On re-lining the leather was set in mo-

tion by Orton and immediately carried in front of Elora's goal. A warm grounder was cleverly saved by Norris. The College now pressed for several minutes, "corners" being the only result. Relief now came to Elora, the ball being carried into College grounds, where it remained for several minutes, Shantz and Ransom showing a fine defensive game. From now till "no side" the sphere was carried from end to end, but without definite result, a splendid and most enjoyable game resulting in a draw, neither side scoring. Of the individual play of the visitors, Norris' alone was above the average, his defence being nothing short of brilliant, and alone saving Elora from defeat; the forwards played a sound passing game, but lacked dash and were seldom able to get beyond Shantz or Ransom. For the College, McFarlane (in goal) had but little to do, but did that well using his hands better than in practice matches this season. Of the play of Shantz and Ransom at back enough has been said to prove they were indispensable to their side; of the half-backs, Dolsen and Webster showed themselves difficult to get past, but neither are too strong in their kicking. Among the forwards Orton showed to great advantage as centre. Raymond on the wing did good work. Willans, Monk, R. Ransom and Bayne in the first half did not seem to be playing with their accustomed dash, but on changing ends woke up and put in some good work. As a summary, the game was most agreeable, being free from all wrangling. The college showed better combined form than their opponents. The grounds were in the pink of condition. At the close of the match a tasty supper was partaken of, and a few short speeches afterwards finished the proceedings. The return match is fixed for Elora on the 26th. The following represented the respective sides:—

ELORA.

Goal—Norris. Backs—Elliott and McColgan. Half-backs—Bryans and Scott. Forwards—Allan, Krausman, Godfrey, Davidson, Kirby and Ryan.

O. A. C.

Goal—McFarlane. Backs—Ransom and Shantz. Half-backs—Dolsen and Webster. Forwards—R. Ransom, Willans, Bayne (Captain), Orton, Monk and Raymond.



Geo. Westlake, of '83, is farming on an extensive scale near St. Thomas, Ont.

Jonas Jones, '77, owns a thriving horse and cattle ranch in the Pincher Creek District.

G. Wilson, '84, and J. H. Kemmis, '84, are also engaged on ranches in the neighborhood of Pincher Creek.

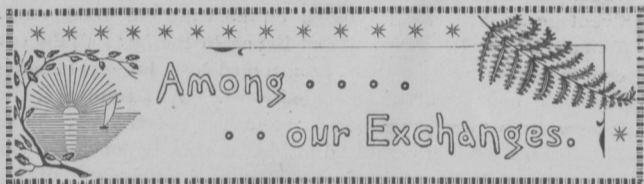
F. Jackson, '88, and F. Marsack, '89, are working on separate ranches near Pine Creek, Calgary. The ranches are stocked with pure bred Herefords.

S. R. S. Bayne, '88, is working on a large cattle ranch a few miles north of Pincher Creek. He had the care of 200 head of stock during the past winter, which was a severe one, but proved himself equal to the task.

C. J. Mott, '88, who went direct to Kamloops, B. C., is now on a sheep ranch in the neighborhood of Calgary, considering it better to settle on prairie land in Alberta than to take up bush land in British Columbia and have the labor of clearing it.

It is with regret we chronicle the death of S. Davies, of Special Class, '84, which occurred in New York on the 22nd ult. Deceased had spent the winter in Nassau, Bahamas, and was on his way home to resume operations on his beautiful farm, "Kine Croft," near Markham Village, York Co., Ont.

C. R. Notman, V. S., A. O. A. C. of '86, is engaged in farming on an extensive scale near Warton, Ont. We glean the following from the Warton *Enchore* under the heading "Skilled Farming":—Dr. C. R. Notman has erected one of the largest barns in the county, in connection with which is a silo; the first built in this part of the country. Dr. Notman obtained the Government second prize for the best essay on the "Cultivation of green crops for soiling, and their value in farm operations."



John Hopkins, the founder of the University that bears his name in Baltimore, entered the same city at the age of 19 with 62 cents in his pockets and died worth \$7,000,000. He worked harder to make the first \$1,000 than he did to make all the rest.—*Ex.*

We see by the *Owl* that the Ottawa College football team will be prepared to meet the successful team of the Union for the championship of Canada. It also goes on to say, that until this honor is won from us first place in the Union will mean little more than the custody of the cup.

The Central Luminary, from Kansas, Mo., finds its way into our sanctum with the pleasant words, "please exchange," written on the first page. This paper, published by the pupils of the High School, is a credit to the institution. We hope to be able to exchange with you regularly, as we are pleased with your first visit.

For taste, systematic arrangement, and careful selection of material, *The Aegis* from Wisconsin University, is equal to our leading exchanges. The literary portion of the paper attracts special attention for the well written articles, which gives a cheerfulness to the reader. We will be always glad to welcome the *Aegis* as one of our exchanges.

The Sunbeam sheds a ray of glory on the soldier. This month's issue contains a very good account of the Mackenzie Rebellion. Last month contained an article on the Crimean war. We have always noticed the fondness girls have for the red-coat, and are glad to see them admire their courage, but we would be sorry to see them adopt the *coiffure a la militaire*.

A well written paper may be said to resemble a gentle person; it is humorous, but not boisterous; newsy, but not gossipy; serious without becoming tedious; at times enthusiastic but never to the extent of ranting; it censures evil but not persons; it endeavours to be just and thoughtful of all, and hurts the feelings of none. It is this that gives dignity to a college paper.—*Ex.*

The Mississippi Agricultural and Mechanical College Journal, after a short absence from our table, has at last filed an appearance. This paper is not as large as the average College paper, but it contains some very spicy literary articles and, no doubt, interesting locals. A neat cover would add a great deal to its appearance. From its columns we clip the following: Prof. G. C. Creelman has taken charge of the green-house and floral department. He has begun adorning our railroad front with shrubs, flowers, etc., and it promises to present an attractive labyrinth of beauty and fragrance by commencement.

From among our exchanges we take the following two paragraphs. The first is from *College Chips*, Deborah, Iowa:—

"It is estimated that one man in 3,000 in England takes a college course; one in 200 in the United States; one in 614 in Scotland, and one in 213 in Germany.

The following is quoted from the April number of the *Cornellian*:

"What we need is fewer colleges, and these with a greater number of students and better equipment; fewer sham-colleges and a greater number of high-schools, academies, and seminaries."

College Chips represents a large Norwegian College in Iowa, the latter half of which our editor was unable to decipher, the Norwegian language being his only weak point.

We are pleased to welcome *The Speculum*, from Michigan Agricultural College, among our exchanges. We especially welcome it on account of it being edited by the students of an Agricultural College similar to that of our own. Its columns tell of the interest the students feel in all that concerns their Alma Mater and shows that M. A. C. is making rapid progress in agricultural and experimental work in general. The present number contains an excellent article on the "Influence of College Life," in which it states some of the more important principles underlying the intellectual and moral development of the mind and the direct influence under which a student is brought to bear during a College course. An article on College Athletics is strong and well written and does not exaggerate in any way the benefits derived from sports in general. There are several other good articles, making a very attractive paper, and if we can judge from this number the editorial staff is doing good work of which their fellow students have no cause to feel ashamed.

That one of our students is an unusually ardent lover of poetry is evinced by the fact that a lecture on "Outlines of English Literature" caused the spontaneous production of the following rhythmic lines:

I here foresee
A pluck for me.

—*Clip N. M. C. C.*

COLLEGE NEWS.

The entire membership of college fraternities is put at seventy-five thousand.

