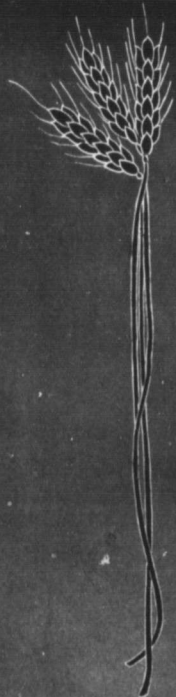


VOLUME XX.



NUMBER 4.



THE  
O·A·G·  
REVIEW

January  
1908

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## EDUCATIONAL CALENDAR

### JANUARY:

1. New Year's Day.  
By-laws for establishing and withdrawal of union of municipalities for High School purposes, to take effect.  
First meeting of Rural School Trustees.  
Polling day for Trustees in Public and Separate Schools.
  3. High, Public and Separate Schools open.
  4. Truant Officers' Report to Departments due.
  7. Provincial Normal Schools open. Clerks of municipalities to be notified by Separate School supporters of their withdrawal. Principals of High Schools and Collegiate Institutes to forward list of teachers.
  14. Appointment of High School Trustees by Municipal Boards.
- Annual Reports of Boards in cities and towns, to Department due.  
Names and addresses of Public School Trustees and Teachers to be sent to Township Clerks and Inspectors.
  15. Trustees Annual Reports to Inspectors due.  
Annual Reports of Kindergarten attendance to Department due.  
Annual Reports of Separate Schools to Department due  
Application for Legislative apportionment for inspection of Public Schools in cities and towns separated from the county, to Department due.
  16. First meeting of Public School Boards in cities, towns and incorporated villages.
  28. Appointment of High School Trustees by County Council.



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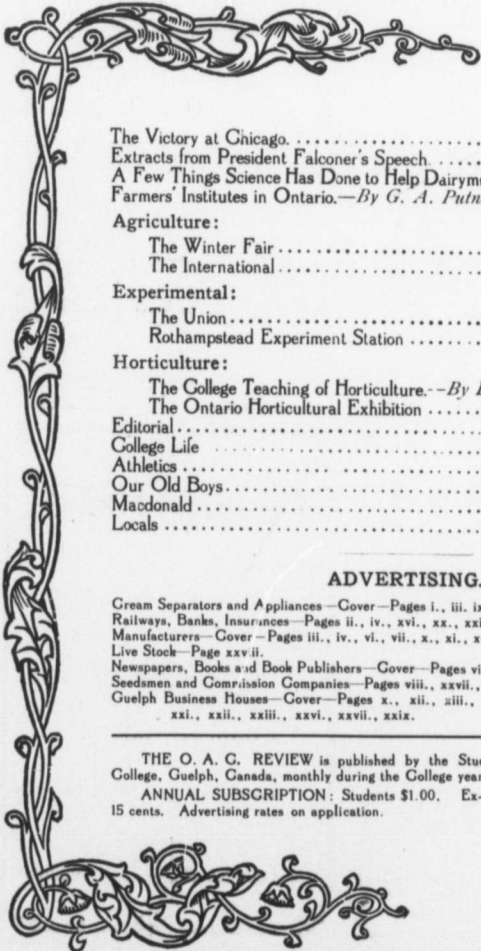
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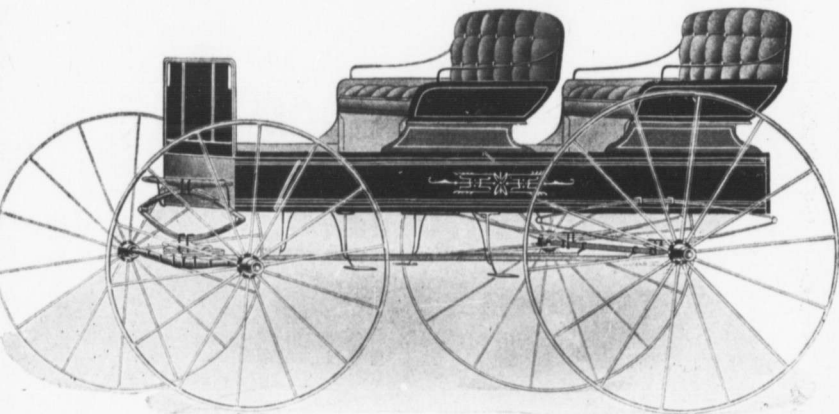
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# The O.A.C. Review

THE DIGNITY OF A CALLING IS ITS UTILITY.

VOL. XX.

JANUARY, 1908.

No. 4.

## The Victory at Chicago.

IT is with great pride and pleasure that we are able to chronicle the third of a series of brilliant successes achieved at Chicago by our stock-judging teams, culminating in a great national victory, proving the right of the Ontario Agricultural College to be considered without a peer among similar institutions on this or any other continent.

Previous to 1904 teams of five men selected from the graduating class of the various agricultural colleges on this continent competed yearly at the International Stock Show at Chicago for a trophy donated by Mr. Spoor, President of the Union Stockyards of that city, which trophy was to become the property of the college whose teams should have been adjudged winners in cattle, sheep and swine, on three occasions, not necessarily in succession. In accordance with the rules governing the contest the famous Spoor trophy became the property of Iowa College, and as a consequence the Union Stockyards and Transit Company of Chicago donated for competition, under the same rules as before, that magnificent trophy, the

famous Bronze Bull, designed by Mr. A. Cain, a Parisian sculptor, and now the property of the Ontario Agricultural College.

In 1904, the first year in which the new trophy was competed for, our team made an excellent showing, obtaining second place. We had the satisfaction of knowing that the best all-round judge in the competition, namely, W. C. McKillican was an O. A. C. student, and we had the additional satisfaction of being able to claim as an O. A. C. graduate, Mr. H. S. Arkell, M.A., B.S.A., the man who trained the winning team, that of Ohio College.

In 1905, Messrs. Bracken, Craig, Munro, Smith and White, encouraged by the success of the previous year and ably trained by Professors Day and Arkell, journeyed down to Chicago and for the first time in the history of the college our team proved superior to their competitors, and thus succeeded in wresting the coveted bronze trophy from the United States. The special trophy awarded to the college whose team should procure the greatest number of points in judging horses was almost annexed by our team, the

## THE O. A. C. REVIEW.

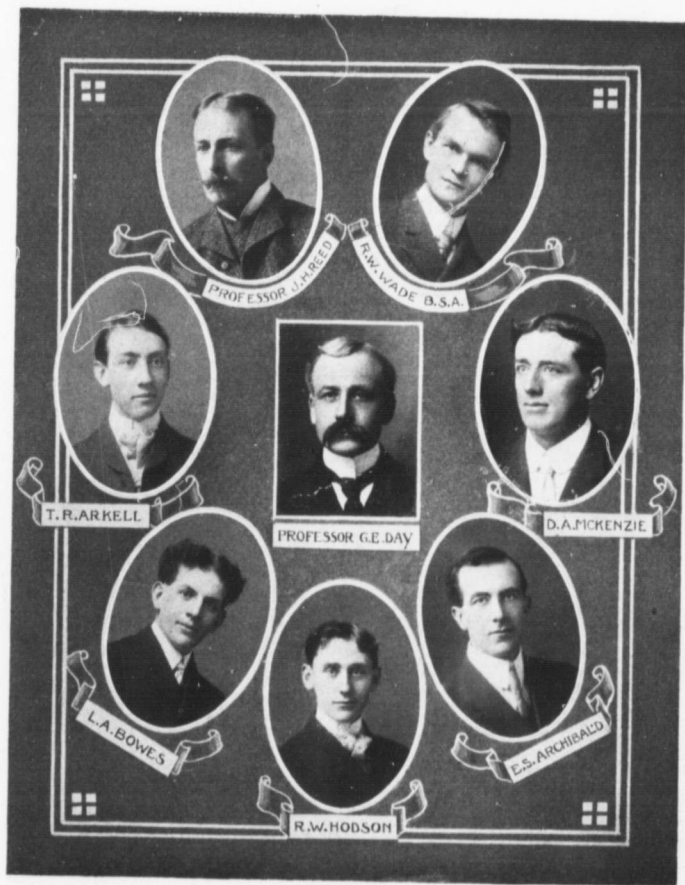


J. Bracken, Professor Day, H. E. Smith,  
 W. A. Munro, H. T. Arkell, M.A., B.S.A. G. G. White, H. A. Craig.  
 THE MEN WHO BROUGHT THE TROPHY TO CANADA, 1905.



H. Barton, R. S. Hamer,  
 C. C. Nixon, W. J. Hartman, A. McKenney.  
 THE STOCK JUDGING TEAM, 1906.





THE TEAM AND INSTRUCTORS, 1907.

Ohio College only winning out by a close margin. Great as our victory undoubtedly was, a still greater victory was in store for us.

In 1906, Professors Day and Arkell were untiring in their efforts to produce a winning team, and among the students taking the agricultural option there was the keenest of competition, all striving their utmost to be chosen. So efficient was the standard of the class that it was with considerable difficulty that the five men chosen, Messrs. Barton, Hamer, Hartman, McKenny and Nixon, were selected. Eventually the great day drew near and again our team journeyed to Chicago, and again the O. A. C. proved victorious and the Bronze Bull was destined to remain in Canada for at least one more year. In the individual work, the O. A. C. made a brilliant showing. In general proficiency, out of 35 students competing, Messrs. Hamer, Nixon and Hartman stood first, third and fourth respectively, and out of \$300 awarded in prize money, these three men captured \$160. 'Twas a glorious and pronounced victory and following upon the great success achieved by the team of '06, it placed the now much coveted bronze trophy almost within our grasp.

In 1907, as the time for the International drew near, the excitement concerning the forthcoming event became intense. The stock-judging team, with its chances, was the leading topic on College Heights. Smarting under the brilliant successes attained during the last three years by the one lone college representing the Dominion of Canada, the colleges in the United States were straining every nerve and every faculty in their effort to produce a winning team, and thus to bring the

trophy back to their own country. In no less a degree was the determination of Professor Day, Mr. Wade and the men of '08, whose combined attitude was summed up in the words: "What we have we'll hold." The Bronze Bull must stay in Canada. "To be or not to be." Would the men of '08, instilled with the glorious example of the past three years and trained by Professor Day, a man with a continental reputation as a leading agriculturist, would they succeed in accomplishing the exceedingly hard task before them, or would they fail? That was the question, a question which time would soon answer. The great day rapidly drew nearer; the team was chosen, and again our team journeyed to Chicago. In the interim, hope, fear and anxiety kept us all in suspense. Then on Sunday evening there flashed over the wires the glorious news that again, for the third successive time, the stock-judging team of the O. A. C. had proved the superiority of their college, and that therefore the Bronze Bull was ours forever.

The enthusiastic manner in which this great national victory was received and celebrated by the students baffles description, and it will long be remembered by those who participated in it, and by the citizens of Guelph. When we consider that our men were handicapped by being placed in strange surroundings and by being required to judge some classes of stock seldom, if ever, seen in Ontario, then we must conclude that their triumph in the face of the keenest competition is well worthy of great praise and encouragement. In general proficiency out of some 45 competitors, R. W. Hodson ranked third, an exceedingly creditable performance, whilst Messrs.

Archibald, Bowes and McKenzie stood eighth, ninth, and tenth respectively.

Out of the four years in which this trophy has been competed for, we have been first on all but one occasion, and then we were only second; we have on two occasions produced the best all round judge; and we have twice produced the third man in general pro-

There are some people in Ontario and they are not a few who have persistently and bitterly claimed that the Ontario Agricultural College has never given returns equivalent to the money expended on it; that its existence as a powerful and uplifting factor in the agricultural industry of this country is but a mythical illusion. To these



iciency. To win three years in succession as we have done disposes of that element of chance which is always present in such competitions, and thus proves our superiority beyond all question. This splendid and hard-earned record is one of which we may well be proud and one which other colleges may well envy us.

claims the hard-fought victories obtained at Chicago present a most emphatic and conclusive denial. They have brought distinction and honor not only to the students, not only to the college and to the Province, but to all Canada.

A. G. Turney, '09.

## Extracts from President Falconer's Speech.

"For many years I have heard of the Agricultural College at Guelph; its fame has gone far beyond Ontario, and everything that I had heard in the past had placed it on such a high level that I was anxious to see it for its own sake, and even more especially because of the intimate relation in which it stands both to the life of Ontario and to the University of Toronto. Since coming this evening, although I have as yet seen only the beginning, I can recognize that one is in the midst of a very potent, influential and beneficent institution. I have been very much struck by the tone that I have felt in this gathering. Not only is there a very high level, if we are to judge by what we have heard from those who have passed through the college, but there is a spirit animating the whole institution such as must in the long run benefit it and leave a fine impress upon those who pass through it.

"You also have the material for great things in the future. I do not mean particularly in your own profession, for I was delighted to discover in the remarks of those who spoke, as representing this college, that you have here a spirit of education, that you understand something of what education involves, and have recognized something of its privileges. You are evidently versed in the literature of the past, you also have shown your prowess in the present, and what astonishes me is that Professor Day, who, I am sure, has been rewarded not

at all to his merits, but in a very happy way, nevertheless, by this recognition from the students to-night—that Professor Day is a man who apparently has such scientific ability that he can drag a bull all the way three times from Chicago to Guelph.

"You recognize, as I have already said, what science does for you, and I am sure that in this college the meaning of science has been brought home to you, so that you are aware not only of its applications to the ordinary work that you will meet on the farm, but that you will also go to that work with an enlarged mind, and with a broader outlook; that when you walk across your farm and see in that the possibilities of future material development, you will also be able to understand something of the principles that underlie all the constituents of your farm products, of the soil, yes, and of the very universe of which this soil is a part. A man who knows the principles of science has his imagination awakened to the vastness of our environment. He knows, for instance, on the one hand, through his study of bacteriology and physics, how minute are the constructions of the universe; and on the other hand, when he turns his eyes to the heavens, he is aware how vast are the distances, how great is the sweep of law, and that from these greatest things down to the least and invisible, there is the one underlying order, and that this order, I believe you all recognize, is a moral order. A man who goes with such a



PRESIDENT FALCONER, D.D., L.L.D.

spirit as this out into his daily work is more than a drudge, and he finds in his work a means of education, his day's toil as he goes to it in the morning and returns in the evening becomes to him a means of elevating him; he is not merely lost in the routine of things, but he is stirred to nobler thoughts, and he discovers as the days pass that, through the instrumentality of his daily toil, he is developing within him those things that are permanent, those things that set him above the daily toil, and that make him the master of the situation where he is. I believe that one of the greatest accomplishments of civilization and of learning has been this, that men have come to recognize that man's life is noble, that the days of slavery have gone by, that manual toil can be elevated and dignified, and that in it, ennobled by the man who does it, he can find a scope for an education that is not confined always to books, but that discovers wherever there is an enlarged mind a means for still extending it further. And so such an institution as this should be sending out into our country men and women of power and insight and of breadth; and we may look to the future to have in our farms and from our farms even greater results than the past. These results in the past have been great. Those of us who have anything to do with educational institutions are aware that there is no constituency anywhere that sends a finer class of student than the constituency of the farm, and that our country will remain intelligent, and that our universities will be well supplied, as long as we have a population devoted to agriculture, and agricultural toil, that is ennobled to its true

meaning by an education such as is given in an institution like this.