In one of the lecture rooms at the University of Nebraska there is a clock one hundred and fifty years old.—*Ex.*

Do not be afraid of educating too many people. Be afraid of educating falsely so called and more particularly of sham and cram.—*Queen's College Journal.*

The first college paper was issued by the students of Dartmouth in 1821, and was called the *Gazette*. Daniel Webster was a contributor under the pseudonym of "Icarus."—*Ex.*

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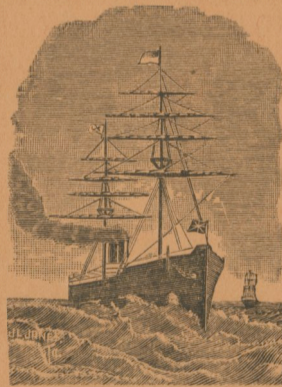
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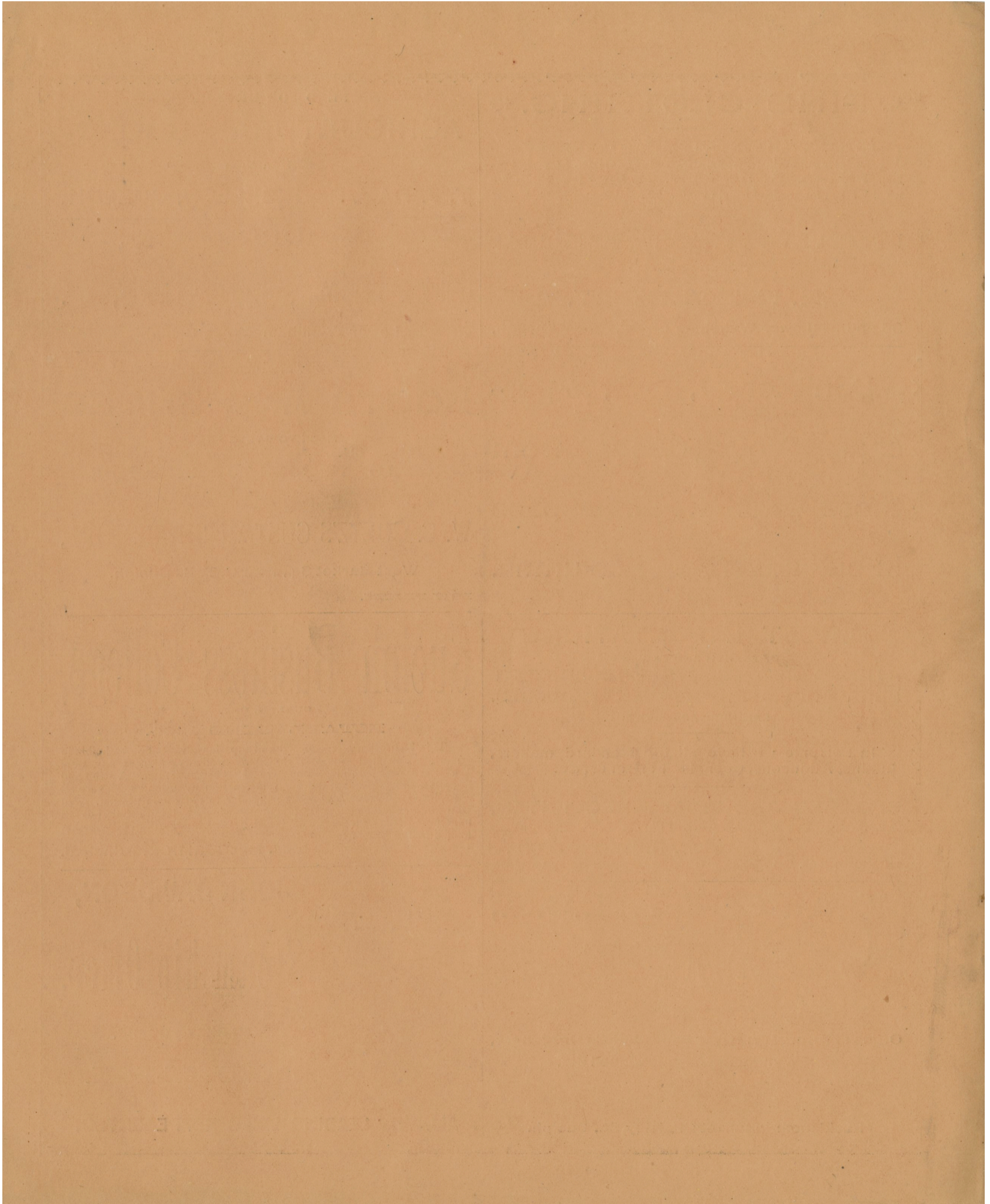
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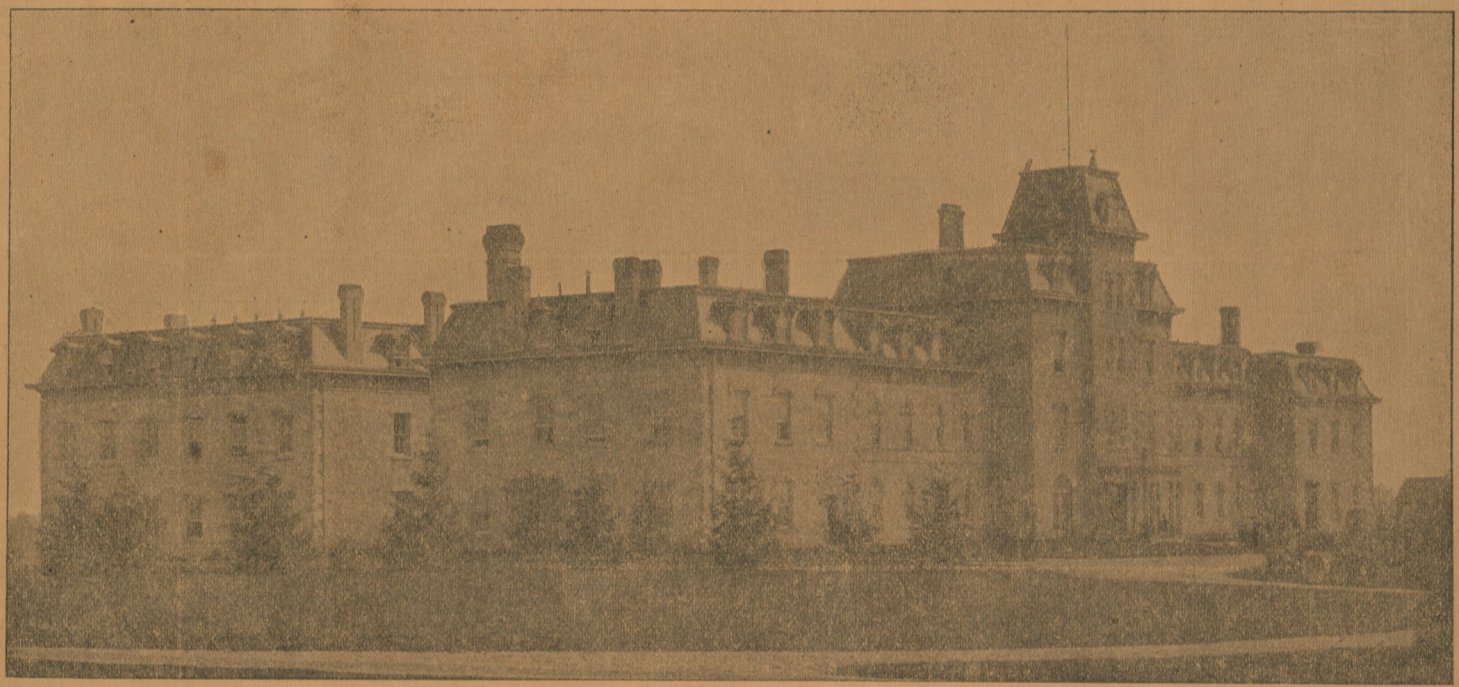
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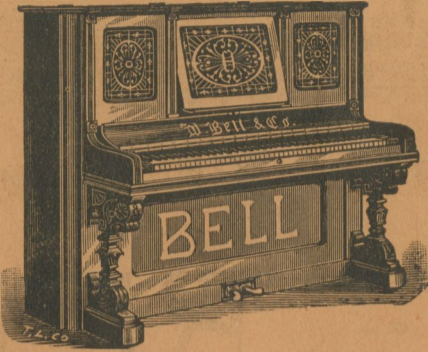
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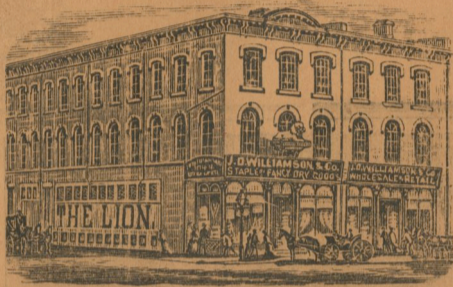


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Vol. I.

GUELPH, ONT., JUNE, 1890.

No. 9. 8

THE O. A. C. REVIEW,

PUBLISHED MONTHLY, DURING THE COLLEGE YEAR, BY THE LITERARY SOCIETY OF THE ONTARIO AGRICULTURAL COLLEGE, GUELPH.

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THE O. A. C. REVIEW will spare no endeavor to furnish reliable news and information to those interested in farming operations.

Ex-students will confer a great favor on the Editors of this Journal by sending news, particularly experiences of practical value.

EDITORIAL.

Owing to the fact that no essays at the proper time had been received for the prize offered by the Literary Society on the subject, "The Ontario Agricultural College as a Link in our Educational System," of which due notice was given in our March number, it was resolved at a recent meeting of the committee to withhold the prize until next year when it will be offered again. Those who have written essays may preserve them until then and those who have not, we hope will make an effort to contribute a first-class article so that not only will it be a credit to the winner, but also may do much good towards increasing the number of students in attendance at the only farmers' college in the Province.

Due notice will be given of any changes that may be made in the rules of the competition and, if none are announced, they will be the same as stated in the March number of this year.

* * *

Nearly every institution of learning in the Province, from the public school to the Provincial University, feels the great deficiency there is among those who attend, in a proper knowledge

of that branch of learning upon which all other branches are dependent that they may be of the greatest utility, namely: English. We were hardly prepared to hear the Chancellor of one of the great Universities of the Continent endeavoring to impress upon its graduates the need there was that each and every graduate should be able to express him or herself in good English, as we had thought that such a thing was wholly unnecessary. The fact, however, is too plain to be ignored, and something ought to be done that students who go up to the higher institutions of learning may have a better grasp of their mother tongue. But how shall this be accomplished?

First—The time to commence is in the home before a child is sent to school at all. All parents should endeavor to have a child speak properly from its earliest lisping. Why speak baby talk to it when plain English would be as well understood and is as easily learned as the tootsy wootsy nonsense commonly addressed to children?

When the child is older don't say, "John go and *bring in them air* calves and mind *yer* don't hang *on'ter* their tails," but try and improve on backwoods phraseology. If Sarah says, "*Can me* and John go to the woods to pick flowers?" gently correct her but above all things practise what you preach, because example teaches more forcibly than precept. Space forbids enlargement upon this point and the next must also be shortened for the same reason.

The second point that needs attention is the manner of teaching English in the public schools. Not one boy or girl out of ten cares to study any part of English, but especially grammar, for the reason that not one teacher out of ten knows how to make English an interesting study. The majority set the pupils to learn dry definitions which are forgotten more quickly than they are memorized, and for which pupils, as a rule, have a great disgust. Great care is required on the part of teachers that those who are placed in their charge should not get a dislike for the subject, as a dislike once acquired is difficult to get wholly freed from, and hence the need there is for special attention when a child is beginning the study of the language.

While there are many subjects which are required to be taught in our schools and colleges, and the time may be almost fully occupied now, yet a little more care and attention to that branch of study by means of which we communicate our thoughts and ideas one to another will well repay every pupil in the public schools and every student at our colleges and universities. What will it profit a man if he has all knowledge yet is not able to express himself clearly and forcibly? He is like a valuable article encased deep in the earth where no man is able to reach it. It might be of great service to mankind if it were where it could be useful, but as it is its usefulness—o and the good which it does to mankind is of like measure.

Valedictory.

The time has now come, dear readers, when we shall have to lay down the pen and make room for another. Our little craft will have made one round trip when this number reaches our readers. The venture has been a successful one in many ways and we hope that those who have scanned our craft from top to bottom for seven months feel that she has fulfilled what we said we should try and make her when we started. There were, doubtless, many points in which she might have been improved, but all that limited time and means could do, has been done that she might carry her news safely to our subscribers and yet not swamp the projectors of the scheme. All the canvas has not been used that might have been used did finances allow it, but we have sought to make the very best possible use of that placed at our disposal. Standing on the shore and looking backward on the not trackless voyage we think that we have reason to congratulate ourselves that the voyage has been so successful. Yet, not to us is the credit due, but to the able support which we as a staff have received from friends, ex-students and students. With such an army of helpers to back us we could *not* fail, in spite of predictions that may have been made to the contrary. To all who have so aided us, the members of the staff owe a deep debt of gratitude, and in their behalf we thank you most heartily. In taking a last lingering look at the past it causes a feeling of sadness that we who have met and chatted together through the columns of the REVIEW during this college year must now part, but we hope that one far abler will fill the editorial chair next year and in years to come.

The present standing of the paper is quite satisfactory as to finances, and those who have charge next year will not have a bare treasury to start with, besides, they will have a year's experience to guide them. Where there have been weaknesses this year they may be strengthened next, and where we have lacked in ability, push and vigor we hope that those succeeding us will make an extra effort, thereby strengthening the position of our college paper, making it a part of the institution and dear to everyone who has dwelt inside her walls or takes an interest in the welfare of the farming classes. If properly managed it will be a power in the hands of the students and also do much to give the college a better standing in the eyes of those who are not as well acquainted with it and the work that is being done here as they might be.

Large oaks from small acorns grow, and so it may be expected that the acorn which has been planted by the classes of '90 will be the nucleus of a mighty paper, and that it will continue to grow until its branches shall have cast a grateful shade into nearly every rural home in the Dominion. Think you that this is saying too much? Not at all. We hope that the time is coming when every farm will feel, more or less, the reviving and invigorating influence of the O. A. C. from some source or other; if not from direct aid given to the tiller of the soil which surrounds that home, indirectly through some of the many channels by means of which light and knowledge is being shed upon the hard-handed sons of toil.

Although difficulties may arise and hills peep o'er hills until it may, at times, seem almost impossible to carry on the paper, yet to those who may follow us, we say, be determined that nothing will prevent you from issuing, at least once a month, a paper that

will be a credit to this institution and to the class of men who attend it. The practice at journalism which you obtain will more than compensate for any trouble and seeming loss of time.

But we must hasten to a close. As the glimmering landscape fades and thoughts of future scenes with their many changes so different from anything we have experienced during the college terms, as thoughts of these rise up before us we would fain linger yet awhile but life's duties call us hence and we must obey.

And now, dear friends, farewell.
To Alma Mater too, we say farewell.
Where'er we wander boast of this we can,
From raw material you can make a "man."



Forecasts of the Weather.

Meet an acquaintance of any profession or persuasion and ten out of ten times the first greeting will be closely related to the weather, either through the mother's side by way of Boreas or the father's in the person of old Sol. Women give it the first thought, if they are followers of fashion, because it makes or mars their pleasure or complexion; if not of that guild, they discuss it because it reflects their agreeableness or it may be influences the till or temper of the pate of the household; men give it precedence, if of great intellect, because it is a topic of common interest and affords an uncompromising way of showing their seeming condescension; men, if of small minds, do likewise, because it is a cheap and easy way to ape those of the greater; the youth of both sexes broach it first, if bashful, because the biggest foot that ever smacked the gentle earth couldn't be put into it; if self confident, because it is barren, the possibility of an argument thereby carrying out the similarity of animal nature for, as the epigram has it, canines will gladly play with a stick but quickly fight over a bone. I have taken this theme not through the homespun excuse of being asked, but for the reason that it is a burning question, in many senses, when Leo clerks in the weather grocery, and further, it is a subject over which one may kick a free toe and not have it stubbed by scientific pegs.

The person who has not brooded over the weather until rewarded by the hatching of some sublime ideas is not a fit and proper candidate for parliamentary honors as some people would naturally think, but such a one would serve the interests of his country better holding a candle for a blind man. "Sunshine abounds everywhere," says that excellent essayist, Burroughs, who appears to be a chum of nature's, "but only where the rain or dew falls is their life." In its descent the rain purifies the atmosphere and enriches the soil not only by settling bacteria and gases, but also as we have verified tales to tell, by bringing from their celestial home amongst the clouds myriads of evergreen frogs and toads to fertilize the earth. We are told that in breathing we receive three-fourths of our nourishment and so much rain have we in our systems that as the essayist forementioned poetically says seven-tenths of the human race rained down yesterday, and as he further remarks it is much more probable that

the imperial Cæsar will flow out of a bung-hole than that any part of his remains will ever stop one as W. Shakespeare has intimated. Think of the fact that but for the moisture in the blood the little corpuscles of that fluid could never go travelling on a return ticket, and but for that same fluidity which flushes and nourishes every part of the body the juiciest mortal would become as dry as any dead language. The veteran of the forest as well as the toddling recruit must take its food in the form of a broth brewed by Dame Nature, and on the little streams that go so far against their nature as to travel uphill on the stems of plants mostly all vegetation must depend for complete nourishment.