"I hope also that the relative proportion between the farming population and the urban and village population may not be changed to the detriment of the farm. It will be a sad day for us should it ever come—I do not believe that in Canada it ever will—but it will be a sad day should the time ever come when people would rush from our lands into the cities, and crowd themselves into mean and narrow streets; lose their individualities, as is so often the case, in factories, and have their children brought where they have no breadth and scope, and where they hardly know whether there are stars or not. It is a happy day for a land where the great majority of the people are still in the broad open space of God's world.

"One of the reasons that I rejoice in being present is because I believe that from this college there will go out men and women who, besides being educated and technically trained, will also have a sense of what they owe to the body politic. If the life of the people through the country is kept healthy and pure as it has been (and we come from good stock), if the duties of the citizen are wrought into the minds of those who are on the farm, then I believe there will be a strong, healthful, public interest abroad, and the life of the country as a whole will remain pure, or will be purified. And so I would urge you, when you go out, to carry your education with you, and not to think that you can live a life to yourselves. The man or woman who lives a life to himself or herself may become a wealthy farmer, or a wealthy farmer's wife, but each will

become a narrow individual, who will be of very little value to anyone. But if you go out with a fine sense of your duty, a fine sense of your responsibility to others, with an elevated moral ideal animating you, the resolve even if it be at some cost to yourselves and with actual reluctance, nevertheless taking your place, in the rural parts, in the school sections, in the municipal councils, or wherever it may be, then you will be contributing of what you have received here, and enabling those who come after you to get some greater

share of the privileges that you yourself owe to others who have preceded you. Remember this, that none of our best things come to us without effort on the part of some one. There is also an old Greek motto which says: "The gods sell us all our blessings in return for toil" These blessings that you enjoy are the result of the toil of others, and remember that the coming generations will hold you responsible if, after entering into such a heritage, you do not transmit it and the heritage of our public life, better and purer to those who will succeed us.'

---

### THE MEADOW LANDS.

The tide flows in and out, and leaves  
 Its richness on the meadow lands,  
 The furrowed surface-soil upheaves,  
 And sprinkles life among the sands.

Across the meadow lands of life  
 The tide of time flows and recedes,  
 Its muddy wave brings woe and strife,  
 But forms the soil for noble deeds.

The tide flows in and out, and brings  
 New beauty to the meadow lands,  
 With lavish tenderness it flings  
 Fair flowers across the silver sands.

*Arthur Eaton.*

## A Few Things Science Has Done to Help Dairymen.

By FRANK HERRNS, Chief Dairy Instructor for Western Ontario.

**A**SK the average cheese or butter maker, or milk producer, if he thinks science has done anything for the dairy business, and he will probably reply, without giving the subject much thought that it has done very little or that he does not know. He has a somewhat vague idea that all the great discoveries of certain principals that have made dairying a science were stumbled on by accident by some very practical man. To be practical and live up to it is a great virtue, but to be intensely practical and pay no attention to science is the height of folly. Practical experience combined with scientific knowledge makes a dairyman of superior excellence, but how seldom do we find these two qualifications properly balanced in the make up.

Intensely practical men have as a rule very little use for the Scientist, while the scientific man sometimes looks with some little degree of scorn on the practical man and his work. It is true the Scientist does sometimes evolve theories which to the practical man look somewhat visionary, but in a great many cases these scientific theories are in time so well proven to be correct and eventually work out to suit practical conditions so well that the practical man sometimes loses sight of the fact that the Scientist should really be given credit for finding out certain things which have

eventually become a common part of his daily work and he almost persuades himself that he was the real originator of these great helps to dairying.

On the other hand the Scientist should not forget that the practical man is in a position to find out very readily if certain scientific theories will work out in practice, and he can often give the Scientist the effects of certain methods of work and in so doing help the Scientist to find out why things occur, and when the cause is known it then becomes easy to change the effect by removing the cause. Without the practical man to work out the discoveries made by science for the dairyman, these discoveries would be of little use to the great dairy business.

In the early days of dairy practice it was found out by experience that milk contained fat, that this fat would rise to the top and that when agitated it formed butter. Again it was found that rennet would coagulate milk and that the resulting curd would make cheese; but it was left to the Scientist to find out the intricate composition of milk, and then to separate the component parts of milk into their various substances, and to find out why certain changes occur in milk when treated in different ways.

Science demonstrates that there is such a natural law as centrifugal force,



this is eventually put into practice by the mechanic or practical man, and the result is the "cream separator," so widely used in all parts of the world, and has been the means of revolutionizing the methods of creaming milk.

The Chemist puts the microscope to work and finds that fat in milk is held in the form of tiny globules varying in size and present in milk in millions. He finds out the wonderful composition and the wonderfully peculiar ways of nature in producing such a complicated substance as milk. In the research of years, carried on by some of the brightest minds the world has produced, I doubt if all is yet known about that apparently simple substance, milk. Experience taught that milk would turn sour. The Scientist goes to work to find out why this should occur.

He again goes to work, takes the food of the cow and finds out what particular foods are best suited for the production of milk, finds out that certain amounts of "protein," "carbohydrates" and so on are necessary, finds out why certain foods produce "food flavors." He gives the result of this work to the practical man, and he begins to put these facts into practice with wonderful results.

Again it is noticed that certain changes occur in milk when kept under certain conditions. The Scientist puts the microscope to work again, experiments unceasingly and behold it is found that nearly all these changes which milk undergoes are due to the presence of almost inconceivable little plants known as bacteria. He gives the result of this work to the practical man and he goes to work with this knowledge and his great difficulties, from a practical standpoint,

can be to a great extent overcome. The discovery of the fact that bacteria had nearly everything to do with the changes which milk undergoes was one of the first things to put dairying on a scientific basis.

Then we have the discovery of Pasteur, the great French Scientist, and a means is provided for controlling these bacteria by pasteurization, and to keep milk and cream sweet and free from bacterial growth for great lengths of time. Practical mechanics put this discovery into practice, and we have the pasteurizer as now on the market.

Dairying could never have advanced beyond the few crude facts found out by long experience were it not for the untiring work of highly educated devoted men who were willing to give their time, their superb minds, and their great knowledge of nature and nature's ways for the investigation of the truth. To find out why certain things occur takes unlimited patience and experiment. The knowledge gained from the researches of skilled Chemists and Bacteriologists have enabled milk producers and cheese and butter-makers to take such precautions in handling the milk, that the changes produced by the presence of bacterial life are almost under perfect control, and they are able to say that if they do things in a certain way, certain results will follow, instead of depending on chance or "luck" as they sometimes called it in the old time dairy work.

In caring for milk, we know now (thanks to the work of the Scientist) that by immediately cooling the milk as soon as drawn, to a low temperature that the germ life present will be inhibited in growth, consequently the milk will keep longer in a sweet condition. Formerly it was thought that

the only way to keep milk was to "aerate" it by exposing it in thin streams to the atmosphere. Whether such air was pure or not was not thought of, for the simple reason that the real causes of milk becoming sour or tainted or gassy were not well known.

Practical men taught that this was right, and as the producer had nothing to guide him but experience, and since experience seemed to point to the fact that this was better than no attention this idea was followed. Numbers of dairymen, however, found out long before it was generally known except by Scientific men that cooling milk at once to a low temperature gave them best results, although they did not know why. The writer can well remember when first starting in the cheese business and long afterwards that a patron who was known to "cool" the milk by putting the cans into cold or ice water was looked upon with considerable suspicion and ire by the head cheese maker, and was given to understand that he was only allowed to do this in a spirit of pitying indulgence, and sorrow for his ignorance. To-day the gospel of "cooling milk" is preached from every dairy platform, and is taken right to the patron by our dairy instructors, institute workers, and every person having anything to do with dairy education.

Many years ago it was known to the cheese maker that by adding quantities of sour milk called a "starter," (very often a "stopper") to a slow vat it might work faster. Often it worked slower from the nature of the germ life present. The starter might be gassy or anything but what was needed. Science steps in and says

the principle is all right, but the "starter" must be a pure culture of the germs which are to be introduced in the vat. What is the result? A half dozen firms or more are now sending out pure cultures for use in cheese and butter making, and now practically every factory is carrying on from day to day a pure culture of lactic ferment, and every cheese maker knows that when he puts this in his milk certain results are sure to follow, and we find more uniformity in dairy work to-day than could ever have been possible had it not been for the research and experiments along scientific lines. At first numbers of practical men considered this pure culture business absurd, but the truth held firm.

The first cheese makers had no guide for setting milk with rennet or "dipping" curd except by taste and smell, a rather uncertain guide when we consider the quality of cheese demanded to-day. It is discovered that a rennet test is more accurate than taste. A practical man discovers that the hot iron will do for a guide as to when the whey shall be drawn. These are good guides so far as they go, and better than none, but science is not satisfied. More research and more experiment, and eventually science places in our hands the "acidimeter," one of the greatest aids to the dairyman ever brought within his reach. It is an absolute guide for measuring the acidity of milk, whey or cream, and has along with pure cultures done more towards improving the quality and uniformity of Canadian cheese than is fully realized by those who have not given this question serious consideration. Many practical men condemned the acidimeter, as a sort of "scientific fad," and looked upon it

as an injury to the business, expressing their doubts of the sanity of any cheese maker who might be foolish enough to use it, but again the "truth" as proven by science came out victorious. The acidimeter is now used by nearly every up-to-date cheese maker in the business and I doubt if they would again care to attempt to make cheese without it.

When dairying began to be considered an established business in America the necessity for some practical method of determining the per cent. of fat in milk became apparent. Practical men allowed the cream to rise in graduated glasses, assuming this to be a test for the amount of cream in any milk. Science again begins to experiment and after long and determined work, bringing to light numerous methods of testing milk more or less successful, there finally is placed in the hands of dairymen the Babcock test. A simple, accurate method which is now in use and the great benefits of which cannot be estimated. This test so generously donated to the dairy world by Dr. Babcock has become in a few years the standard method in America for determining the fat content of milk, and has been the means of showing dairymen some wonderful things in regard to milk and its products and enables them to find out which cows are profitable and those which are not.

In the making of cheese and butter there is no doubt that very little would ever have been known about the "fundamental principles," or the why and wherefore, were it not for the investigation of science. In old days it was supposed by superstitious and ignorant people that when the butter would not come the "witches" had an

evil influence on the cream. They applied heat to kill the witches, and of course raised the temperature of cream with the result that it would allow the butter fat to come together in the form of butter granules. Investigations along the lines of improvement in butter and cheese making must be to a great extent dependent on those of some scientific training, combined with the help of the practical man. The effects of thin and thick cream, high and low temperatures, sweet and sour milk and cream and a thousand things now known about "making" have been pretty thoroughly thrashed out by our dairy schools and experiment stations, and this knowledge has been spread broadcast over the dairy world and enabled the practical men engaged in the business to handle the raw material and do their work with more intelligence and less labor.

The Wisconsin curd test is another good thing worked out by science for the benefit of the dairymen. By its use it is possible to find out from what place certain flavors are coming, and then, by looking for the cause, a remedy may be suggested.

The practical man became aware that certain changes were apparent in cheese when ripened under certain conditions and at certain temperatures. The Scientist goes to work to find out why and how these changes occur. By long research work it was finally found out that a great many things have a bearing in the curing of cheese. One of the results of the work of the Scientist and the practical man combined is our modern cool curing room, another great boom to the dairyman, for it is generally recognized that fine cheese cannot have or retain their

smooth texture and perfect flavor if subjected to high temperatures such as is found in the ordinary curing room during hot weather.

Along with this might be mentioned the mechanical refrigeration plants now so extensively used in our cold storage both in land and sea. Some method of easily testing moisture in butter was badly needed by our butter makers. Science begins to investigate and brings to light at least three moisture tests which can be easily operated by the practical man. Work is also being done on a test for moisture at the time of "dipping" curd, and it will not be long before such a test will be ready that will work out under factory conditions.

Factory men have usually been up against the proposition of sewage disposal. Unless natural drainage could be utilized it is really somewhat hard to know how best to get rid of it. The practical man had it drawn away or buries it near the factory, at the risk of contaminating the water supply. Science takes the matter in hand and proposes to dispose of this sewage through a septic tank system and two of these have been installed for experimental purposes, and there is no doubt but that this method will eventually take the place of the old systems of sewage disposal at our factories. Science takes up the question of silage and finds out for the

dairyman the changes which it undergoes under certain conditions, and why these changes occur and is able to give the best methods for its preservation.

There are many other things too numerous to mention, that have been worked out by the Scientist for the benefit of the dairymen, and many of these things have been accepted by the practical man and have become so common in his daily routine that he forgets or does not fully realize the great benefits contributed to this work by the Scientist.

To my mind very little advance can be made in finding out the hidden mysteries underlying the great principles of dairying without the help of science, and it seems to me this business is worthy of having special chemists and bacteriologists who could devote all their time to finding out a great many things not yet known about cheese and butter making.

It is quite evident that chemistry and bacteriology in relation to dairying should be more generally understood by the average practical dairyman, if he wishes to become more enlightened in the general principles that govern his work. I have only mentioned a few of the great helps brought out by science for the advancement of the profession of dairying, and to the practical man let me say do not undervalue or overlook the scientific in your pursuit of the practical.

## Farmers' Institutes in Ontario.

By G. A. PUTNAM, Superintendent Farmers' Institutes.



Those who are familiar with the History of Farmers' Institutes do not doubt for a moment but

that they have been a great influence in the betterment of agricultural conditions in the Province. The tillers of the soil follow less laborious and more effective methods of cultivation; they have an ideal towards which to work in the production of beef, bacon, mutton and horses; they are not satisfied unless their cows are producers beyond the "pay-expenses" point, and all in all they have the business of the producing and manufacturing plants organized upon a sounder basis than was the case when Institutes were organized. There is unquestionable evidence of this in the records of the past twenty years' production per acre, and the gross agricultural output.

Much of this awakening among the agricultural classes has been due to the influence of the Institutes; not probably so much because of the direct information imparted as to the enthusiasm created by presenting to the farmers the possibilities of increased production, and the creating of a spirit

of enquiry. The desire for information has been largely gratified by the Agricultural College, the various Agricultural Societies, and the increased circulation of the most excellent agricultural publications which we have in Ontario.

Before placing before students and ex-students of the College the part which they may and should take in Institute work it would be well for us to ask: (1st.) Why Institutes were established? (2nd.) With what success were they at first attended? (3rd.) In what condition do we find them at this time? (4th.) What course should be followed if they are to maintain and increase their usefulness?

When one reads and hears of the methods followed by up-to-date agriculturists in the various lines of production in different parts of this continent, as well as the older countries of Europe, one can see wonderful possibilities for further improving the general agricultural conditions of the Province. At the time when Institutes were first established, there was even greater need of dissemination of information bearing upon agricultural subjects than at present. In the early seventies the Legislature of the Province saw the necessity of establishing an Agricultural College and Experimental Farm, and even when the College became established along the right lines, and was doing really

good work, the large majority of the farmers in the Province discredited the work which it was doing.

There appeared to be no effective means by which the work of the College could be brought prominently before the farmers. The Agricultural Societies carried on very little work of an educational nature, although they were empowered to hold meetings for the purpose of imparting agricultural information. The President of the Agricultural College, Dr. James Mills, did well when he conceived the idea of sending members of the College staff, and practical farmers, throughout the country with the view of giving direct information upon advanced agricultural methods, and incidentally to place the work of the College before the farmers. These meetings were much appreciated on the part of the farmers, because of the direct information obtained, and were also valuable in that they popularized the work of the College and Experimental Farm.

Institute work in the early days was much similar to the work carried on at the present time, i. e., an admixture of the practical experience of successful farmers, and scientific information, which can only be given effectively by the scientist.