The year 1838, the happiest era for weather almanacs, marked the acquisition of many indications of forthcoming weather and that agitation was due to the enterprise of Hibernian, one Patrick Murphy, who, in his almanac, happened to foretell the coldest day of the year. The result was that for a while his publishing house had to be protected by police, but it was not long before his farm became involved and could only pay a few cents on the dollar. The science of meteorology has suffered in a sense with the progress of civilization; for owing to the craving of philosophy to connect cause and effect the signs of the state of the weather were converted into rules and hence through our advancement the forecasts of the weather were long a farce, but of recent years observation and experience fought down the weak ones and have brought the strong ones more prominent into view.

The reliable forecasts of rain that will be the same to-day and to-morrow are as many as the abandoned hairs on the top of the decorticated head of a learned man and as various as the drachms of sand on the seashore. Of all persons interested in the reading of the countenance of the weather clerk, the farmer should be and generally is the most skilful adept as he cultivates, reaps and markets weather all his life from the time he sells pirated eggs at the village store for chewing gum until riper years and sounder judgment open other fields of enterprise. Of all the unique weather forecasts the human barometer cannot be paralleled. I refer to the man of the fractured finger or he that is troubled with the "tarnal rumatz," who finds as soon as the electricity begins to gambol on its atmospheric play ground, or chase its tail through his system the finger pains or the dried joints creak in their sockets. This is a staunch and true sign, but few people care to bear with the sorrows of an outraged finger to be able to tell others when it is going to rain, and I may say that it is just such anticlinal outcrops of brute ancestry that strengthens my faith in the theory of evolution. Corns also take a painful interest in the doings of the weather, and a robust and lusty corn never fails to make itself obnoxious when a storm is being brewed. The Zuni Indians of New Mexico have a forecast which is expressed in the following beautiful rhythmical flow of language:—"When the locks of the Navajos grow damp in the scalp house surely it will rain." These good people, however, have a monopoly of locks and scalps so that we may overlook the reliability of that sign. The moon of course must have a finger in this pie. Not content with connecting the moon with insanity of human beings the ancient Pliny who seems to have been a "brawny farmer" accepts its phases as a guide for all his operations. There is the "red moon," a term applied to the full moon occurring between the middle of April and the last of May, that was at one time credited with the confidence of the weather, but it now appears that that cabinet has been dissolved and the "watery" moon has the confidence of the government. The "watery" moon or sun

is not so as some folks suppose because sun's or moon's eye gets watery from steady staring, but the seeming halo that forms around a "watery" moon or sun is caused by the refraction of the lunar or solar rays owing to the vapour in the atmosphere, somewhat similar to the course that gives us a right of the rainbow. Let us say that the twelve year's constant observation of M. Arago at the Paris observatory leads that scientist to the conclusion that the moon has no conceivable effect upon the weather.

Birds and animals that are constantly in communion with nature undoubtedly possess the ability to foretell coming showers. One of the best signs you well know, especially if you have been the youngest of the family and have had to figure on the world's stage largely in the role of a "cow boy," is to be seen in the conduct of the old cow when she begins to scratch her ear with her toe nail, and also indulgently thump her ribs with her tail. If you have had eyes for such things, you will have noticed it is the flies that stick so close when the air is moist that accounts best for such actions on her part; though the electricity in the atmosphere may stimulate the old cow to perform such acrobatic feats. When the pig carries sticks it is said "the clouds will play tricks" and when they lie in the mud "no fears of a flood," but this has not commended itself to my judgment, for the pig, though intelligent when sent to school early is not in any way related to any of our weather prophets. There are other accepted signs in dogs barking in their sleep, in lambs twirling the light fantastic tail and others, but there is no common sense in them, they are full to the neck of sublime imagery and pathetic fallacy. I have been told by hunters that when the yellow hammer screams so outrageously or the red headed woodpecker lifts up his grating voice, which he rarely does, they are calling for rain. No one can have failed to notice that on such days or evenings as precede a storm the chirrups of the robin, the old frog gargling his throat in the creek beyond, and the sweet flowing notes of the song sparrow are heard with marvellous distinctness; which I suppose may be accounted for by the fact that the air preceding a rainfall is denser and for that reason transmits the sound more easily.

There are other signs of the weather that may be commonly observed, but they are mostly such that had their birth in a mythical age and were reared in an era of superstition. That the weather can be foretold for a day is not to be questioned, and having granted that there is surely a time coming when scientists having mastered the natural laws that govern the atmospheric regions as they have done in other fields, they may bless the world with forecastings of the weather of future days.

"CAIUS CASSIUS."

Correspondence *

* and Contributed.

Character.

Character is a possession. In its noblest embodiments, man is seen at his best. It is an expression of a whole nature; the very centre of his being; portraying itself in every thought and action, revealing not only a man's greatness but likewise his imperfections. Slowly and imperceptibly, by little acts becoming confirmed in habit, and, according as the individual will is directed towards good

or evil, thus proving itself either a ruler or slave, is character formed.

One of the most potent influences that bear on the formation of character, is example. "It is the school of mankind, and they will learn at no other." It is more than precept. It is teaching without words. Although man is endowed with powers contributing to his own development, yet, it is by the influences of his earlier surroundings, the examples set before him, which he unconsciously imitates, that mould and leave a lasting impression on his character.

It is not without the greatest effort, however, that the highest standard of character may be attained. It is only by energy of will, in moral discipline, and in the supremacy of self control, that man may be crowned with ultimate success. He then embodies the ideal of manliness, his acts become repeated in the lives of others; his words ring through the universe as a trumpet, inspiring and invigorating sluggish natures with new life. Thus did the words of Martin Luther ring through modern Germany and the words of Knox ring through Scotland. The sentiments of these men have left a lasting impression on the minds and hearts of all nations.

The very mainspring of great action in character is energy, and combined with self-possession, a man may apply his powers to the best advantages. It is the strong energetic character who is the leader in the world, drawing others along with him, by a kind of magnetic influence, thus evoking enthusiasm, and inspiring kindred spirits to follow in his footsteps. This wonderful power, this latent force, perhaps, in its grandest exemplifications, is found in those characters, who have passed through a progress of natural growth. Every step is marked by a persevering effort, in self-discipline, self-watchfulness, and self-control, through a material world, as it were, to a spiritual. And then, their deeds instilled with moral energy are immortalized. These characters are the beacons of the world, illuminating and radiating the paths around them, not only does their light fall on those who live at the same time, but it continues to fall on all succeeding generations. In fact, there are men whose greatest victories have been achieved after they were lying in the tomb. Never was Caesar more powerful than when he lay weltering in his own blood at the feet of his slayer. Never did the character of Abraham Lincoln exercise greater power, than after his assassination, then, and only then, did the nation realize the nobleness of their martyred President. Truly, great characters elevate the nation to which they belong. Their careers remain as mighty monuments of example, fortifying and perpetuating its glory. The purity, unselfishness, and patriotism, which shone in the character of George Washington, places him on a higher pedestal than that occupied by conquerors. The deliverer of a mighty nation he was, indeed, the father of his country, his life and work can never be forgotten, and posterity will bless his name as one who was first in war, first in peace, and first in the hearts of his countrymen. Still, there are characters who have gained a reputation of greatness in action, it is true, but reputation is not character. "Reputation is what men think of us, and character is what God and the angels know of us." Neither does character consist of power. Napoleon craved power, and acquired it. No General ever exercised a greater influence over his soldiers, his word was as magic. None dare disobey. One of the greatest warriors the world has ever seen, unequalled by Alexander, Hannibal or Caesar, yet, although we cannot fail to admire his skill as a general, we cannot be blind to

the fact that he lacked those moral principles which are revealed in all noble lives.

Not only is character portrayed in practical life, there is a wider sphere, where more lasting influences are felt, and that is, in literature. The character of all great men is manifested in their works. These works are as living voices, whispering to us the thoughts, the ideas, the feelings of the authors. They are the very essence of immortality. Paintings decay and fade away, monuments moulder and crumble into dust, but the productions of such men as Homer, Virgil, Plutarch, Shakespeare and Milton still survive. Their thoughts are as fresh now in the minds of men as they were ages ago, and never can be effaced. Again, there are characters whose noble deeds no history records, and of which renown is mute. These are found amidst trials and difficulties, chastened by adversity, inspired with noble courage, they tread the paths of life, whispering words of comfort and cheer, thus encouraging many a weary soul to resume his burdens with renewed energy and hope. In prisons, in hospitals, in the very lowest haunts of vice we meet them, undauntedly pursuing their labor of love, without regard for fame or reward. These are the true christian characters.

"As chastened, and not killed; as sorrowful, yet always rejoicing; as poor, yet making many rich; as having nothing and yet possessing all things."

Their noble acts are chronicled in that book of life, where no eye ever penetrates, save that of the Almighty.

MRS. W. F. GOLDIE,
East Saginaw, Mich.



Paul Amose Carpenter.

Again it is our sad duty to chronicle the death of one of our most promising Associates, that of Paul A. Carpenter, who died on the 10th. May, at his father's residence in Collingwood, Ont.

Paul entered on his course at the O. A. C. in '82, and through his perseverance and energy succeeded in winning the Gold Medal in '84. His loving nature and upright character made him highly esteemed by his fellow students.

He took a deep interest in the work of the Literary Society while in residence, and as an ex-student took an active part in the work of the Experimental Union, contributing a paper on "Study" to the Union meeting of '86, which may be found in the College report of that year, and is well worth perusal.

Mr. Carpenter's health after leaving the College was such that he was practically debarred from following his chosen profession, in which, had his health permitted, he would undoubtedly have taken a foremost place.

The parents and friends of deceased have the heartfelt sympathy of the REVIEW staff.

"Death loves a shining mark."

Lord Boyle, whose whereabouts is causing world-wide interest, was a student at the O. A. C. in '83, along with his brother, the Hon. H. G. Boyle.

Our loquacious friend, S. W. Nelles, of '87, is working on his father's farm near York, in Haldimand Co. We expect to hear of S. W.'s taking the stump in that county so noted for elections and politics.

A. W. Ballantyne, '84, of Stratford, Ont., is studying law in Toronto, and bids fair to become a light in that profession. His oratorical development is due in a great measure to his first efforts in our Literary Society.

R. A. Begg, of '82, formerly of Orillia, Ont., is now in the Calgary District, where he located shortly after leaving the College in '82. He is engaged in stock raising, cattle, sheep and horses for which his ranch is well adapted.

H. S. Holcroft, Special Class of '84, and E. C. Quinn, '84, formerly of Orillia, Ont., are farming on a 1,300 acre ranch 25 miles south-east of High River, in the Calgary District. They are well pleased with their location, which is well watered and fertile, suitable for stock or grain growing. The country is becoming thickly settled, a pleasant change from five years ago, the date of their settlement.

C. H. McNish, '81, is at present holding a very responsible position as manager of the large stock farm of Messrs. Wm. Davies & Son, of Toronto. Since attending the College Mr. McNish held an equally important situation in the employ of a leading stock breeder in Wisconsin, but his love for his native land (and perhaps there was another element in the case) induced him to return to Ontario to his excellent stock farm at Lynn and join the ranks of the Benedicts. Report has it that Mr. McNish has already shown his skill in bringing Mr. Davies' beautiful two hundred acre farm at Markham into a splendid state of cultivation. The large herds of Guernsey cattle and Yorkshire swine give evidence of being in the care of a practical and efficient stockman.

The land of the screaming eagle and chin-whiskered Yankee has captured the appreciation of another of our Bachelors. J. J. Fee, B. S. A., '88, is now at Helena, Montana, U. S., toying with precious minerals and tooting the blow pipe in a large assay establishment at that place. John carried with him (besides his wallet, tooth brush and revolver) the many kind wishes of his numerous friends. The position he holds is one of importance, and the firm is one of large connections. John even now talks of thousands in a reckless and ruthless sort of way, and tells of the frequent shipment of bullion bars of silver from Helena to the mint at Philadelphia. He was treated recently to the sight of seeing \$80,000 of silver bullion shipped by express in bars. A foot note giving his address facetiously puts in parenthesis, "Never mind the B.S.A., they have no handles in this country."

ALL ex-students will be delighted to hear of Mr. C. A. Zavitz's marriage, which took place on June 3rd. We toasted the happy couple most heartily in the dining hall and telegraphed our congratulations down to Bloomfield.

TOWER fellows are fond of exercise, but we wish they would not take it between 10 and 11 p.m. One sweet little cherub up aloft got nicely caught the other evening. He had begged to be excused off an early morning meeting as he said he wished to study late. His work the evening in question consisted in a prolonged and noisy wrestling match. Right in the middle in walked his excuser, Prof. Hunt, who being taken for a student was promptly and vigorously kicked at.



GAY'S ELEGY.

Written in the O. A. C. Barnyard.

The loud gong calls us at the break of day,
Its tones resounding through the O. A. C.,
Its answering echoes slowly die away
And leave the world to silence and to me.

As fade John's lingering footsteps on the floors
The morning air a solemn silence holds,
Save from Bayne's room whence still unbroken snores
Come muffled from beneath the bedding's folds.

Save that one hears far up within the tower
Some 3rd. year student unto John complain
At being called at that unearthly hour,
Then turns and tries to go to sleep again.

Within those whitewashed rooms on Jimmy's flat
The drowsy students from their warm beds creep.
Is there on earth discomfort worse than that
Of being roused so early from one's sleep?

A scent of breakfast floats upon the morn,
The knife doth rattle 'gainst the earthen plate,
And hurrying footfalls now the students warn
To "get a wiggle on" or they'll be late!

For them once more the porridge bowl is filled,
For them the juicy sausages are fried,
Arabia's fragrant berry is distilled
And milk fresh from the dairy is supplied.

To study then, their merry course they take
And wrest from nature her stupendous store,
The fruits of knowledge from the trees they shake,
With restless greed that ever asks for more.

The midday meal of simple fare consists,
They quench their thirst with draughts of H₂O,
The stout "bull beef" their molar teeth resists;
Their simple wants supplied, they rise and go.

Some to their studies, others to the field,
Some with their bodies, others with their minds
Are pleased to labor. Some the pitchfork wield,
Whilst others practise works of various kinds.

Some tend the cattle, and the fragrant hay
And silage deal to all with thoughtful care,
Whilst some in threshing wile the hours away
Or with Professor Shaw the roads prepare.

The harvest doth to their self-binder yield,
Their furrow oft the stubborn glebe hath broke.
How cheerfully they labored in the field!
How fell the bush before their sturdy stroke!

Each as he labors, still finds time for thought,
And cons the lectures over in his mind;
Puts into practice all he has been taught
Soliloquizing something in this kind—

“Let not the Shorthorn mock the humble Scrub
Its simple wants and ancestry obscure,
Nor Jerseys give the Herefords the snub
Because their yield of milk is very poor.

“The boast of ancestry, the milking power,
And all that symmetry or breed ere gave
Await alike the inevitable hour
And all this glory leads but to the grave.

“Nor you, ye proud, impute to these the blame
If owners of these herds no stockbooks keep,
And by these means perpetuate their fame
When cold within the dust their bodies sleep.

“Can Grenside or all veterinary skill
Back to its mansion call the fleeting breath?
Man's boasted power enables him to kill,
But cannot call the spirit back from death.”

List the loud clamor of the supper bell!
See smiling students flocking to their teas!
The odors borne upon the breeze foretell
Of prunes, of mincemeat, or of toasted cheese.

Perchance within the O. A. C. may dwell
Some student smitten with the dart of love.
Who loving, loves “not wisely, but too well,”
And spends weeks doting on a lady's glove.

But rules for their restraint by wiser men
And laws and punishments have been designed;
The students must be in by half-past ten
Or be reported, and forthwith be fined!!

Oh, who, to dumb forgetfulness a prey,
The fair Guelph ladies hath at ten resigned!
Or sauntered slowly on the homeward way,
Nor cast one longing lingering look behind!

Some first year student may with dauntless mind
Meander slowly up the front hall stairs,
Or whilst his pipe with incense fills the wind,
Light on the President quite unawares.

Full many a pot of strawberry jam I ween
The dusty shelves of college cupboards bear;
Full many a damsel languishes unseen
Because her student lover is not there.

Now sleep and rest, which do alike repay
The labors of the peasant and the king,
Steals them from care and anxious thought away
Until the jangling gong once more doth ring.

Nor further seek their frailties to expose,
Futurity shall mark their rise or fall;
And Providence shall in good time disclose
The path of duty marked out for them all.

By the author of that touching poem, “My Classroom Desk,” and other famous ballads.

TORMENTED Englishman to charming Canadian cousin:—
“Please, what is the best thing to do for mosquito bites?” Cousin:
—“Scratch 'em.”

PLOWING exam. started on the 11th., but had to be abandoned temporarily on account of the heavy rain. Those who were not out were treated to a 2½ hours lecture, just a nice little *finale* to the term's work.