The first series of Institute meetings was held in January, 1885, at twelve points in the Province, three between Toronto and Kingston, and nine west of Toronto. The appreciation shown by the farmers, and the publicity given the work by the press, resulted in a rather rapid growth, until we find that in 1892 Institute meetings were held in 112 places, and at the present time we hold each year over 900 meetings. The success of the work was due large-

ly to the quality of the speakers sent out. With such men as Dr. Mills, the late Prof. Panton, John I. Hobson, and John McMillan we could not look for anything but success to attend the work undertaken.

With a permanent local organization in practically every electoral district of the Province the Institute system of Ontario is one of the strongest to be found upon the continent. The permanency of the work, and the success obtained in the various localities is due largely to the system of having a permanent organization in each locality. By throwing responsibility upon prominent local men, the success of the work is practically assured.

The records of the past three or four years as compared with previous seasons is, at first glance, not very encouraging. There has been a slight falling off in attendance, as well as in membership, but only very slight. So far as attendance is concerned, the decrease can easily be accounted for. Until quite recently Institute meetings were more or less of a novelty to a number of people in each district. This day is past, however, and those who attend the meetings are, for the most part, those who come with the object of getting specific information. Then again not so much attention is paid to the purely entertaining portion of the programme. During the past few years the tendency of the young men in rural districts to flock to the cities, or to go to the North West, has had effect upon the attendance. The difficulty of securing competent farm labor has also been a factor in this.

During the past two or three years there has been a marked tendency, by those interested locally in Institute

work, to ask for speakers who are prepared to give instruction along definite lines. Instead of general information, and discussions of a general nature, the farmers are coming to appreciate the necessity for specializing at Institute meetings. This, of course, applies to only a comparatively limited portion of the Province, but the signs of the times indicate that, as the years advance, Institute work will have to take more of the nature of special meetings. Special fruit meetings, field meetings for the improvement of seed corn and the destruction of weeds, dairy meetings and bacon meetings have been held. One or two speakers who were prepared to go into the subject exhaustively were sent to each place of meeting, and it was announced and thoroughly understood by all that only the one line of work would be taken up at the meeting. The results attending such efforts were most encouraging, and specialization in the Farmers' Institute meetings as well as in the lines of production, is bound to increase over a considerable portion of the Province. In many localities diversified farming will continue for many years to come.

The beneficial results following Institute meetings have been quite marked, more so perhaps than one would expect from the holding of one or occasionally two meetings a year at each place. The amount of information imparted, and the discussion which can be held at an afternoon and evening session is very limited. It has, of course, had the effect of creating a tendency to further enquiry and study upon the part of those in attendance; and the gratification of the spirit of enquiry created is accountable for much of the success which has attended the work.

It might be well, at this time, for us to ask ourselves whether or not the system at present followed could not be materially improved.

Most of us are familiar with the surprisingly rapid growth of Women's Institutes in the Province of Ontario. The success attending these organizations has been due largely, we think, to the method of holding meetings each month, except during two or three of the most unfavorable months in the year. We believe the farmers of Ontario would do well to organize clubs in every locality where even a limited number can be interested. It does not require a large membership to make the meetings of value from month to month.

Why should the farmers of Ontario not co-operate to a larger extent, in the first place in deciding upon what line, or lines of agriculture can best be followed in the different districts, and then in the production, feeding preparing for market, and sale of products. We have marked instances of the additional profits as the result of work of this nature, and the farmers of Ontario cannot hope to get their just proportion of the amount paid by the consumer for the farm products as retailed in the city and town until they have some more effective means of co-operation in production and marketing. The day is past when the farmer considers that by being able to grow better beef or produce a greater quantity of milk, or a better quality of bacon than his neighbor, he is better off than if his neighbor were producing goods of the same quality. The greater the amount of a uniform quality of any farm product, which can be produced in a locality, the better the returns will be for the individual.



However, the object of this paper is to place before the students and ex-students of the College, some statements as to their duties and opportunities with reference to Farmers' Institute work in the Province. In the first place, it is more than likely that in the years to come, the greater proportion of the Institute staff will be composed of ex-students of the College. For the most part only the man who has been able to demonstrate successfully his methods upon his own farm is best qualified for Institute work. We must in any case have men upon the Institute staff, who are successful practical farmers, and the necessity has arisen in many localities, and will continue to grow, for speakers who are able to supplement the results of practical experience by an intelligent discussion of scientific principles as applied to farm practice. This calls, in most cases, for the man who has had College training. True, we have employed, and will, no doubt, continue to employ in Institute work a number of men who have not had College training. It will be found, however, that the men employed are students, and do not depend solely upon the results of practical experience for the information which they impart at Institute meetings.

In order that the student may be of greatest value as a citizen when he returns to the farm, he should improve every opportunity for public speaking, and take advantage of the training secured by belonging to the different societies while at the College. The man who fails to attend the literary meetings, or who takes no active part in other College organizations is not likely when he returns to the farm, to become prominent in Institute

work, or in other matters of a public nature. We trust, therefore, that the students will take advantage of the excellent opportunities afforded while at the College, and that the ex-student will make opportunities to give the farmers of his locality the benefit of his training while at the College. By organizing local clubs for the discussion and study of agricultural and literary topics, he will be doing much to help the cause of agriculture, and to better the conditions surrounding home life in the country districts.

It is essential, of course, that the ex-student, or any other farmer who is to gain prominence among the agriculturists of his locality, must be a success from a practical standpoint. He must show, by the results obtained upon his own farm, that the methods which he recommends can be followed with success and profit. Example is the most forceful teacher in agriculture.

Right here we might repeat the statement which is often made by Institute lecturers, officers, and the member who takes an active interest in the work, to the effect that the Institutes influence not only those who are in attendance at the meetings, but the farmers who are indifferent to Institute work, or it may be who takes only enough interest to criticise. These latter people often watch very carefully the methods followed by those who have taken the advice of the speakers sent out, and we find them practising methods which have been introduced through the Institute, although they are ever ready to criticise the work of that organization.

It is not always the student who is able to pass the best examination, or who is able to carry away the greatest amount of information in his head,



who proves the greatest success in after life. It is, in these busy times, those who are able to systematize the information which they have gleaned, and thus have it for ready reference, who are likely to prove the greatest success in after life. It is not he who is the most learned, but he who can bring to his service the knowledge of other men, who is likely to prove the most forceful. Students cannot start too soon to make notes here, and notes there, which will be of service to them in after life. Many of the lessons now being learned should be fixed for reference in years to come. It is not examination day alone which you should keep in view.

We leave it with the students to improve their opportunities, and we trust that the large number of students, ex-students, and Institute officers gener-

ally throughout the country will look to it to take advantage of the opportunities afforded in country districts, for the establishment of local clubs, and other organizations, which have for their object the betterment of the surrounding conditions.

It is only by an intelligent application of the teachings of lecturers and writers to local conditions that we can hope for the results desired; and in order to do this some means must be provided for the interested persons to hold periodical meetings. Institute officers and ex-students of the College will naturally be looked to to take the work in hand. We trust that they will rise to the occasion.

We hope to place methods of organization before your readers in one of your early numbers.

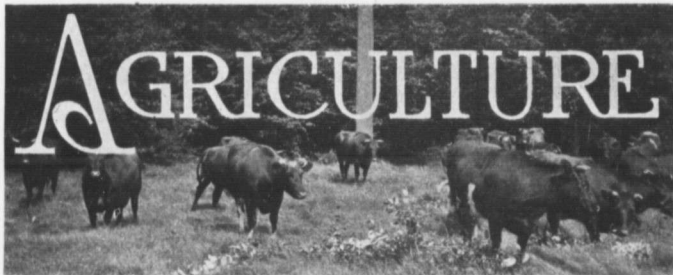
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#### AT THE WINDOW.

How thick about the window of my life  
 Buzz insect-like the tribe of petty frets;  
 Small cares, small thoughts, small trials, and small strife,  
 Small loves and hates, small hopes and small regrets.

If 'mid this swarm of smallnesses remain  
 A single undimmed spot, with wondering eye,  
 I note before my freckled window-pane,  
 The outstretched splendor of the earth and sky?

*Agnes Ethelwyn Wethereld.*



## The Winter Fair.

OUR Annual Provincial Winter Fair has once more come and gone. Every successive year has advanced its popularity, and thus we find it the gathering place of the prominent stock and poultry men of our fair Province. It has indeed become a powerful magnet, which annually draws the thousands of Ontario's farmers and stockmen. It is a loadstone of vast strength. Just as the needle turns to the pole, so the thoughts of stockmen in Ontario and elsewhere turn at the fore part of each December to the great educational show at Guelph, which has proven itself one of the foremost of the Dominion..

The Fall Fairs have been truthfully considered as being of great educational value. Guelph Fair, however, is the climax. This Provincial Fair is the final court of appeal for the year. That it is the most popular court is attested by the increased crowds of this year. Judging from the numbers in attendance, who can but say that this year's fair was a striking success?

The poultry show was never better, and the showing of sheep and swine both in number and quality was indeed a point of interest. However, cattle exhibits were not so numerous as to arouse enthusiasm. What is needed is better accommodation for the stock, and this would prove a vast encouragement for breeders and feeders from various parts of our Province.

Thus arises the question of a larger building with better accommodation for the housing and also for the showing of the stock. No one acquainted with the situation will for a moment doubt the inconvenience of the arena as found at present. Education is the principal mission of any exhibition, and how can this be attained when only a limited number of persons are allowed to witness the judging of the principal classes. The Winter Fair rightfully stands aloft from any spectacular side shows to serve as an attraction for the crowds. The large number of visitors being attracted purely by the educational features of

the show. Then why not give them the full benefit of the most instructive part by providing an arena where the judging could be watched with interest.

Another feature which is lacking at the Winter Fair is an exhibit of horses. At the Farmers' Show intended for the education of the agricultural community, it does seem fitting that this very important class of farm animals should be recognized. Proudly did the Canadian horsebreeders show forth at the International, and why not have the same attraction at this, our Canadian Fair.

The horse breeding industry has been growing and still continues to grow. It would seem wise then not only to encourage the breeding, but also to show the farmers the importance of such an industry, and to educate them as to the best classes of horses to raise.

Viewing this proposition from an educational standpoint of interest to the O. A. C. student it would be of immeasurable value. Considering the large numbers of students returning to the farm, and putting into practice facts learned while at their Alma Mater, does it not seem practicable that points gathered from a good horse show held at their door would instill in them a keen interest for the industry and arouse an enthusiasm not soon to be forgotten.

Much might be said on this question, and on others of vital importance to the Ontario Agriculturist, but it is sufficient to say that the Ontario Winter Fair is performing a good work, and as time advances the demanding needs are certain to receive encouragement and promotion, and new departments will be added when wisdom demands it.

L. A. Bowes, '08.

## The International.

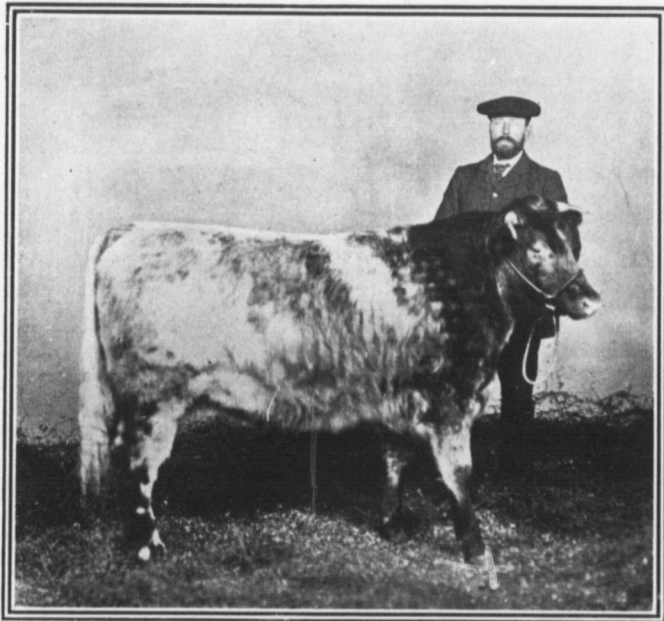
THE Eighth Annual International Live Stock Exposition was held at Dexter Park, Chicago, from November 30th to December 7th, 1907. This year's exhibition easily surpassed, both in magnitude and magnificence any similar show ever held before on this continent. Never before had so much live stock of such superior quality been crowded together in a single exhibition. Never before had Canada been so widely represented and never before had her breeders carried off so many premier honors. The show buildings adjoin the

stock yards and are situated in South Chicago. An idea of their size can be best expressed by a comparison with our own Winter Fair building, which could almost be placed in the cattle and horse ring. Sheep are judged in a separate part of the building. The stables for cattle, sheep and hogs surround the main arena and are contained under the same row. The horse stables are separated from the main building by an extensive yard, which furnishes a splendid exercising ground for the animals. Pabst, Crouch and Finch, the prominent American horse-

men, and the German Government exhibit of Oldenburg Coaches occupied separate stables; whilst the Canadian horses and those of lesser American breeders were accommodated in other stables.

The chief features of the buildings are comfort and cleanliness. The creature comforts of the biped are

stockmen are filled—good meals, refreshing wine and beautiful animals, all of which may be experienced, amid comfortable surroundings. Then the quadruped has his roomy stall, with heaps of good bedding, sweet, toothsome hay and good care. Cleanliness pervades the atmosphere, and dirt, no cobwebs; everything spick



"Roan King," owned by James Leask.  
GRAND CHAMPION AT THE INTERNATIONAL.

thoughtfully supplied. The benefit of his inner man is sought in the placing of well-stocked restaurant and buffet, both of which are in the building, while his outer sensibilities are tickled by having warm, well lighted and ventilated rooms and an extensive and comfortable seating accommodation. So that the three wants of good

and span. The uniforms of the stockmen and the gay streamers floating everywhere make one feel that one is walking in the presence of the aristocracy of the animal world.

What the Fat Stock Show of Guelph has been to the export market industry of Canada, the International has been to the breeding industry of

North America. Education is the watchword of the Exposition. This education is shown in a two-fold way—the improvement of stock by the winning of prizes by typical animals, and the exhibits of the Agricultural Colleges. One prominent breeder of Herefords says: "Whole classes look as though they were sired by one bull, so similar are they in style, finish and breed character"; though only made regarding Herefords, this statement might apply equally to all the classes shown at Chicago this year. Indeed so marked was this similarity that the judges in several classes found it exceedingly difficult to decide on the winner. After long discussion they found it necessary to discard certain animals, not because of blemish, nor because of gross inferiority, but because their keen eyes detected the absence of some little breed characteristic. In every such instance the number of animals discarded was less than half the total number competing, showing that considerably more than half of the animals shown conformed in every particular to the breed requirements, and that degree was the distinguishing point. Indeed in several classes, especially heavy horses, the judges were so long in deciding that the programme was very materially disarranged. Furthermore, in cattle more particularly, it was noticeable that the different breeds which were bred for one particular purpose, say beef, are gradually conforming to one type, and that in the near future color of hair, absence or presence of horn, and length, when present, are likely to be the only distinguishing features between the different breeds. Now, what do these facts prove? That breeders are becoming educated to the

fact that a certain type of animal is best fitted for certain purposes, that the animals most conforming to that type are the animals that will win in the show ring, and that breeders of different breeds, which are intended for the same purpose, recognize that one type is desired, and that the old excuse is no longer valid, namely, that if an animal of certain breed has any faults, for example the rounded rump of the Angus, these faults are condoned because they are supposedly breed characteristics.