PROF. JAMES led the Y. M. C. A. meeting on the 12th. inst., drawing us out in a very profitable discussion on Eccl. 11, 1. The other meetings have been taken by Messrs. Elliott, R. E. Cowan and Lehmann.

BOTANY is always a strong subject this spring term, and evidently has a hold on others besides O. A. C. boys, as we recently noticed the Scientific Society meeting up in the bush and then coming in to the garden to look at the Irrepressible's “*instructive*” bed.

THE daily papers of the 9th. inst. announced to our expectant 3rd. year that they had all been admitted to the degree of B. S. A. We heartily congratulate our five happy warriors, as they richly deserved the honor, having studied unceasingly and fought valiantly against sickness. The degrees were conferred on Convocation Day, the 10th. inst.

GUELPH was busy on the 22nd. ult. as there were four socials and a political meeting on the same evening. A large number of students went down, and some took part in the programmes. Two or three of the boys made very good running, managing to take home some fair damsels from social No. 1, then going to No. 2 to repeat the motion.

THE Queen's Birthday was observed here on the Monday. A good many boys were home or down at Galt, but those remaining had a splendid time picnicing despite the rain. Elora and Rockwood were the favorite spots, especially the former, as our football team was there for the return match. The game was most exciting all through and was severely contested. The result was a victory for our opponents, although we with very good reason claim a “foul” and hence a draw.

THE second year engine examination was held on the 30th. ult., on the whole the work was very creditable though several got caught on the question “increase the speed.” One poor fellow doubtless from sheer nervousness endeavored to start up by tugging at the fly wheel when the steam was shut off, and did not fare much better with the inspirator as he blandly surveyed the scene and wondered at its non-working when he had not turned on the steam and had thoughtfully shut off the water.

By special request, and yet with humble apologies to the gentleman concerned, the following is inserted:

(TUNE—“The British Grenadiers.”)

Some talk of Billy Dolsen, and some of Corporal Bayne,
Of Shantz, of Dicksey Ransom, of Webster's football fame,
But of all these student terrors there's none I ever met
Who can compare with Faithfull when he smokes a cigarette.

He stalks along right proudly, the smoke curls thro' the air,
A finer, manlier, creature you can't meet anywhere,
You see him proudly walking, and brandishing his stick
With the ladies gaily talking although of him they're sick.

The ladies all adore him, he breaks ten thousand hearts (?)
The town kids strut before him whene'er to smoke he starts.
To see him when he's dancing with movement bright and free
Across the ball-room prancing, is quite enough for me.

WE have had two big picnics here lately. On the 12th inst. a special excursion train over the C. P. R. brought in between 550 and 600 people, most of whom were connected with the Farmers' Institutes of East and West Kent. While the visitors were partaking of lunch in the barn, the President bade all a cordial welcome, and then gave explanations of the farm and College work. After short speeches from a few of the visitors, Prof. Robertson made a short but very amusing speech, and then the party dispersed over the farm and college buildings taking a lively interest in everything. On the 20th inst. we had nearly as large a crowd mostly representative of the East York Institutes. The Hon. Chas. Drury and Mr. Simpson Rennie followed the President and Prof. Shaw in very able speeches immediately after lunch. The proceedings were greatly enlivened by sweet strains from the Ellismere Cornet Band. A football match in the city attracted our visitors away at an early hour. Shortly after their departure we were surprised at seeing several armchairs up in the apple trees by the greenhouse.

TWENTY-FOUR and a half able bodied men left the College after examinations to rest their overtaxed brains, and enjoy military glory for 12 days under Major Davidson at Niagara Camp. The weather was delightfully propitious, and "on summer eve by haunted stream" many sighs were heaved for the girls left behind in Guelph. "B Battery" came up well to the front in general efficiency, gaining second place on the list, while College boys shone conspicuously in the Non-Com. questions and the driving competition. General Adams and the Silver Medalist both came off as "clean men," and if the College picket did not succeed in running anyone in, they were praised for their appearance. Dark-eye and Cox enchanted the neighborhood with their sweet voices, while the Brigade-orderly-room-clerk-staff-sergeant entertained Tent No. 3 "with service high and anthems clear" about missing blankets, etc. Apropos of blankets, one of Chumpy's men made acquaintance with one which was both close and distant. The Y. M. C. A. tent was largely patronized, and the supply of writing materials gratefully appreciated. The heat was at times intense, and two or three men surrendered themselves to the doctor's care. A favorite joke was to blacken a man's face during his peaceful slumber and then hurriedly awaken him to say the Colonel desired his presence. Altogether the Niagara camp was a great success and thoroughly enjoyed by all the men, and we hope that the College Battery will be encouraged even more than it has been.

THE Closing Exercises were held in the dining hall on Monday, June 30th. Despite the intensely hot weather, visitors from the city and surrounding townships completely filled every available inch of space. The room was profusely decorated with flags and evergreens while on the platform was a very fine collection of hot house plants. Besides the College staff there were present on the platform:—Sir Daniel Wilson, Hon. C. Drury, Mr. A. Blue, Jas. Innes, M.P., D. Guthrie, M.P.P., Judge Drew, Prof. Creelman, Rev. Rural Dean Belt, Rev. R. J. Beattie, Rev. David McLeod, etc., etc. After a few words of welcome from the President, the valedictory address was delivered by Mr. C. F. Whitley, who reviewed, in a humorous manner, the experiences of the 2nd. year students. The diplomas were then presented by the Hon. C. Drury, who managed to say some exceedingly neat and appropriate things to each recipient. The following is the list:—

ASSOCIATES.

Brown, H. H., Chatham, Kent, Ont.; Buchanan, D., Hensall, Huron, Ont.; Campbell, C. S., Brantford, Brant, Ont.; Cowan,

J. H., Galt, Waterloo, Ont.; Cowan, R. E., Galt, Waterloo, Ont.; Dolsen, W. J., Chatham, Kent, Ont.; Elliott, R. Seaforth, Huron, Ont.; Field, H., Cobourg, Northumberland, Ont.; Hadwen, G. H., Mons en Bareul, France; Harcourt, J., St. Ann's, Lincoln, Ont.; Hewgill, E. A., Heathcote, Grey, Ont.; Holliday, W. B., North Shields, England; Hutt, H. L., South End, Welland, Ont.; MacFarlane, T. W. R., Ottawa, Ont.; McKergow, J. G., Montreal, Quebec; Monk, W. D., South March, Carleton, Ont.; Mulholland, F., North Toronto, York, Ont.; Sleightholm, J. A. B., Humber, Peel, Ont.; Webster, F. E., Creemore, Simcoe, Ont.; Wells, E., Chilliwhack, B. C.; Wilson, F. G., Green River, Ontario County, Ont.; Wood, W. D., Cornwall, Stormont, Ont.; Whitley, C. F., Enfield, Middlesex, England.

Mr. H. L. Hutt then read a very thoughtful essay on "The Education of the Farmer's Son," bringing prominently forward the immense advantages of a knowledge of science.

The medals were then presented by James Innes, M. P., D. Guthrie, M. P. P., and Judge Drew in order, each addressing to the successful competitors a few words of congratulation.

GOLD MEDAL.

H. L. Hutt, South End, Welland, Ontario.

SILVER MEDALS.

Stanley Silver Medal—J. Harcourt, St. Ann's, Lincoln, Ont.

Second Silver Medal—R. E. Cowan, Galt, Waterloo, Ont.

Sir Daniel Wilson then delighted all present with his polished and eloquent address. He spoke of his pleasure at the affiliation of the O. A. C. with the Provincial University. Though not an agriculturist he could institute comparisons between now and nearly forty years ago, and realize the tremendous progress which had been made. In 1853 when there were no railways, he took the steamer from Toronto to Hamilton to visit the Provincial Agricultural Show. Accommodation was very scarce, and he had to lodge in an attic without a window. Early in the morning Prof. Wilson was enquired after. He presented himself, was cordially received, driven all round the city and was most hospitably entertained in every way. He was then told that his lecture on Mangold Wurtzel was set down for two o'clock. As he was not quite sure whether mangold wurtzel was a vegetable or an animal, he was somewhat at a loss until it was discovered that the committee had mistaken him for a Prof. Wilson, of New York, a specialist on agricultural topics who had been invited to address them, and who was fretting and fuming in his hotel. Sir Daniel said that if he was not a professor of agriculture he had received the honors due to one. (Laughter.) Dealing with the subject of higher education, he said there was a cry that this was over education, that men were being tempted to the professions from the farms, trades and commerce. He ridiculed the plea which he said was sometimes put forward that higher education was being carried to excess, and that by the wide diffusion of knowledge men were unfitted to be farmers. This meant in other words that the prosperity of the Dominion depended upon the perpetuation of ignorance. With the touch of a master hand, and in most elegant diction he briefly reviewed the history of the great nations of the world to show that their greatest commercial prosperity was contemporary with the greatest development of learning among the people and that the nations which were behind in culture were behind in industry. Knowledge was power to all, and intelligence and moral training could not be too highly cultivated. Lawyers and doctors could not be too highly educated. In concluding he expressed the confident belief that because of the

higher education of the farmers, the broad acres of Ontario would be the better tilled.

The following prizes were then presented, with the exception of the medalists, who, according to the old established rule, are allowed to carry off the medals only:

FIRST YEAR.

Agriculture and Dairying—1st, D. Z. Gibson, Willow Grove, Haldimand, Ontario; 2nd, W. L. Carlyle, Chesterville, Dundas, Ont.

Natural Science—1st, J. A. S. Burns, Halifax, N. S.; 2nd D. Z. Gibson.

Veterinary Science—1st, D. Z. Gibson; 2nd, F. A. Wilkin, Calgary, N. W. T.

English Literature and Composition—1st, D. Z. Gibson; 2nd, W. F. Newcomen, Epping, Essex, England.

Mathematics and Bookkeeping—1st, F. A. Wilkin; 2nd, H. G. Wills, Toronto.

General Proficiency—1st, D. Z. Gibson; 2nd, J. A. S. Burns, 3rd, F. A. Wilkin.

SECOND YEAR.

Agriculture, Live Stock, Dairying—1st, H. L. Hutt; 2nd, J. Harcourt.

Natural Science—1st, H. L. Hutt; 2nd, J. Harcourt.

Veterinary Science—1st, R. E. Cowan; 2nd, H. L. Hutt.

English Literature—1st, C. F. Whitley; 2nd, G. H. Hadwen.

Mathematics—1st, G. H. Hadwen; 2nd, H. L. Hutt.

General Proficiency—1st, H. L. Hutt; 2nd, J. Harcourt; 3rd, R. E. Cowan; 4th, C. F. Whitley.

The Hon. C. Drury excused himself from speaking extempore as was his usual custom, and therefore read the following able address, which we copy from the *Mercury*:

He gave an excellent epitome of the aids given to and instituted by the Canadian farmer during the past years, and his present position. He opened by referring in most kindly terms to the students going out in life, who were going to test their theories by practical experience, and the vast field of knowledge still unlearned before them. They must still labor, observe and study to compete with other countries. Ontario's educational advantages were of the best; her newspapers were intelligent and instructive, and the agriculturist should learn all he can. Agriculture was the main industry of the Province. He then touched upon the experimental work at the O. A. C., and considered the bulletins had greatly increased in value within the last two years. He went on to speak of the assistance the Ontario Government had rendered to agriculture by grants to dairy and other associations, the Agricultural Commission, the establishment of farmers' institutes and in many other ways. Speaking of the position of the farmer, Mr. Drury referred to the industrial revolution caused by the opening up of new land in various parts of the world and the cheapening of production and transportation, and quoted Prof. Ely as to the reduction in the value of the crop. The fall in prices Mr. Drury attributed in part to trade policies, instancing the case of wool in the United States, where the manufacturers claimed that the lack of free choice of material led to the use of base material, and thus reduced the market for native wools. In regard to Canadian barley the same was shown, substitutes being used because of the tariff. In this relation he said, "I am informed on excellent authority that the cheap substitutes now make up from one-third to one-half of the malt used by United States brewers, and whether that is the cause or not it is a fact that the average price of Canadian

barley last year was 13 cents less than in the year before the duty was raised from 10 to 15 cents. What the further effect will be should the duty be increased to 25 cents per bushel, as proposed in the bill now before the Senate, you may easily guess—another drop in the price of barley, a further use of cheap substitutes, and I venture to say, no end to "making sugar" in the systems of American beer drinking with all the attendant physical ills which that phase implies." Among other causes of depression in agriculture he noted change in the climate, owing to the depletion of the forests, careless cultivation of the soil, the selling of produce instead of consuming it on the farm. As remedies he suggested the raising of stock instead of so much wheat and barley for market, the use of fertilizers, good drainage and better methods of cultivation and greater economy in farming operations. He dwelt upon the need of knowledge among the farmers, and closed as follows:—In conclusion I have a few cheering words to say of our college. It is now a little more than two years since it became affiliated with the Provincial University, and then provision was made for the examination of its students for the degree of Bachelor of Science in Agriculture. At the same time provision was made for a three years' course at the college, with the object of qualifying students to go up to the university examinations. The result has been that sixteen students of this institution have passed the examinations and taken the degree. Since the college was opened fifteen years ago over 1,000 students have taken lectures and the experimental course, about 200 of whom have taken the full two years' course and obtained associate diplomas. Of the associates and graduates, four are professors in important institutions, two are editors, one is assistant in the experimental department and another in the dairy department of our own college. Thus seven graduates and one associate are already in responsible and influential positions, and of the great majority of the ex-students of the institution I have good reason to believe that they are pursuing honorable careers in the occupations in which they are engaged, and bearing testimony by their works to the usefulness of the training which they have received here.

Though not in the official prize list, one of the most successful in winning marks in those studies which she took up was Miss Maggie Mills, daughter of the President. Though the young lady was not given a place "officially," she was awarded a recognition of her high standing, being second in English Literature, in the form of several handsome volumes, the gift of her father, which were handed to her with some complimentary words by Sir Daniel Wilson.

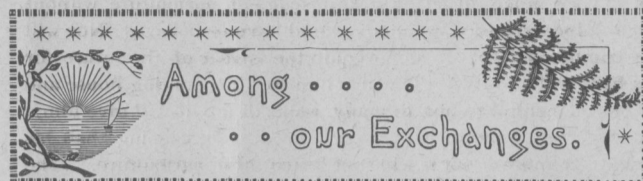
The proceedings were then declared closed, having occupied just over two hours, and having been gone through with acceptable celerity and despatch. Refreshments were then served to the visitors in the reading room, and many took a walk round the grounds, before departing for home.

The Farmer.

None can dispute that the farmer is blessed
In true independance of labor,
His food doesn't depend on the whim of mankind
Like that of his mercantile neighbor.

God in His goodness looks down from above
And paternally gives him his bread—
Provided he works eighteen hours every day
And devotes only six to his bed.

ANON.



The *Sunbeam* is an interesting and sometimes a very instructive journal. Although some of its articles are of a somewhat trivial nature, yet a large number are choice and well selected. We will always be glad to hear that the *Sunbeam* is on our list of exchanges.

"Take your entire notes in class, only don't put down everything I say. The system of taking a few notes in class with the intention of copying more fully a little later is a snare and a delusion. Your intentions may be good, but you very seldom follow them out."

STUDENT LIFE.

Among the latest of our new arrivals is the *Albion Academy*, published during the school year by the students of the Albion Academy. It is a brisk and bright addition to the field of college journalism, and promises to be deserving of its company. Its literary department as yet is not very extensive, but the articles written are interesting and instructive.

The *Owl* finds its way to our table from Ottawa College. Its well arranged matter is a pleasing contrast to the appearance of some of our exchanges. The literary department is especially good, always containing articles that are interesting to students. The April number contains an excellent article on Tennyson as a poet of Nature. The article on "Responsible Government in Canada," is also well written and instructive.

There are three principal reasons why the College paper should be encouraged and supported. It gives to the world the real standing of the institution which it represents, and the kind of work that is being done. It provides for the students a medium through which they may express their sentiments, and thereby profit on each others opinions of the topics of the day. To say that the pleasure and real satisfaction that a student gets from the perusal of the college journal is appreciated, is indeed saying but little.

Prof. C. F. Wright, of Oberlin, has recently come into possession of a small clay image that is attracting considerable interest among scientific men. It was brought up from an artesian well near Boise City, Idaho, from a depth of 320 feet. The image is about an inch and a half high and is well carved. There seems to be no doubt of its genuineness, though the question is being thoroughly investigated by the Professor. The material of which it is made is the same as the clay balls that are found in the same deposit as the image was found in, which was a coarse sand. Should it be genuine, it puts the antiquity of man on this continent farther back than any paleolithic implements yet found.