Now as to the part played by the Agricultural Colleges. Several of the colleges across the line, compete successfully in the show ring. What is the result? To the small farmer inestimable benefit. He sees that his State college knows something of the practical side of agriculture, that it can teach the farmer something that he should know, and that it is worth its upkeep. Of course this cuts both ways, as it helps the college in its demands for more money. Men are far more likely to put their money where it will do most good to themselves. Then the farmer is more apt to learn from the college than from the breeder. First, the college is his paid instructor, a public servant; then the breeder is a man who specializes and the farmer will naturally say that a man who makes a life long study of a certain subject ought to know something about that subject, whereas he can see that if men who deal in all kinds of stock make a success of each branch, it is possible for him to know something of and breed good general farm stock. Consequently the tendency is to improve the stock of all intelligent farmers.

Now, it seems that herein we may

learn an object lesson from our American cousins. Why should we, as a college, not be allowed to compete in shows? Why should it be considered unfair to breeders? Indeed they would have a better chance to carry off the big prizes than we, as the man who specializes has the advantage over the man who generalizes. Still it would improve our stock, and like our American cousins, we might win a fair share of the laurels; to the discriminating person our failure to carry off the big prizes in competition with specialists, would be no discredit. The advertisement of the college would be made more extensive and the splendid condition of our stock would tend to prevent remarks like that made to the writer by an intelligent young farmer, who said, "Why don't you fellows at the college keep your cattle in better shape?"

As was said above, Canadian breed-

ers never did so well in previous years as they did this year. True this is the third year that Drummond has held the champion wether; but for the first time the championship of steerdom come to Canada—Roan King, a grade shorthorn steer, owned by Jas. Leask, Greenbank, Ontario. Roan King was a calf, weighing 1080 lbs. He won \$830 in prize money for his owner and sold at \$24 a hundred to a butcher in Buffalo. This is the first time in years that a Shorthorn has won the grand championship, and to a Canadian belongs the proud privilege of restoring honors to the ancestral beef breed of the world.

In Clydesdales, Graham Bros., Claremont, and Graham, Renfrew County, Bedford Park, Toronto, divided the honors. The former owned the champion mare, the latter the champion stallion.

J. P. Atkin, '08.

### CARNATIONS IN WINTER.

Your carmine flakes of bloom to-night,

The fire of wintry sunsets hold;

Again in dreams you burn to light,

A far Canadian garden old.

The blue north summer over it,

Is bland with long ethereal days;

The gleaming martins wheel and flit,

Where breaks your sun down orient ways.

There, where the gradual twilight falls,

Through quietudes of dusk afar,

Hermit antiphonal hermit calls

From hills below the first pale star.

Then, in yon passionate love's foredoom,

Once more your spirits stir the air,

And you are lifted through the gloom,

To warm the coils of her dark hair!

*Bliss Carman.*



## The Union.

THE annual meeting of the Agricultural and Experimental Union was held on Dec. 10-12th, and was pronounced by all a marked success. Excellent addresses, live discussions and keen interest characterized the meetings throughout.

Professor C. A. Zavitz, in presenting the Secretary's report, spoke of the progress that had been made during the past year in the way of securing legislation bearing on the sale of feeding stuffs, and the advancement that had been made on the general work, drawing attention to the fact that in the three leading cereals the average yields for the last ten years exceeded the average yield of the previous ten years by 18 per cent. This speaks well for the excellent work being done by the Union.

In his address, President J. M. McCallum spoke of the material benefits of the Union. Besides furnishing, as it does, the basis for a supply of pure seed grain, it trains the individual experimenter in care, precision, and observation. He spoke also of the

establishment of agricultural teachers in six Ontario High Schools, highly commending this most important step.

The important question of legislative control of commercial feeding stuffs was again brought up this year by Mr. W. P. Gamble. He recommended two resolutions, which were adopted. The first dealt with the continuance of the work that had been started, the second was that a committee be appointed to interview the authorities at Ottawa with a view to securing further legislation upon this point. The following men were elected to constitute this committee: Hon. Nelson Monteith, Messrs. W. P. Gamble, T. H. Mason, R. H. Wilson and C. A. Zavitz.

Prof. E. J. Zavitz, in an address upon farm forestry, stated that the following varieties of young trees were sent out free to all farmers desiring the same for settlement of waste lands: White, Scotch and Jack Pine, Norway Spruce and Black Locust.

Possibly the most interesting feature of the Union was an address by Mr. C. C. James, Deputy Minister of Agri-

culture, upon "Agricultural Education." He spoke of the repeated attempts to introduce agricultural instruction into the high schools, and the failure that had attended these efforts, owing to the simple fact that teachers in public schools are unqualified to give instruction upon this subject. An effort was being made to overcome this difficulty by placing in the high schools men eminently qualified to teach agriculture. Such men, all graduates of the O. A. C., had been placed in six high schools in Ontario, their names being Mr. F. H. Reed, Lindsay; R. S. Hamer, Perth; F. C. Hart, Galt; R. E. Mortimer, Collingwood; A. McKenny, Essex. Their names and addresses have been mentioned here to enable all ex-students, and readers of the O. A. C. Review living in any of the districts mentioned, to seek out these men and ask for information upon agricultural problems. Make use of them.

At the close of the address, reports were delivered by the six men already

mentioned. Great enthusiasm was aroused, and it was generally felt that a splendid work was being done which will prove but a stepping stone to higher things, and to the ultimate spread of agricultural education throughout the Province. The nature of the work is twofold; that done in the class-room, and the more practical work amongst the farmers, visiting their farms, answering enquiries, and sending out information. Short courses in stock and grain judging are to be held during the winter months.

This year the Union is again fortunate in having the best men elected to fill its various offices. To its newly-elected President, G. A. Brodie, Bethesda, and J. O. Laird, Blenheim, Vice-President, as well as to the newly-appointed committees, we extend our best wishes, and trust that their efforts may be crowned with success. The Union has done a splendid work in the past, it both can and will do a better work in the future.

## Rothampstead Experiment Station—Its History and Work.

The manor-house of Rothampstead, situated in the parish of Harpenden, Herts, was the birthplace of John Bennet Lawes, and the Rothampstead farm became in subsequent years the scene of the great work of his long life. So far-reaching have been the results which he achieved that the name of Rothampstead is now a household word wherever the science of agriculture is studied.

John Bennet Lawes was an only son. Experiments in chemistry, made at home, seem to have been one of his favorite occupations. He was sent successively to Eton and to Oxford, which he entered in 1832. There he attended lectures in chemistry, but left without a degree. In 1834 Mr. Lawes entered on the personal management of the home farm at Rothampstead, then of about 250 acres; he at the same time



entered heartily into chemical investigation. The researches of De Saussure, on the nutrition of plants, seem to have first called Mr. Lawes' attention to the relations between chemistry and agriculture. This resulted in his manufacturing "superphosphate of lime" from apatite and other mineral phosphates, and if Sir John Lawes had done nothing more than introduce the manufacture of artificial fertilizers he would still rank as one of the greatest benefactors of agriculture.

His life here divides into two parts. He became, from the date of his patent in 1842, a chemical manufacturer, carrying on an extensive London business. His devotion, however, to agricultural research continued to increase, and the profits yielded by commerce were employed for the creation and maintenance of a large experiment station at Rothamstead. The experiments in the fields had now reached a stage at which the continuous services of a trained chemist were urgently needed. Mr. Lawes therefore engaged a young chemist who had studied under Liebig—Dr. J. H. Gilbert. Dr. Gilbert entered upon his work at Rothamstead in June, 1843, and continued actively occupied in the scientific superintendence of the agricultural experiments during the whole of his long life. For fifty-seven years Lawes and Gilbert worked together on a great variety of agricultural problems, and some of these we shall briefly mention.

Sir John Lawes died at Rothamstead on Aug. 31st, 1900, in his 86th year. By his death science lost one of its most eminent men and agriculture one of its truest friends.

The outline of the work carried on at the Rothamstead Experiment Sta-

tion was as follows: Sir John Lawes directed the agricultural operations in the experimental fields; the execution of the remainder of the work was in the hands of Sir Henry Gilbert. Sir John Lawes contributed to the joint work a thorough knowledge of practical agriculture. A born investigator, he seemed to be continually occupied in the study of agricultural problems. His enterprise and practical spirit impressed its character on the whole of the Rothamstead work. Sir Henry Gilbert supplemented in a remarkable manner the qualities of his chief. His training as an analytical chemist was naturally of great value in research work. The continuation of the same field experiment for more than fifty years, and the important results which subsequently followed from an examination of the soil so long under definite cultivation, may be cited as examples of Gilbert's work. At his death the number of samples of soil stored for future reference in the laboratory exceeded 50,000.

He died at Harpenden on Dec. 23rd, 1901, in his 85th year.

A brief biography has been given of the two men, who have given Rothamstead the honored name it bears. It is now necessary to discuss the object of the experiments themselves, and some of the results obtained from them.

They are, above all, attempts to obtain knowledge—to ascertain the conditions under which the plant grows, and how the soil supplies it with nutriment. And as the attainment of knowledge is the prime object, practical considerations are put to one side in framing the scheme of the experiments. For example, on one of the Rothamstead fields wheat has been grown for the last sixty years, year after year, on the

same plots of land, with the same manures. As no British farmer grows wheat continuously on the same land, and rarely uses any manure for it, the whole experiment is from one point of view hopelessly unpractical. But the aim of the experiment is to find out **how the wheat plant grows**, and the scheme of manuring and management adopted is the most practical method of solving that problem. Experiments which only aim at ascertaining how to derive the greatest monetary return from a given crop, however necessary they may be, are only of value for a short time, and for the particular soil and locality where they are carried out.

The great object then of the Rothampstead experiments is to obtain knowledge that is true everywhere, and to arrive at principles of general application, leaving the farmer himself, through his more immediate advisers, to adapt these principles to his own practical conditions, and translate them into pounds, shillings and pence. Some of the work that is going on may seem to deal with problems little connected with practice, so remote, in fact, that they never can have any bearing upon the business of farming. There are, however, many matters in which the actual farmer will always have to rely upon the advice of scientific experts, and as a rule the unpractical looking experiments are devised to settle this or that point on which the scientist

must have information in order to form a correct judgement for the guidance of the practical man.

Agricultural science involves some of the most complex and difficult problems the world is ever likely to have to solve, and if it is to continue to be of benefit to the working farmer, the investigations, so far as their actual conduct goes, must very quickly pass into regions where only the professional scientific man can hope to follow them. It was to meet this requirement that such men as Lawes and Gilbert were a necessity for the accomplishment of the invaluable results obtained at Rothampstead.

Progress in agriculture demands that to the greatest possible extent practice shall be controlled by science, not by chemistry alone, but by every science that deals with principles fundamental to agriculture.

It is only the ignorant who say agriculture is simple. What kind of land shall be chosen? How and when shall it be fertilized? What crop rotation should have preceded? How to prepare the seed bed? These are some of the questions that for years have been asked at Rothampstead. The accumulation of facts is comparatively easy. How to interpret the meaning of the facts is extremely difficult and this is largely the work undertaken at Rothampstead.

A. E. Slater, '08.



## The College Teaching of Horticulture.

By DR. L. H. BAILEY, Cornell University.

**H**ORTICULTURE is now one of the oldest of the departments in the agricultural colleges. It is twenty years since a full department of horticulture, with no other subjects in the title, was set off at Cornell University; and years before that the subject had been partially separated in sub-departments or segregated with other subjects. Great progress has been made since then in the separation of departments in the colleges. Animal husbandry has been separated from agriculture, and even poultry husbandry has been separated from animal husbandry; in fact, in some colleges animal husbandry has ceased to be a unit. Dairy departments have arisen. Agronomy, farm mechanics, rural engineering, rural art, rural economics, and others, have come into existence. In one case, at least, agronomy as a departmental unit has come and gone, and smaller units have taken its place.

In the face of all this great change horticulture, for the most part, still

retains its old departmental organization. The subject may be well taught and the departments well organized, but I fear that we have not yet differentiated it into its real units or entities; and until we do so divide it we cannot hope to teach the subjects in the most effective way.

My point is that horticulture must now be specialized, even if in the specialization we use the word horticulture itself as the name of a college department. The field must be divided, although there may be one executive head. We may divide it on the teaching or theoretical basis, putting together those phases of the subject that seem to belong together in order to develop the subject logically and methodically. We should then begin, perhaps, with a study of the way in which the plant grows and how it may be propagated and manipulated, branching off here and there into applications to fruit-growing and flower-growing and nursery-practice, and plant-breeding, and the like. This,

however, would hardly meet the needs of the specialized industries of the present day. We expect that the student comes to his horticulture with a good foundation training in soils and chemistry and botany and other studies; then he may well enter on some definite course of work.

We shall always need generalized teaching in horticulture, as in other subjects. This is now fairly well provided for, and we need to add more specialists. If several specialists are to be required properly to man a college department of horticulture, then we must determine just what these men shall teach. Assuredly they must teach along the lines of the public needs. The public needs may be considered to be well expressed in the kinds of horticultural societies that are not most prominent. The vigorous national horticultural societies are of three kinds—pomological, floricultural and nursery business. These represent three great horticultural trades or professions; persons who are expert in any one of these occupations usually are not expert in others. I am convinced that every good horticultural department should have at least these three divisions. If it is not desirable, in any commonwealth, to have a separate nursery sub-department, it will still be necessary to teach something of nursery-practice as an underlying and co-ordinating part of all good horticultural work. Each of these divisions must be in charge of a man who is expert in the trade, as well as thoroughly grounded in the science and philosophy of the occupation. The time is past when mere expository work—instruction by means of lectures and books—is sufficient to meet the demands. The botanist and chem-

ist no longer teach by lectures and literary means alone; they have laboratories in which the students work for themselves and develop their own experience. The horticulturists also teach by laboratory work, but we have not yet come to a full realization of the competent horticultural laboratory. It is useful to have laboratory exercises on grafting, propagation, and on pruning and spraying, and some of the operations of plant-breeding; but these alone are incidental and they really trifle with a great subject. The laboratory work should cover the whole theory and process of the given art. In the pomological division it should be a laboratory of say fifty acres of actual orchards, in which all phases of the work, from start to finish, may be in natural operation; and if these phases cannot be taught at the time of year when the students are in the habit of coming to college, the time of coming should be changed, for the seasons and operations that follow the seasons cannot be changed to suit a traditional college year. I look for the time when the college year will be elastic enough to allow it to be adapted to the requirements of the particular study to be pursued. At present, both the college and the people are only temporizing with these subjects. We are not taking hold of them as if we meant it to the marrow of our bones.

The college is now obliged to pick out the easily demonstrable subjects or phases here and there. The people send their youth to college in winter because they are needed at home in summer; and they often expect them to cover the whole subject in a term or twelve-month. If the subject of pomology or vegetable gardening is worth

teaching at all, it is worth teaching in its entirety and throughout the year; and it is worth the time that is required for good preparation, extending over a sufficient length of time to have developed a habit of mind.

Another class of subjects is yet wholly undeveloped in any horticultural department. The dairy departments of our agricultural colleges are largely manufacturing enterprises; they manufacture butter and cheese and other milk products. They cover a definite set of problems, and this is one reason why they are developing so rapidly. There are also horticultural manufactures — canning, preserving, evaporating of vegetables and fruits, the making of jellies and juices and other secondary products—some or all of which should be investigated and taught by the colleges of agriculture. The utilization of the waste products of fruit-growing and vegetable-growing has scarcely begun to develop in this country, but the question will soon force itself.