PROVINCIAL FARMERS' ASSOCIATION.

The semi-annual meeting of this association is to be held at Woodstock on July 3rd. and 4th. The following interesting subjects will be discussed on Thursday:—Sheep Husbandry; Pork Raising and Packing; and Fruit Culture. Prof. Jas. W. Robertson, dairy commissioner of Canada, will attend and on Friday will address the meeting on the following subjects:—Morning, Dairy

Farming for the Dominion; Afternoon, Fodder Corn and the consideration of Silos; Evening, Agricultural Education. A large gathering of prominent farmers is expected. To those who are anxious to see this country take its proper place in agricultural pursuits, the meeting will be of special interest. Ladies are not excluded, but on the contrary, are cordially invited to grace the sessions with their presence.—*Ex.*

The Cycle, from Massachusetts Agricultural College, is always a welcome visitor. One of its numbers contains a very interesting article entitled the "Sophomore Experimental Plot," which treats of a new scheme for the students of that college. The plan, in short, is this:—The Sophomore class in their spring term and fall term of their Junior year, are to carry on individual experiments on a one-sixth acre allotted to each. Each student has the choice of selecting his own experiment on condition that a plan containing the minutest details be made out during the winter term previous and handed to the Professor in charge. In carrying out the experiments each one is expected to keep a memorandum of all important observations, and a strict and accurate profit and loss account. The farm prepares the land, provides all seed, and agrees to take all crops raised, paying market value for them. At the end of the year profits made by all are to be placed together, one-third of which will go as a prize to the one who has carried out his experiment the best, and the remaining two-thirds will be distributed among the remainder of the class.

It is right and manly to be a faithful student and intense in mental application, but a few of these little charms are fully consistent with such high aims, and when they relieve so much monotony and generate that most excellent quality we name University pride we ought to covet them as we do virtues. The value of college spirit shows itself in the formation of local alumni associations, each one of which can extend to some worthy boy free tuition. It stimulates a graduate to advertise his institution in the best possible way, and annually draws a good number of matriculates to our school. Separate ourselves from these things and we are without bonds of sympathy; and leaving college we would leave a treadmill and soon cease to care or think of each other. We would not feel that common desire of old students to further the interests of a fellow class-mate or lift a fallen friend of the mire. And so, let me plead that you correctly estimate the value of college spirit and college tradition, and that the delights of study may not tempt you to scorn them. If the beauty and power of youthful attachments have any claim upon your attention, give honorable recognition to the real, lasting influence of college spirit—the memories of pure friendship, of class rivalries, of athletic and political contests, of spiritual benefits. They will form an exquisite chapter of unwritten history whose pages we shall turn with pleasure and pride.

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And help our bills to pay?

We long to see you, dear subscriber,
In sunshine or in rain,
We look and long for the filthy lucre,
And shall we look in vain.

—*Exchange.*

The Leaders of the Future on Our Farm.

For the O. A. C. Review.

The leaders of the future on the farm must come from the farm. There may be some exceptions to this rule, but they will not be very numerous. When the start is made on the farm, habits of industry grow up with the young man, so that these become a part of his very being. He requires not of necessity to cultivate them in later years by dint of a perseverance that is acquired at the expenditure of an energy that might otherwise do good service in another channel. The young man, then, who is to live by farming and who first gets his start upon the farm, so far as opportunity is concerned, stands head and shoulders over him who sets out from some of the other walks of life.

The leaders of the future on the farm, therefore, will in all probability, come from the farm. But it should be remembered that this fact alone will not fit them for leadership. It is very exceptional to find men who rise higher than their surroundings, if they have spent all their days amid these surroundings. To rise above these a young man must usually at some period of his life, and that period should not be a late one, step out of the little rut in which he has been journeying in common with all his neighbors, and come in contact with something that will stimulate to higher purpose and incite to higher effort.

The education that a young man receives at the college or the university consists not simply of so much knowledge acquired from books. It includes a widening and broadening of the whole man through contact with other minds. Thus it is that he is given enlarged views of life, which enable him to look far beyond the little horizon in which hitherto he was wont to move and breathe and have his being.

The knowledge thus acquired would not have effected the same purposes had it been acquired at home. While it would have broadened the mind in one sense it would probably have narrowed it in another, inasmuch as it would in all probably have begotten a conceit, as offensive as it is pitiable.

The leaders of the future on the farm, then, will be educated men—educated not simply in the sense of being the possessors of a certain amount of knowledge—but of knowledge acquired under conditions that will tend to broaden the whole man. This broadening process makes the young man more tolerant of the opinions of others, and more respectful of their methods, so long as the latter head in the direction of progress. It begets a willingness to look at man and things through the laws of common sense rather than through the old-time goggles of opinionativeness. It renders the young men not only willing to welcome what is useful and progressive, but anxious to do so, and because of the intensity of the mental wrestlings which he must needs undergo in the class-room, it impresses upon him the truth that others have brain power as well as he, and that if he is to outstrip them in the manful race of the future it can only be through the exercise of a superior judgment and through the application of a severer industry.

The leaders of the future on the farm must, therefore, get their knowledge largely at some institution which will tend to mind-expansion in the direction indicated. The ordinary college will not answer the purpose, for although its education tends to mind-expansion, agriculture is not taught there, and mind-expansion to the farmer of the future without a knowledge of agriculture is

not so very much ahead of a knowledge of agriculture without much mind-expansion, as many would have us believe. Nor will the commercial college alone equip the farmer of the future for the fight he is to wage. It will fit him for the counting house and will prove helpful to him in many walks of life, it will give him a knowledge of a more elaborate system of book-keeping than his business requires, but it will not teach him agriculture. The young man fitting himself for the counting house might with as much reason go to the Agricultural College for his furnishings as that the young man fitting himself for the farm should go to the Commercial College for his.

The Agricultural College is beyond all doubt the place where the farmer should get the copestone of his education—that information that will put him on a vantage ground that will at once lift him head and shoulders above other men. While some farmer fathers are looking through distorted spectacles for instances of failure in the efforts of graduates from this college, those who are wise will strain every nerve to give their sons an even chance with young men destined for other professions by giving them an opportunity of taking a full course at an agricultural college.

The leaders of the future on the farm will, therefore, in nearly every instance, be college-educated men. Were it otherwise the monstrous lie would be apparently true that muscle alone and uneducated mind will prove more than a match for muscle and educated mind.

But the leaders of the future on the farm will of course require something more than collegiate education. In successful farming unless on a very large scale, muscle is a factor of great importance. It will prove a great matter to a farmer if he is able to use his muscle better than any man can whom he employs, and ordinarily it will prove a great matter to him and to his farm if he does so use it.

The future leaders on the farm will be men who concentrate their energies on one particular line, and who make their general farming subservient to this one end. The whole field of farming is so wide that no one man can cultivate it to the best advantage. Those who attempt this will assuredly fail, for the powers of human intellect are unable to overtake a field so vast and wide. It is well to consider, then, even in the early stages of the course of collegiate education what particular line the student is likely to follow, and he should direct his best energies to the mastering of this branch so far as he is able.

I have said but little as to the individual qualities that must characterize the leaders of the future on the farm, nor can more be said within the assigned limits of this paper. The industry, the energy, the wise calculation, the prudence, the forethought, the willingness to adopt improved methods and the firmness to reject the adoption of those yet unproven, I leave to the contemplation of the thoughtful reader, and I would desire here to add that none other than thoughtful readers are likely to profit by what they read.

It seems a foregone conclusion, then, that a magnificent future is in store for agricultural colleges. The dark era of the past in this respect is surely drawing to a close. The days are at hand when the reproach will be removed which says that only one farmer in *six thousand* in the Dominion is willing that his son shall be well furnished for his future life work as a farmer. If the leaders of the future on the farm are to be educated men, and I claim that this is the fair deduction from the above statements, it follows that so soon as the post graduate course on the farm of the graduates of this college shall compel the average farmer to respect a higher agricultural education, then there will not be room for the students from our farm homes in the agricultural colleges.

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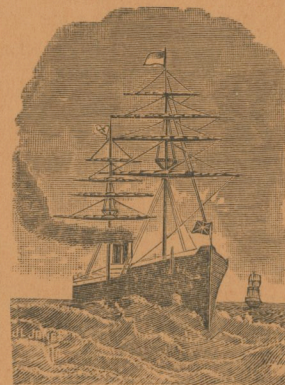
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