The editor has asked for my opin-

ion on "The Present State of Education in Horticulture," and I have answered the question by stating some of the things that I think must soon be done; this necessarily indicates the present status. I would not have my reader feel that the horticulturists are not making distinct progress, for this would not be true. The changes that have taken place within my experience in the teaching of this subject are nothing less than remarkable, and inasmuch as there was little in the beginning, all these changes mean progress. It is great satisfaction to see the bright young men, enthusiastic and well trained, entering this department of teaching. And yet I cannot help feeling that the newer departments are now more in the public eye and that the older departments need to make some radical departures or they soon will be distanced. The older organized units, if they remain effective, must always command as much support as the newer ones; the novelty itself advertises whatever is new.

## The Ontario Horticultural Exhibition.

THIS Exhibition, more familiarly known as the Fruit, Flower and Honey Show, was held in Massey Hall, Toronto, from Nov. 12th to Nov. 16th. It was a very fine exhibition indeed, and has outgrown the limits of the space at present available to such a degree that the directors are seriously thinking about securing a larger place in which to hold it in the future. As it was, the show had to be divided: the large upper hall being

reserved for the flowers, honey, preserved fruits, and some of the apples, and the lower for the vegetables, commercial packages of fruits and the county exhibits.

Remembering the fact that this year is considered to be what is commonly called an "off year" in apples, and that the late spring was decidedly unfavorable, one was surprised at the excellence of the exhibits. Moreover, commercial men were in the midst of

packing, and hence were unable to make up a special display such as they would have wished.

The arrangement of the exhibits on the main floor was excellent. On entering the door, one saw, first, tables of fruits either on plates or in pyramids with here and there among them vases filled with roses, carnations or chrysanthemums. This intermingling of fruits and flowers added greatly to the attractiveness of the scene, and did not interfere in any way with the judging. In the foreground were groups of plants, which served to set off admirably the chrysanthemums, which occupied the stage. In the arrangement of the flowers very fine taste was shown by the exhibitors, the intermingling of flowers with the denser green of foliage plants being hard to describe, but very beautiful to look upon. Among the flowers the chrysanthemum was, of course, the leader. The King of the Show was a large "Mrs. Thirshell," which measured 27 inches in circumference. A curiosity exhibited was a chrysanthemum stalk on which were grafted twenty-five different varieties.

Near the center of the hall was a table on which the Preserved Fruits were exhibited. The display was certainly excellent. Miss Shuttleworth, of Guelph, had a very fine exhibit of different methods of preserving the apple for the table. This latter was under the auspices of the Women's Institute, and intended solely for educational purposes.

Our old friend, the bee, showed that it had been very industrious this summer, despite the unfavorable season, and had no reason to be ashamed of its work, if what was exhibited here was a criterion of its labor. One was

reminded of the sweet tooth of his boyhood as he looked at the golden display.

In the Fruit Exhibit the largest part was that of the commercial packages. This display was certainly a great credit to the Province. Here one found the results of co-operation among the fruit growers, nearly all the prizes being taken by these associations. Several fine exhibits were thrown out because they were not branded. This section gave a good illustration of good and bad packing. Where the common commercial packs as the 2-3 and 3-4 were used the apples remained firmly in place, while where other packs were used the apples were generally loose, and in some cases badly bruised. Another point of importance to be noticed is the nailing on of the lid, three to four nails being sufficient. Some lids with 9-14 nails in each end were badly broken in being removed.

The exhibits of fruit from the different counties were very fine and instructive. The finest exhibit was that of the County of Huron on the main floor. The whole display was one which would be hard to beat anywhere.

In the Commercial Exhibits not in packages there was a very good display of fruit. If this class had been limited to varieties of fruit which are found in all parts of Ontario the competition would be more equal and the judging easier.

Fruits in pyramids and on plates were a very fine exhibit. From these displays one could learn easily the distinctions between the different varieties. Pears and grapes were few, but of good quality, especially the latter.

The Vegetable Section, which occupied about one-third of the basement

tables, gave us a better idea of the importance of the positions which Ontario holds in raising this very necessary part of man's food supply. Seldom do we find quantity and quality joined together to such a high degree. Added to this was the artistic taste shown in grouping, which helped much to make the display more attractive.

One of the most instructive displays was that of the Central Experimental Farm and the various experiment stations throughout the Province. One was surprised at the number of apples which had been originated in Canada. Unfortunately, the various

parts could not be grouped together, and so the greatest degree of effectiveness was lost.

British Columbia sent a number of commercial packages as an advertisement of the possibilities of the Province in the fruit industry. The fruit, although somewhat bruised, was of excellent quality and made an attractive display.

In concluding, I would say that it is unfortunate that more of the smaller fruit growers did not attend the exhibition. It is held largely for their benefit, and its educational value to them would be great indeed.

A. H. MacLennan '08.



*Photo by*

*J. Buchanan*

# The O. A. C. Review

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## Editorial.

Just at the time of our victory at Chicago, comes the news of encouragement to future teams to do even better than the **Two New Prizes.** Stock Judging teams of the past three years have done. Messrs. H. Barton and R. S. Hamer, both of the class of '07, have announced their willingness to donate a gold medal for three successive years, to the man who shall, in each year, head the list of Ontario students judging at the International. This medal will be known as the "Barton-Hamer Medal," and for 1907 it has been won by R. W. Hodson, '08, who headed the team this year at Chicago, and secured third place in the whole list.

Both Barton and Hamer were members of last year's team, Hamer capturing first place in the whole list of students competing. He is now one of the new High School teachers in Agriculture and is located at Perth. Barton is assistant to Professor H. S.

Arkel in the Animal Husbandry Department at the Macdonald College.

Mr. George Chapman, of Guelph, has generously offered the sum of twenty dollars to be expended in books, as a prize in English. This prize is to be awarded on the work in English of the first two years. The three divisions of the work in the English Department will be taken into consideration in awarding the prize, namely, English Literature, English Composition and Public Speaking. The prize will be awarded to the student, who, in the judgement of the committee, is the best all-round man in English.

We are glad to see this special prize for this subject, because it will perhaps be an influence to emphasize the fact upon the men in the Two Year's course that the so called "practical" subjects are not the only ones of value and importance. The "practical" man minus a good working knowledge of



the principles of English composition, some acquaintance with our great authors, and the ability to express his thought intelligently in public, will perform much work very effectively, but he will never be able to fill the place of largest usefulness.

The mailing of the December number of the Review each year marks a change in its Editorship.

**The Retiring Editor.** This year the man to retire is David M. Rose. Ever since the first day Rose entered these College Halls he has been regarded by students and Professors alike as a man of far above average ability. On the Review he has been an untiring worker, and has not only kept his College paper at that high standard to which it had attained under other able editors, but has also so conducted the editorial end that the Review looks out upon the future with brighter prospects than ever before. He has gathered around him a staff of assistants, every one of whom has a complete grasp of the work of his department, and every one of whom is possessed of that spirit and enthusiasm which cannot fail to bring about the realization of the fondest hopes of the early founders of the Review. Rose has always kept in close touch with the other student organizations. In the Literary Society meet-

ings he has been a leader, and while his numerous duties would not permit him to be on the athletic field, nevertheless he always kept himself thoroughly informed on athletic proceedings. As a Y. M. C. A. man he has been a tower of strength, and has been an active leader in the work of this organization. It was this keen interest in college affairs which has enabled Rose to so ably reflect through the columns of the Review, O. A. C. life and thought.

Much has been said in this issue of the Review of the victory at Chicago.

The thought suggests itself. Is not the time near at hand when we could have an all-Canadian College Stock-Judging contest? We have now four colleges—Truro, N. S., St. Anne's de Bellevue, Quebec, Winnipeg, Manitoba, and our own. These colleges make Stock Judging a strong feature of their courses, and each college has exceedingly competent professors in charge of the Animal Husbandry Department. Could not then some plan be worked out by which teams from these four colleges could meet once a year at some central place as the Canadian National Exhibition at Toronto or the Winter Fair in Guelph and there try their strength as is done yearly at Chicago? We think it could.

### **Inter-College Contests.**

# College Life.

## Union Literary Meeting.

THE second meeting of the Union Literary Society was held in Massey Hall on Saturday evening, November 16th. Before the time appointed to open the business of the evening had arrived, all the seats ordinarily provided were occupied and when the chairman rose to call the meeting to order the hall was filled to its utmost capacity, many persons being compelled to stand. After Messrs. Maclaren, Fraser and Thompson had delighted the audience with an instrumental trio, Mr. J. Buchanan, B. S. A., delivered an interesting address on "Three Weeks in the Hawaiian Islands." Judging from this address, which was full of unique experiences and humorous incidents, three weeks spent in viewing the "Paradise of the Pacific," as the Hawaiian Islands are often called, its people and their customs, must afford a very delightful holiday.

After Miss E. Hartley had favored us with a vocal solo, came the chief item on the programme, the debate, which was held to decide the winner of the sub-societies for the fall term. The subject under discussion was: Resolved—"That the Advancement of a Country Depends more upon its Natural Conditions than upon its People." For the affirmative, Messrs. Maclaren and Todd, representing the Delphic Society, not only presented clear, forcible and logical arguments in support of their side, but they also

turned to their own advantage some of their opponents' arguments, and were consequently awarded the decision. For the negative, Messrs. Martindale and Gandier, of the Maple Leaf Society, presented praiseworthy addresses, but were hardly a match for their more experienced opponents. To Mr. Maclaren, whose caustic twitting of his opponents evoked the applause of the audience, belong the honors of the evening. In his reading, "The Betrothed," Mr. L. A. Bowes, gave us somewhat of a surprise. Instead of relating some very sentimental story, which, judging from the title, one might naturally expect, he gave us the predicament of an ardent devotee of the "weed," who had been requested by his fiancee, either to give up smoking or to consider his engagement at an end. The pros and cons for each side were many, but eventually the gentleman decided in favor of his first love, "My Lady Nicotine." (Loud cheers from the male part of the audience, with feeble cries of shame and inhuman brute from the ladies.)

Professor Geo. E. Day, Honorary President A. A., presented the ribbons to the winners of the 'cross-country run. Mr. E. H. Aldwinkle, London, England, winner of this event, will be the first man to have his name engraved on the new cup donated by Messrs. McKillican & Hallman. Professor Dean's criticisms of the proceedings were valuable, and well appreciated

by the audience. The large number of people present and the deep interest in the programme sustained throughout the entire evening should be gratifying to the executive of the Union Literary Society.

#### Literary Society At Home.

The above social function was held in the Macdonald Hall on Friday evening, November 22nd. Many of our students personally informed the editor that they were eagerly looking forward to this event, and the surmise is that they had become enamored of some fair maiden, but you couldn't get them to admit that such was the case. A few persons when asked if they intended to favor the fair sex with their presence replied scornfully—not they, and the surmise is that "Once bitten, twice shy." But notwithstanding these conflicting opinions, the boys trooped over in large numbers and were cordially received by a bevy of fair, bewitching maidens.

Several pleasing musical selections were given in the gymnasium, and Thaine's orchestra was in attendance. Rendered sentimental by the soft, soothing notes emanating from the orchestra, couples wandered aimlessly up and down the corridors, whispering sweet nothings to one another, or nestled in some cosy corner, they became absorbed in themselves and entirely oblivious to their surroundings. However, such phases of life, desirable as they may be, cannot go on indefinitely, and shortly after half-past ten, the boys returned home, musing upon the glorious uncertainties of life.

#### The Philharmonic Concert.

On Friday evening, November 29th, the Philharmonic Club held their annual concert in the gymnasium before a large and appreciative audience. The

programme, of some two and a half hours' duration, was at all times entertaining and frequently evoked hearty applause. The musical items and the tableaux miniatures and portraits were well received, and the comedy added a much-appreciated spice and humor to the evening's entertainment.

The violin duet by Misses Rutherford and Robertson brought forth loud and prolonged applause, and it was only after it had been announced that owing to the length of the programme no encores could be permitted, that the audience ceased their demands. The two choruses by the Philharmonic Club were heartily appreciated, and from the standpoint of the audience, the time allotted to them was all too short. The College Male Octet rendered two selections in a very pleasing manner, and "Sir Aylmer's Last Fight," a tale of a doughty knight of old, was ably recited by Mr. J. M. Lewis. The piano duet by Misses Sullivan and Crane, and the piano solo by Miss Anita Hill, were also heartily applauded. The three tableaux were cleverly thought out and staged, and evoked much admiration; the one entitled "Her Next Partner," no doubt recalled to the memories of some in the audience similar circumstances in which they had reluctantly figured. Considerable taste and skill were shown in the presentation of the miniatures and portraits which were realistic representations of the beauty of the fair sex in the good old day.

In the presentation of the comedy, "That Rascal Pat," we had ample proof that there are in the student body amateur actors of no mean ability. The humor of the piece lay in the difficulties of Pat, whose endeavors to serve two masters at the same time

produced some very laughable complications. C. H. H. Ward, as Pat, made a great hit and kept the audience laughing almost continually. R. C. Treherne, as Major Timothy Puffjacket, gave an excellent representation of the irascible retired army officer. Charles Livingstone, a penniless young man, in love with Laura, was ably impersonated by E. F. Coke. W. M. Waddell, as Nancy, a coquettish English servant, was very realistic, and the part of Laura, the Major's niece, an aristocratic and charming young lady, was well taken by J. D. Tothill.

The knowledge that the concert was a financial success must indeed be gratifying to the officers of the Philharmonic Club, and to those persons who took part in the programme, and we congratulate them upon the satisfactory results of their efforts.

#### Inter-Collegiate Debate.

On Friday evening, December 6th, our representatives, Messrs. A. E. Slater and J. P. Atkin, met the representatives of the Western University, London, Messrs. Clark and Evans, in a debate which read as follows: Resolved: "That the Total Exclusion of Mongolian Immigration Would Be in the Best Interests of Canada." The debate, which was listened to with great interest, was productive of some sterling addresses, and when the judge, Professor W. S. Milner, of University College, Toronto, awarded the decision to the negative, it was generally felt that our visitors had won on their merits. Professor Milner stated that in coming to his decision he had been guided not by the weight of the arguments put forth, but by the manner in which the two sides had made use of and presented the material at their disposal. We heartily congratulate

the Western University on their victory, but we have every confidence of reversing the verdict when next we meet them in debate. Mr. Slater, in the unflagging zeal which he displayed in his preparation for the contest, showed his thorough appreciation of the honor and responsibility conferred upon him, and his speech, logical, forcible and at times, brilliant, evoked the admiration of all present.

We were indebted to Misses Ruth-erford and Robertson for the delightful rendering of a violin duet. The other two items on the programme, a vocal solo by Mr. A. Brown, and a reading by Mr. C. Kelly, were much appreciated. Although we lost the debate, yet we have gained in experience, and have once more shown that we can accept a defeat as fittingly as we can celebrate a victory.

#### Literary Societies Organize.

The organization of our Literary Societies for the winter term is as follows:

##### Union Literary Society.

Honorary President—W. P. Gamble, B. S. A.

President—C. Murray.

Secretary—C. A. Galbraith.

Treasurer—R. J. Allen.

##### Alpha Society.

President—N. D. McKenzie.

Vice-President—J. W. Jones, B.A.

Secretary—W. D. Jackson.

Programme Committee—E. Robertson, W. R. Thompson, P. Warren.

##### Delphic Society.

President—G. Manton.

Vice-President—G. H. Cutler.

Secretary—F. Canby.

Programme Committee—E. Robinson, W. H. Robertson and A. M. Shaw.

Maple Leaf Society.

President—C. F. Edgar.

Vice-President—R. B. Coglan.

Secretary—W. H. Smith.

Programme Committee—F. M. Clement, R. King and J. D. Lawson.

We extend our thanks to the retiring executive of the Union Literary Society, who during their term of office have done much to advance the literary interests of the college.

On Friday evening, December 6th, C. Murray represented the O. A. C. at the annual *Conversazione* of Victoria College, Toronto. He reports a delightful evening's entertainment and considers their "Conversat" to have been a very successful social function.

Mr. L. Caesar represented the student body at the annual banquet of the Literary and Scientific Societies of University College, Toronto. Many prominent speakers addressed the gathering, among them being President Falconer, Professor Shortt, of Queen's University, Mr. Blackstock, K. C., Mr. Robinette, K. C., and Rev. J. A. MacDonald, Editor of the *Globe*.

#### **Celebrating the Chicago Victory.**

Monday, December 2nd, 1907, will long be remembered in the annals of the college as the day on which we concentrated all the means at our disposal to celebrate the great national victory gained by our stock-judging team at Chicago. As President Creelman had granted us a half-holiday, accordingly about 2 p.m., the students, over two hundred strong, assembled in front of the dormitory. The bronze bull, mounted on a wagon decorated with red and blue, headed the procession, and with flags, pennons and streamers flying, with horns blowing

and college yells and songs filling the air, this truly great demonstration of patriotic spirit and enthusiasm filed down the college hill. Accompanied by a number of Macdonald girls in a carryall, we arrived in the city, and proceeded to make things lively. The residences of some of the various professors were visited, and the usual cheers given. The procession, then headed by J. Hugo Reed on horseback, marched back to St. George's Square and surrounded the statue while two of the students gave it a much-needed protection against the weather in the form of a liberal application of red and blue paint. We then continued our triumphant march down Wyndham street, and halted in front of the City Hall. Here congratulatory speeches were delivered by Mayor Newstead, Hugh Guthrie, M. P., J. P. Downey, M. P. P., and Chief of Police Randall. After these had been received with much enthusiasm in the shape of many interruptions, the students proceeded to the Kandy Kitchen and partook of sundry tempting dishes. The procession then returned to the college, the students feeling that they had not only fittingly celebrated the great victory, but that they had also worked off some of their superfluous energy and enthusiasm.

#### **Reception to the Stock-Judging Team.**

The victorious Stock-Judging Team were due to arrive in the Royal City at 6 p.m. Friday evening, December 6th, and, accordingly, in the morning fitting preparations were made to give them a rousing reception. About half-past five, the students, some two hundred strong fell into line, six abreast, and the procession wound its way past the Macdonald Hall and down to

the city. A halt was made before the City Hall and the torches were lit. The procession, a long line of flickering lights, marched through the town and formed up in a circle in front of the G. T. R. station, that noble and much-admired relic of ancient architecture. Here the G. M. S. Band helped the long minutes to pass.

The train, puffing and snorting, drew up alongside the platform. The victorious students were seized and carried shoulder high into the center of the waiting crowd. Here they were placed in a carriage, and the procession once more formed up, the band in front, playing, "See the Conquering Hero Come." After parading through the city, the procession marched along Kent street to Mr. Wade's residence on Glasgow street. Mr. Wade, who appeared in acknowledgment to the ringing cheers given for him, addressed a few words to the collection of heterogeneous nationalities, and then the procession continued on down to Waterloo avenue and thence back to College Heights. Here, the Macdonald Hall, Professor Day's residence and that of President Creelman were special marks, at which were hurled the united power of our vocal strength. Then followed supper. A special table, placed at the upper end of the dining hall, had been prepared for the five members of the victorious team. The bronze bull, suitably decorated, was placed on a pedestal in the middle of the table, and seemed quite contented with his new surroundings. After we had all attended to the demands of the inner man, Mr. L. A. Bowes, on behalf of the team, in a few well-chosen words, expressed their appreciation of the

hearty manner in which the students had welcomed them home. Thus ended one of the most memorable events in the history of the college.

#### Experimental Union Banquet.

This annual event was held in the gymnasium on the evening of Tuesday, December 10th. The guests of the evening were President Falconer, of the University College, Toronto, Hon. Nelson Monteith, Mr. McCallum and Mr. G. A. Brodie. Some five hundred persons were present, and ample justice was done to the sumptuous repast placed before them. The toast to "The Ex-Students and Students" was proposed by Professor Reynolds, who commented in a humorous way on the Chicago victory. Professor Arkell, for the ex-students, and Mr. Dan H. Jones for the students, replied in a suitable manner. Mr. Jones emphasized our indebtedness to Mrs. Creelman for the great trouble she has always taken to insure the students' comfort. Miss Duke spoke on behalf of the students and ex-students of the Macdonald Institute.

Mr. D. M. Rose delivered an eulogistic address on the work of the various teams which this institution has sent to compete in the stock-judging competitions at Chicago. He laid great emphasis on the excellent work done by the men who had trained those teams. On behalf of the students, and amidst tumultuous cheering, he presented Professor Day with a gold watch, as a small token of their appreciation of his great services, not only to this institution, but to the Province at large. Professor Day replied in a fitting manner, and when the students had at last ceased their cheering, Hon. N. Monteith addressed the gathering

for a short while. Among other things, he stated that considering the progress of the O. A. C., the students were, in his opinion, quite justified in their agitation for a covered skating rink. (Hear, hear.) He then introduced President Falconer. For nearly half an hour our distinguished visitor held the undivided attention of every person in the vast assembly. He urged the students to pay particular atten-

tion to those phases of our education which tend to give us a broader outlook on life and a deeper insight and interest in the affairs of the country at large. For musical selections during the evening, we were indebted to Mrs. Laud, Mr. De Corlios, and Mr. Sarvis. The growth in favor of this annual event bids fair in the near future to tax our accommodation to the utmost.



*Photo by*

*J. Buchanan*



# Athletics.

## First Year Indoor Meet.

THE Third Annual Freshmen's Indoor Meet was held this year on Saturday afternoon, November 30, under the auspices of the Athletic Association, and under the personal control of Trainer Reeds. The meeting was much more successful than either of its predecessors, the competition being much more keen and the entry list larger. The skill of the contestants was of a very high order, and some very fine talent was unearthed. Mr. Reeds deserves a word of praise for the commendable manner in which he has taken charge of the work; he has, in the short space of two months, transformed some very raw material into quite proficient indoor men. Never before have the freshmen taken hold of the gym. work as well as they have this year, and this year's teams in both baseball and basketball are right up in the front rank, fighting hard for first places. Clement won the individual championship of the day with eleven points.

### Basketball.

This year, as in former years, a preliminary schedule of games was arranged and run off before Christmas. The idea of this series is partly to fill in the gym. work with a series of interesting games at an otherwise dull season, and partly to allow the freshmen to organize their teams and allow the men time to learn the fine points of the game. This year both

the Sophomore and Freshmen years placed exceptionally strong teams on the floor, and include in their ranks two of the best players ever seen in the college.

The first game of the season was played between representatives of the Fourth and Second Years, and is probably a record game for the college. It was remarkable for the extreme closeness of play, neither team having any decided advantage over their opponents in any department, and the small score on both sides, Fourth Year, 5; Sophomores, 4. Play was fast; every man watched his opponent closely; combination was frequently attempted, but was quickly stopped by an outburst of rough play. This was the chief defect of the game; foul work was too much in evidence; and players in the endeavor to win frequently forgot that they were gentlemen. Basketball at its best is a fine exhibition of clean play, rapid combination, dazzling catches and accurate and rapid shooting for goal, **with attendant large scores on both sides.** Such a game is intensely interesting to the spectators, maintaining their interest at the highest pitch, and is much to be preferred to the rough-and-tumble style of Rugby that has too often masqueraded under the guise of basketball in our college. Unless the players themselves go into the game with the determination to play only clean, honest basketball, and to conform to all the rules



and regulations, the referee is absolutely powerless to eliminate all the foul work unless he makes a farce of the game by ruling off all regular offenders and allowing basket after basket to be thrown on fouls. After Christmas we hope that the players will all take this notice to heart, and make the winter series one remarkable for cleanness of play.

The second game was played between the First and Third Year teams, and created one of the surprises of the term. The Juniors were last year's champions, and were regarded throughout the college as easy winners over the Freshmen, who were mostly new to the game. As the result of too much self-confidence and lack of practice and preparation, the Juniors were not in shape for a hard game. When play started, it was at once seen that what the Freshmen lacked in science they made up in aggressiveness, and with the aid and encouragement of their center, Van Buskirk, who is by long odds the best all-round basketball player in the college, they held their opponents safely and won out with the score of 21-16. As a game, the play was very rough, and little combination play was attempted. It will be interesting to see these two teams play when they meet after Christmas, as the Juniors intend to win back their lost laurels.

The final game of the season was played on Tuesday, November 26th, between the winners of the preliminaries above. The play was much cleaner, and although the checking was hard, foul work was not much in evidence. The closeness of checking allowed of but little combination work, although once in a while the Seniors indulged in some lightning-

fast passing, but failed when it came to the shot. Hibberd was prominent for the Seniors, and played the best game of his career at the college, while Van Buskirk was the whole First Year team. His generalship and encouragement to his team mates in the second half, when his team was behind, led them to brace up and win out in the last few minutes of play, with the score of 26-23.

#### Indoor Baseball.

The baseball exhibited to the spectators by the several teams this winter is not up to the mark set last year, when the closest and fastest games seen since the introduction of indoor baseball to the college occurred. Lack of practice seemed to be the prevailing fault, and many of our best men made muffs and misplays that would be out of place with anyone but a beginner. With more practice after the holidays, no doubt, the men will round into their old-time form and serve up a gilt-edged article of ball to the spectators. Early in the fall the college team was organized, and for a while, practiced weekly in anticipation of being given a game with some fast outside organization, but no such development occurred. We see no reason why at least one outside team could not be brought in for a game during the winter session, so that we can see what kind of ball we do play here. As champions of Guelph, we have the idea that it would take a pretty good team to beat us.

Second Year and Third Year were stacked up against one another in the initial game. The Juniors have been totally disorganized by the loss of half their last year's team, and Treherne was sent into the pitcher's box, with Coke receiving. After a spirited

game, in which heavy batting was the chief feature, the Juniors won out 16 to 11.

The next game was the closest and best exhibition of ball seen here this fall. The Seniors, who have never been defeated for the championship of the college, were pushed hard by the doughty Freshmen, and seemingly could not pull together long enough to obtain a safe lead. The Seniors finally won out by the score of 21—18, and an innings. The pitching of Van Buskirk was excellent, while the all-round batting of the Freshmen team against the redoubtable Johnson gladdened the hearts of their supporters. The whole Senior team showed lack of practice, and made many misplays. The final for the championship of the college was played Saturday morning, November 30th. Fourth Year won out after a very interesting game with the score 18—9, the feature of the game being the clever infield work of "Cracko" Owen. The last game of the season occurred in the afternoon, when the two losers of the preliminaries played off for the cellar championship; Second Year finally winning that distinction with the score 14—16 in favor of the Freshmen.

#### The Rink Fund.

It has been suggested to the Athletic Association that the ex-students do not know to whom to send the money that they are willing to set aside for the furtherance of this covered rink.

For this reason we consider it fit that the list of officers be printed below, so that no difficulty in future shall be experienced.

Honorary President—G. E. Day, B. S. A.

Honorary Vice-President — J. B. Fairbairn.

President—J. H. Hare.

Vice-President—C. A. Lawrence.

Secretary—A. M. Shaw.

Treasurer—R. C. Treherne.

Now let everyone get together and work this matter out in unison. Do not let this work devolve upon only a few men. Get busy and send in names of ex-students and friends of the college who take an interest in this matter. Still better, write to them, personal letters, as coming from the student body. Considering this rink as a benefit to every student of the O. A. C., it becomes necessary not only for the boys of the college to interest themselves, but also the ladies from "across the way." Let them also "get busy." Let everyone "get busy."

#### Hockey Notes.

We are to be once more represented in the intermediate series of the Canadian Inter-Collegiate Hockey Union. At the last meeting, held in Montreal on Saturday evening, December 7th, it was decided that McGill and Laval should form A division of the intermediate series; Queen's H. and Royal Military College, B division, and Varsity H., McMaster University and Guelph Agricultural College, C division. A fixed schedule was not prepared, but it was decided that A and B division should have their respective championships settled before January 24th; that their winners should then play home-and-home games before February 5th. If the winners of this latter series were a Montreal team a sudden-death game should be played in Kingston, with the winners of C division; while if a Kingston team won, home-and-home games should be played with the winners of C division. It was also settled that if a Kingston team won the eastern

championship and Guelph the western, the final intermediate championship should be settled by a sudden-death game in Toronto.

As noted above, the schedules were left to the respective groups to draw up for their own convenience. Our representative, Mr. French '10 drew up the following schedule with the Varsity and McMaster representatives. O. A. C. and Varsity II. play in Guelph on Friday evening, January 10th, the return game to be played in Toronto the following Friday, majority of goals in home-and-home games to count. The winners will then play off with McMaster the following week.

This schedule, as drawn up, gives us very little time to get into shape for our first match, and the hockey boys have been faithfully training daily during the holidays in the gym, and on the ice to get in the best possible condition for their first matches. These are all-important. If we lose on majority of goals our chance is gone for the season. We have only one chance; let us make the best use of it. Every man is expected to turn out and loyally support our college team in their first home match. Show your colors, encourage the boys, and **never stop cheering for your team, even if behind.** A little bit of encouragement at such a moment does a world of good. The players are all doing their best; be sure you do yours. Many a man would just as soon not participate in a hard, strenuous game, and receive his full share of bumps and bruises, injured feet and bruised fingers, but goes into the game and plays his best **because he does not care to see his college beaten by any other college.** Such a motive should be respected, and no player who does his best

should receive the least suspicion of blame, even if the team be defeated. Let us loyally support our team this year, and here's hoping to their final success.

Probably all do not yet know the exact personnel of the executive of the hockey team. Norman Foster '08 is again our captain, having held that position two years ago, and this year being the unanimous choice of last year's team; Dan Johnson '08, who so ably managed affairs last year, is once more hockey manager. Owing to the vast amount of work connected with this office, Mr. Johnson deemed it advisable to have an assistant appointed, and Mr. Edgar '11 was appointed for the coming season. Mr. French was some time ago elected rink manager for this season, and has been very busy lately getting the rink in running order. Improvements to the waiting-room are now badly needed, and will, no doubt, be attended to in the near future. A few more benches for the accommodation of visitors on skating day would be much appreciated by our friends across the way.

#### Athletic Advisory Board.

For a long time it has occurred to the older students that there should be some permanent body of representative men to watch over the athletic happenings of the college, and see that no branch of sport is receiving undue prominence, or is being neglected in any way. Strong men were required, men who would not hesitate to call up the manager or captain of a team and demand to know why their team was not turning out to practise. As it was also deemed advisable to have the students represented, two representatives from the Senior Year were appointed, and the Advisory Board con-

sists of President Creelman, Professor Harcourt, Mr. Wm. Squirrel, jr., and Messrs. D. Johnson and J. H. Hare. We look for great things from this Advisory Board, and note that each and all are men who are themselves thoroughly interested in and conversant with all branches of college sport. In this connection we wish to state that Mr. Wm. Squirrel has kindly consented to coach the college hockey team this year, and as he was, during his college career, the premier hockey player here, we expect to reap much benefit from his skill and knowledge.

#### College Athletics.

We hear frequent objections raised against athletics as at present conducted in our college; among those, that they are confined too much to the few who are already physically proficient; that the play element is largely lost sight of in the zeal for victory; and that the idea "win at any cost" is thereby created, which is antagonistic to the proper object and aims of true sport.

The severe course of training entailed upon candidates for an athletic team, in order to attain to the necessary degree of endurance and efficiency, and the absorbing interest with which its progress is watched, owing to the intensity of inter-collegiate rivalry, do tend almost inevitably to surround both practise and game with an air of professionalism, which cannot but find expression at times in acts which partake something of rowdyism. It is not surprising under present conditions, with the attention of the entire student body focused upon the few who are representing the college on the athletic field, that victory should, in the minds of some, appear to be the sole aim of sports, and that the idea

of sport, for the sake of the sport, and exercise, should be largely lost sight of.

The abolition of contests, either inter-collegiate or inter-year does not seem to be the right solution of the difficulty. The evil is not inherent in such athletic contests, and on the other hand they serve many good and beneficial ends. The instincts of competition and self-reliance are fundamental to the development of character, and they call for the fullest expression during the period of student life. If not given an outlet in one direction they will take it in another, and what more satisfactory and wholesome expression can they find than in athletic competition? Nothing appeals to the average student mind with such compelling force, and nothing will so quickly stir up his energy and ambition, as an athletic contest.

Not to pursue the subject further, it seems to us that the solution to athletic problems in our college lies not in less athletics, but in more athletics. Provision for wholesome out-door exercise should be made for the large number of men who for various reasons are unable to make one of the athletic teams, as well as for the few physically efficient who do make them.

When it comes to be recognized by our college staff generally that the athletic field, with its variety of games and exercises, its freedom and excitement, is an essential adjunct to college equipment and provision made for the exercise thereon of the entire student body, then we believe we will have in our athletic organization a leavening influence which will make for clean and wholesome sport, no matter how intense the desire to win. College contests will then become, as they should,

events more or less incidental to the general system of physical training.

This is one respect in which we may learn from the English universities. It is the custom there, we are told, for the entire student body to flock to the athletic field at a certain time in the afternoon. The university teams are simply selected from those who make the best showing in the various minor contests, and the final selection of those who shall compose such teams is not a signal for all the others to cease their games and exercises. When all the students are thus engaged in friendly competition in one or another form of sport, it is not to be wondered at that a breach of etiquette or sportsmanship should be a matter of rare or unheard of occurrence.

Matters are gradually improving in our college. Much more attention is now being paid to second teams, and more students than ever before played football on our college campus this fall. Probably fifty men turned out fairly regular to football practise, but we should like to see seventy-five, a hundred, or even a hundred and fifty, turn out at one time or another. Football is a game—a game, mind you, something to be played for amusement—and to interest men in any line of sport you must have games. And how are we to arrange all these games? We have not the money to send more than our first teams away to other colleges to play, so the natural result is that we should have to find these games among ourselves. Year games would be open to no objection if the men indulging in such contests would take to heart the truths imparted in the first part of this article. A suggestion has been made that it would be wise to

exclude all those from inter-year contests who make the college first teams in that sport. But aside from these games, which are open to the objection that they hinder the development of a proper college spirit, innumerable games could be arranged between the students of different flats, different tables, province against province, Ontario against the world, and similar divisions. Such contests would, no doubt, be productive of much good-fellowship among the students of the different years, and would result in the development of players in all our various college sports. Only by some such methods shall we ever be able to transform the sturdy raw material we receive into our college yearly in the short space of four years into athletes who can successfully compete with other colleges and carry our Alma Mater to victory.

By encouraging participation in these and other forms of wholesome outdoor exercise—as walking, tobogganing, and snow-shoeing—a general interest in athletic sport could be aroused, and its benefits, therefore, would be less and less confined to the few who need them least. Instead of requiring gymnasium work of those who do not need it, particularly and who do not want it, other forms of exercise should be permitted, as long as the students turn out regularly to exercise and thereby get the benefits of some sort of regular systematic exercise. If the time ever come when we shall see the spectacle of the whole student body engaged upon the athletic field or elsewhere in some form of athletic pastime, then we believe the athletic problems of the day will have been fairly well solved.

## Our Old Boys.

**A**NOTHER year has rolled by, and again the Old Boy column extends to its readers its best wishes for another year's health and prosperity. The meeting of the Experimental Union and the Winter Fair brought to the Royal City many ex-students from distant points in the Dominion, who took advantage of the opportunity offered to meet old friends and indulge in reminiscences of good times spent at their Alma Mater. On the evening of December 10th, President and Mrs. Creelman entertained a large number of the Old Boys, and a most enjoyable evening was spent by all. The 11th was the date of the Annual Banquet of students and ex-students. Owing to the increased number of students at the college and the large attendance of ex-students, the seating capacity of the gymnasium was taxed to its utmost, but every one was found a place and good-fellowship reigned. After disposing of the good things provided and joining heartily in drinking the several toasts, the crowd dispersed with the feeling that it was good to be back and hear again the voices of old-time friends ringing in familiar halls.

We present to our readers in this issue a cut of Mr. H. H. Miller, who is well known to all attending the college during the years from '03 to '05. Before coming to the college, Harvey had been employed with the Seed Department at Ottawa, and while at college made a special study of weeds

and weed seeds. Returning to the Seed Department in the fall of '05, Miller remained with them until last September, when he accepted a lucrative position with the Albert Dickin-



H. H. Miller.

son Seed Company, West Taylor and River streets, Chicago. His work with them is that of a seed expert in charge of their seed laboratory. This work has been started as a result of the adoption by several States of the Union of seed control acts similar to the Canadian Seed Control Act.

B. S. Pickett, B. S. A., '04, was one of the participants in an extremely pretty ceremony which was celebrated at "Norwood," the home of Mr. and Mrs. W. B. Beamer, of Grimsby, on Wednesday afternoon, December 11th. On that occasion he pledged himself to all the trials, cares and responsibilities incidental to the giving up of single blessedness, and took unto him-

self as partner in his future joys and sorrows Miss Bertha Gay Beamer, of Grimsby, Ont. The groom was supported by Mr. L. A. Moorehouse, B.S. A., '02, of Stillwater, Oklahoma. After the ceremony Mr. and Mrs. Pickett left for Montreal and other points east.

During his seven years' connection with the college, as student and President's Secretary, Pickett earned for himself a warm place in the esteem of the student body.

Miss Beamer will be remembered as a graduate from Macdonald Institute in '06. Hence the Review takes a double pleasure in extending to them heartiest congratulations and good wishes for future prosperity.

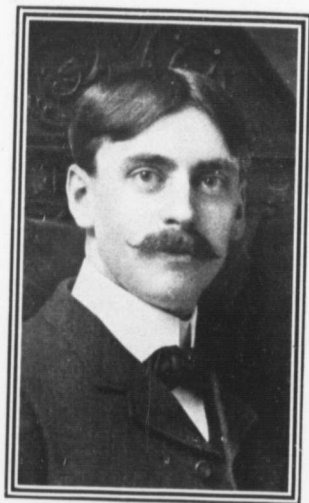
A. G. MacKenzie came to the college in the fall of '86. He was the first student to receive the county nomination of his home county of Oxford, entitling him to a free course of one year at the O. A. C.

Mr. MacKenzie was so favorably impressed with the course that he returned again five years later to take up the work in the Second Year. Since then he has been engaged in farming in the banner county of Oxford, Fairfield, P. O., where he is putting into practice the theories learned during his two years at college.

W. J. Thompson, who took the Two Years' Course in '04 and '05, is now situated in Calgary. He entered the college late in both his first and second years, but his industry and application so far overcame any drawback, that he always stood high on the class list.

Since leaving the College, Thompson has prospered greatly, and now has a good position with the Great West

Saddlery Company, of Calgary, which is the largest concern of this kind in Canada. Some real estate business has also added to his material prospects, he has not only prosperity in a material way, but he has taken to himself a wife to share in his prosperity. On the 19th of June last, he began housekeeping with Miss May Keyes, of Pembroke, Ont., as his life partner.



W. J. Thompson.

The Review wishes Mr. and Mrs. Thompson continued success and increased happiness.

Mr. James Moore '93-'94 is farming at Kirkton, Perth County, and is meeting with good success in his chosen calling. He is making a specialty of pure-bred Clydesdale horses and Shorthorn cattle. Mr. Moore visited the college during the meeting of



the Experimental Union and expressed his opinion on the necessity of keeping in close touch with the college in order to keep abreast of the times in matters agricultural.

J. H. Burns, of the class of '94, is now situated near St. Marys, and is going extensively into bee keeping, but indulges his fondness for the exercise of more purely agricultural arts by working a farm of 50 acres.

L. W. Lang, '93-'95, was an enthusiastic student while at college, carrying off at the end of his second year the medal for general proficiency. He has put this same enthusiasm into his work since leaving the college and as a result is now in possession of a thriving dairy farm and herd at Wildwood, a few miles from St. Mary's, Perth County.

A. P. McVannel '06. After leaving the college in the spring of 1906, McVannel returned to his farm, near St. Mary's, there to put into practice some of the theories relating to field husbandry for which he was noted. In order to further fit himself for this work in grains and grasses, Mac. is now taking up post-graduate work at the Wisconsin Agricultural College at Madison.

D. Buchanan, B. S. A., '04, after receiving his degree, returned to his home, county of Kent, where he is now engaged in farming at Florence. He is devoting his attention to raising pure-bred stock and improved methods of farm husbandry. Mr. Buchanan is also taking an active part in municipal affairs, and is a member of the public school board.

F. W. Fansher, another of the '04 class, is also farming near Florence.

Jasper Johnston, '04, has abandoned the pursuit of agriculture, and is now studying medicine at the Medical School, Toronto. While at college Johnston was an active worker in the Y. M. C. A., and a good, all-round man.

Reg. Duncan, '06, is now engaged as the Maritime Representative of the Potash Syndicate. His time is given to practical demonstrations among the farmers of the Maritime Provinces of the value of potash as a fertilizer. He reports that he finds the work interesting and is doing exceedingly well.

R. J. Deachman, '05, has again moved west. Some time ago he resigned his position on the staff of the Farmer's Advocate, and moved to the coast, where he has accepted a position on the "Western Sunset" at Vancouver, B. C.

Allan Shantz, '88, is the only member of the first graduating class who is now engaged in farming. He is running a large farm just outside the town of Waterloo, and is giving some attention to the growing of sugar beets. Mr. Shantz is also interested in farmers' organizations, and is now the secretary of the North Waterloo Agricultural Society.

Thomas Hurley, who secured his diploma in '91, is farming near Belleville, Ont. "Tom" was the all-round champion of the first college Sports Day, held in the spring of '91. The characteristic energy which distinguished him while at college is now finding its scope in municipal affairs, in which he is deeply interested. Mixed farming is his "specialty," and, not content with accomplishing the growing of the proverbial "two



blades," he varies the monotony by occasionally tripling the returns with which the average farmer is rewarded.

D. H. Leavens, an associate of '87, is also farming, and is a close neighbor of Hurley's. His attention is given to fruit and poultry production.

H. B. Smith '06. During the early part of the year, H. B. was employed by the Provincial Government to investigate the causes of the remarkable falling off in the potato crop in Ontario. This work he carried on with his characteristic energy.

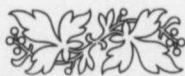
About September 1st he went west to join the staff of the "Farmers' Advocate," Winnipeg.

P. G. Mills entered the college in the fall of '98, taking a Two Years' Course. On leaving the college Mills first went west to Edmonton, but has since returned to the east, and is now engaged in dairying at Sussex, N. B.

B. J. Waters, at latest reports, was still clinging to the joys of single

blessedness on the old "Homestead" at Ivan, Middlesex County. He is giving special attention to the production of pure-bred stock. Waters has officiated on the provincial staff of expert judges during the past two seasons.

When Mr. B. R. Nag-Tany left the college in the spring of '06, after completing his Two Years' Course, no one expected him to remain very long out of the limelight. He is not disappointing his most enthusiastic friends. From Calgary, Alta., comes the report of Mr. Nag-Tany's return to Canada from Kioto, Japan, as the representative of a large syndicate, which he has promoted, and which has in view the purchase of 25,000 acres of land in Southern Alberta, upon which to commence the sugar-beet industry on a large scale. At present the company is limited to Japanese capital, but will probably be thrown open to Canadian capital when it has been established upon a firm basis.



## Macdonald.

### The Position of Women in Modern Society.

By PROFESSOR J. B. REYNOLDS.

**I**N a recent number of the World's Work may be found a suggestive article on "How Women Wage-earners Fare." From this article it appears that "in the United States, five million women—one out of every five women sixteen years of age or over—work for wages." The article says further: "The girl who has received no special training and is unaccustomed to working for a living may well hesitate before leaving her small circle of friends for the strife of a great city—whether she be led by ambition or driven by necessity. For the success which she sees others have achieved will be hard to win, and her chances to earn even a bare living will be lessened by a competition which leaves so little standing room for untrained laborers that only the strongest or the luckiest can succeed for a time, during which, if they be wise, they will leave no stone unturned to gain some special knowledge or skill."

In spite of the fact that new opportunities have of recent years been accorded to women, it remains true that the sex still is subject to certain disabilities. These disabilities may arise from the law of the land, or from established custom, or from social prejudice; but from whatever source they arise, the result is that in this year of

grace, 1907, women and men are far from being equally placed.

One of these disabilities is imposed by defective education. The prolonged period of human infancy is the opportunity that nature affords for the education of the individual. Education, broadly considered, consists in a series of adjustments whereby the powers of the individual are trained to cope with the conditions which the individual will meet when finally cut loose from guidance and support. Who will say that women are prepared by their education to cope with the same conditions that men expect to meet? In considering this matter we must look not only to the opportunities for education afforded in schools and colleges. On that score it may be claimed that women are on a par with men as to opportunity, since the schools are for the most part open to both sexes; though, as a matter of fact, the great number of ladies' colleges with their peculiarly feminine trend of education, does make, as a net result, a widely diverging education for the sexes. But we must consider also the education which proceeds from home training, from social convention, and from the point of view from which girls are taught to regard their position in society. Boys are normally

expected sooner or later to earn their own living, and their education, directly or remotely, points to that end. Normally, girls, if their parents can afford to keep them, are expected to remain in the home until some other home is provided for them. This is the social convention, and it must have a large, even if unrecognized, influence in determining the kind of education selected for the girls.

A second disability is the economic one. Women have fewer opportunities than men have for making their own way in the world. Fewer occupations are open to them, and in those they must work for less wage than men. I am not seeking an explanation for this state of things, nor am I anxious to fix the blame anywhere for the discrimination. But the fact is indisputable. A notorious and lamentable example of this discrimination may be found in the low salaries paid to women teachers generally; and, because women have lately been brought into competition with men in certain school grades, another effect appears in the actual lowering of salaries all round, especially in country schools, as compared with those paid twenty or more years ago.

Also, women suffer from political disabilities. In England to-day, women, some of them of the educated and titled classes, are incurring imprisonment on behalf of what they are pleased to call their political right—the right to vote. The right to vote, the privilege of electing legislators, and of sitting as legislators, and the duty of enforcing laws—all these are denied to women as a class.

In defence of this state of things, all sorts of arguments are advanced, some of them lunatic, some of them sane,

most of them based on an incomplete judgment of the case. Women's brains are smaller than man's; her capacities are inferior; her capacities are different; her place is in the home; she is frail, tender, clinging, and appears to best advantage in private, guarded by man's strong arm; she has no business to come into competition with man as a wage-earner, there is not enough work in the world for both; she cannot understand politics; if brought into contact with the rude world she will lose her sweetness, her modesty, her fine moral sense; and so on.

These arguments, or assertions, may or may not be founded on fact. Whether so or not, they are aside from the real questions at issue, which come now to be stated: First, is the outward equality of the sexes to be the inevitable result of social evolution? and secondly, is it the logical outcome of our recognized democratic principles? If these questions are to be answered in the affirmative, it is obvious that society has nothing to do with the consequences. If nature has ordained the ultimate equality of the sexes, she must work her will, and further, must look to the consequences. And if our democratic principles are just, society, to be just, must carry them to their ultimate conclusion, even if that conclusion implies the removal of all disabilities from every member of the commonwealth.

One has only to compare the status of women among savage or half-civilized races, with that among Christian nations in the world to-day, to perceive the drift of the argument from evolution. The degradation, the enslavement of women among savage races are due to the rule of brute

force. With the gradual emergence of ethical ideas, the rights of the weak were recognized. Without prolonging the argument, we may assert that the further advance of ethical ideas among ourselves, will inevitably lead to a further, and finally to a complete recognition of the rights of the weak. It is unchivalrous, or, if that is not the right term to use in view of the new order, it is selfish for a man to object to competition from the weaker sex. Does the average man to-day believe this last, or has he not yet risen to that ethical level?

The principle of democracy asserts equal opportunities for all, disabilities for none. The extension of the franchise, resulting in the removal of political disabilities from successive orders among the people, has been comparatively slow. Seventy-five years ago a long step in that direction was taken in England. In the United States, the land of the free, democracy has failed partially, by refusing to the negro complete social and political equality. In Canada, manhood suffrage is of recent acquisition. This democracy of ours is an assertion of the rights, the privileges, the duties, of the individual. The individual voter must be allowed to register his vote if he wishes, even if he lives in the far north land, and if the vote involves great expense to the state. Individualism is bound up with democracy. And in the last analysis of the principle of democracy, woman may claim her

right to complete political equality as an individual member of the State, and her claim cannot logically be denied.

The outcome of complete enfranchisement for women, political and economic, need not be looked forward to with any fear and trembling. New privileges will bring a new sense of responsibility. New powers will bring a new seriousness and dignity. Nor need there be any fear that with greater liberties women will desert those spheres for which nature has fitted them. Nature will look after that, as we must believe if we have grasped in our minds the processes by which natural law is working toward the uplifting of the race. Not repression, not limitation, but unrestricted opportunity is nature's means of developing the race. There is no doubt that, with complete equality and full opportunity woman will say, with the apostle, "All things are lawful unto me, but all things are not expedient." When law and social custom shall give to woman equal opportunity with man in the earning of a livelihood, and in taking her share in the world's work, nature will decide as to the expediency. As for the home, which seems to be the battle-ground between the old and the new order, women will not then, any more than they do now, choose to

Grow, live and die, in single blessedness.

The regular meeting of the Literary Society was held in Massey Hall Thursday, Dec. 5th. Professor Reynolds gave an illustrated lecture on several of the plays of Shakespeare.

The annual convention of the Ontario Women's Institute was held in Massey Hall Wednesday and Thursday, Dec. 11th and 12th. Several very interesting addresses were given.

## Locals.

**S.** KENNEDY, captain of Sophomore Hose and Reel, is hereby advised to try a hardware rather than a dry-goods store when next he goes to purchase "clastic hose attachments."

Dan Patch goes down to the Winter Fair without his ticket—

Door-keeper—Where's your ticket?

Dan—I have none.

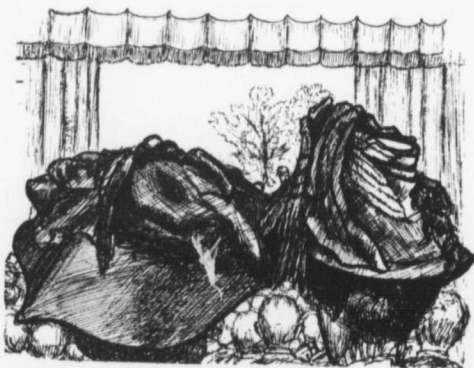
Door-keeper—Are you a judge?

Dan—Yes, sir.

Professor Dean—The process of making cheese bears a strong comparison to the making of a man. The milk stage corresponds to the child; the curd, to the student; and the ripening, to the man. The curd stage corresponds to the student stage because it is then that all the squeezing, pressing, pairing, salting, mixing and rubbing is done; and if it be done properly, we shall have in one case a good cheese and in the other a good man.

(Ed.—This item is put in as an explanation to the Freshmen of the frequent "rubbings" which they receive in these columns. We are simply endeavoring to do our duty.)

Cleverly (speaking on the Immigration question at Literary)—The canning factories of the Fraser and Skeena Rivers use 4,500 Chinese annually, and you will agree with me that the output is increased very materially as a result.



At the Intercollegiate Debate—Those Hats.

Mr. Crowe—What other fruits do we import from Italy?

Vernon King—Macaroni!

(In French Class):

Manton reads—(parce qu'il) "par squeal"—

Logsdail (aside)—Why doesn't he say "Father yelled," and be done with it!

Professor—What test was used in order to tell when the curd was ready for dipping?

Harries—Marsh's test.

Orser (to class-mate who had refused to answer a question in Veterinary Anatomy on Sunday)—In assisting me you will simply be helping the ass out of the pit.

◇ ◇  
One Week.

The year had gloomily begun,  
For Willie West was a poor man's  
Sun.

He was beset with bill and dun,  
And he had very little  
Mon.

"This cash," said he, "won't pay my  
dues,  
I've nothing here but ones and  
Tues.

A bright thought struck him and he  
said,  
"The rich Miss Goldrocks I will  
Wed.

But when he paid his court to her  
She lisped, but firmly said "No."  
Thur.

"Alas," said he, "then I must die"—  
His soul went where they say souls  
Fri.

They found his gloves and coat and  
cap—  
The coroner upon them  
Sat.  
—Ex.

◇ ◇  
(Overheard at the Institute—An  
actual fact):

Miss Watson (to coy young maiden)  
—What course do you wish to take?

New Girl—Oh, I wish to take the  
Homeseekers' Course!

◇ ◇  
Mr. Le Drew (training the Fresh-  
men in English)—Now I can't see that  
that that that that boy uses is correct.

Vernon King (anxious to see what's  
going on, puts his head out the win-  
dow)—"Who's getting soaked?"—  
Whack! Slush!—A bag of water had  
struck its goal, and five minutes later  
poor Vernon is still vigorously drying  
his head.

◇ ◇  
"Microbe" Daly.  
Rain is wet,  
Dust is dry,  
Life is short,  
And so am I.  
◇ ◇

Mr. Jarvis—What proportion of  
Paris Green is sufficient to kill the  
potato bug?

Snyder—Well, if you give them too  
much they'll vomit it up again, won't  
they?

◇ ◇  
(Heard in Anderson's Book Store):  
Cutler (to young lady)—The filler  
is for Hughie, so please give me a good  
one!

(Ed.—This incident gives an idea  
of the many advantages one may de-  
rive from having a good room-mate).

◇ ◇  
Scene—The Review Office.  
McLaren, sitting in front of the  
phone, other students sitting around,  
and the typewriter at work.  
Suddenly the machine rings.

Mac.—Ay! there's someone at the  
phone,—(taking down the receiver)—  
Hello! — — Hello-o-o! — — — —  
Hello-o-o-o!!

(But the laughter could be sup-  
pressed no longer, and our laddie from  
Edinburgh town is still asking wherein  
lay the joke.

◇ ◇  
Augustine (telling his troubles in  
Botany)—He said that I didn't get my  
plants where I got them, but I did get  
them where I got them.

On the night of their departure for Chicago the Fourth Year men held a song celebration in one of their rooms. The inharmonious sounds in their grating passage through the corridors finally reached Craig Street, where they made the musical McLaren squirm in his sleep. On waking up he asked if all the animals on the farm were training for a place on the Philharmonic. We would suggest that "Mac" give the Agriculture men some special practises in the near future.

~ ~

Hail chase!  
Who art so oft pursued;  
Thine is a pitiable case,  
Who art so ardently wooed.

Alas Chase!  
Whene'er thou saunterest out,  
Inveigled in tender maze,  
Thou'rt hailed with maidenly shout.

~ ~

Mother—Well, where have you been?

Daughter—Oh, just down town for a walk.

Mother—And did you go all alone?  
Daughter—Yes, mother.

Mother—Then how is it you went out with an umbrella and now have a walking cane?

(N. B. Singleton is requested to return that umbrella and get his cane).

~ ~

In the basketball game held recently in Macdonald Hall, the Home-makers and Normals met with defeat at the hands of the Short Course. But oh, Shaw! the girls really don't mind.

~ ~

Mr. Wade—The escutcheon of the dairy cow should be wide and prominent.

G. C. Taylor—What part of the cow is the "discussion" anyhow?

### Fooled Again.

Macdonald Girl to Market Woman:  
"What is the price of these sweet potatoes?"

Market Woman—"Excuse me, lady, but them is sausages!"

~ ~

Who is so nice and round and fat?  
Who wears a battered old felt hat?  
Who tells the Sophomores to scat?—  
King Emmerson!

Who, when the water down doth splash,

Who rushes up stairs with a dash;  
The Sophomores in bits to smash?—  
King Emmerson!

Who, backed up by his trembling knights,  
Yells fiercely, "We must have our rights!"

Who is't that barks but rarely bites?—  
King Emmerson!

~ ~

Freddie Warren has adopted a unique method for developing fluency of speech. Recently, he was seen running the cold water tap for ten minutes at a stretch and endeavoring to heat the water by the force of his language.

~ ~

Larry Learmonth goes to chapel,  
Dressed so trim and neat—  
Gorgeous neck-tie, hair all parted,  
"Patents" on his feet.

Who's responsible for it all?  
Why is this wondrous thing?—  
Oh, some one at Macdonald Hall  
Has Larry on a string.

~ ~

S. Taylor—I never could see anything funny in Veterinary Anatomy.

Lawson—We had the humours of the eye to-day.

Mr. Canby had what might have been a serious accident some time ago, the result of which was that his hands were of a deep brown color for about ten days. Next morning at breakfast he seemed very taciturn in discussing the cause of the accident, but finally announced that the stains were caused by tannic acid.

Faulds (knowingly)—What kind of nuts do you prefer, "Ben"?

This year we have a very industrious bunch of Freshmen, but they are somewhat lacking in good judgment. On Hallowe'en they took the lawn roller and after levelling the lumps on the campus, they decided to try its effect on the car track. Yelling at the top of their deep bass voices they went down the drive-way at a brisk canter, when crash! The roller had struck the rail and was badly broken. A couple of days later each Freshie felt soberly in his trouser pocket for his share of the damages; and that week Mr. LeDrew, in criticising their compositions on "My Impressions of Hallowe'en," remarked that they were rather sad in tone.

#### You Never Can Tell.

A plate of fudge one night,  
Sat 'neath a window pane,  
Now, who could "Chase" that fudge  
away,  
Nor bring it back again?"

Read the thrilling narration "Brandred for Life," by Learmouth, Armstrong and Smith. For further particulars ask any of the trio.

We were informed at one of the Women's Institute meetings "that children are imitative animals." Poor "kids!"

A long and interesting article was sent in to the Review by Mr. Harries, but was unfortunately too late for publication. The article was on "Why I Was Late for Veterinary Lecture."

Live Stock Judging in Fourth year:  
Metcalf—I place this mare last although she excels the other two in almost every point.

McKenzie (appealing to Professor in defense of his animal)—Will you tell me where that ham excels this one, except that it is a little thicker and is better fleshed down to the hock?

Freshman runs up to Soph, excitedly. "Say! They've got a sheep in No. 68!

Soph—"You're dreaming!"  
Freshie—"Listen! Don't you hear it now?"

Soph—"That! Oh, that's only Learmonth trying to sing a selection from "The Gingerbread Man."



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 "Pride of all our nation."

Envy cannot dim thy star,  
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 How we wonder why you are  
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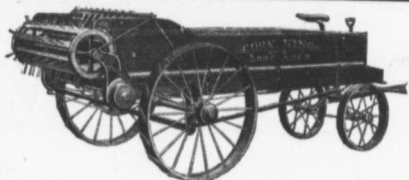
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Wholesale and Retail

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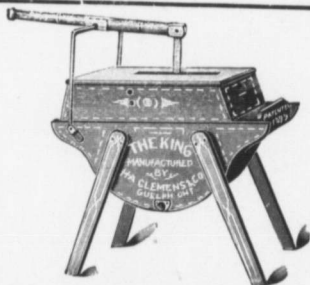
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(Overheard at dinner)—  
 Cowie—Pass the sugar, please.  
 Martindale—Why do you want the sugar? You must have a sour mouth.  
 Cowie—Perhaps so, but I have a "sweet heart."

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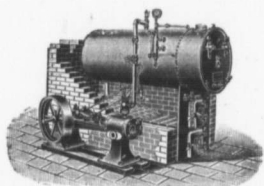
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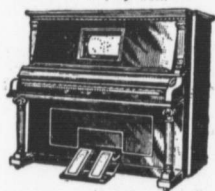
In fact anything special you might want as a little extra treat.

J. A. McCrea & Son  
Wyndham Street, Guelph

THE O. A. C. REVIEW.

xix.

**THE AUTONOLA**  
The Piano everybody can play  
and play well.



# BELL PIANOS

AUTONOLA  
PLAYER PIANOS  
AND ORGANS

CANADA'S BEST.

Send for our free Catalog,  
No. 71.



USED THROUGHOUT THE WORLD—BUILT TO LAST A LIFETIME.

STALL No. 3, GUELPH MARKET

## ALFRED HALES

Wholesale and Retail Dealer in

Fresh Meats, Pickled Beef and Tongues,  
Poultry for the Students a Specialty,

Fresh Pork, Hams, Bacon, Lard, Sausages and Bologna

Shop—Telephone 191

Residence—Telephone 405.

**GUELPH'S  
BIG  
HARDWARE  
STORE  
THE  
BOND  
HARDWARE  
CO. LTD.  
'PHONE 97**



### It is Here

That the students  
supply their needs  
in Hardware, Cut-  
lery and Sporting  
Goods.

We keep every-  
thing in Hardware  
and prices are  
always right.

Please mention the O. A. C. REVIEW when answering advertisements.

## The Canadian Bank of Commerce

Established 1867. Head Office, Toronto  
B. E. WALKER, President.  
ALEX. LAIRD, General Manager.

Capital [paid-up], \$10,000,000  
Reserve, 5,000,000

### GUELPH BRANCH.

A general banking business is transacted. Bankers for the Dominion Live Stock Association.

Farmers' notes discounted.

Drafts issued payable at all points in Canada and the principal cities in the United States, Great Britain, France, Bermuda, etc.

### SAVINGS BANK DEPARTMENT.

Deposits of \$1 and upwards received and current rate of interest allowed.

Interest added to the principal at the end of May and November in each year.

Special attention given to Collection of Commercial Papers and Farmers' Sale Notes.

J. M. DUFF, Manager.

### THE CANADIAN OFFICE & SCHOOL FURNITURE CO.

Manufacturers of  
High Grade Bank  
& Office Fixtures,  
School, Library &  
Commercial Fur-  
niture, Opera &  
Assembly Chairs,  
Interior Hardwood  
Finish Generally.



## CENTRAL Book Store

Opposite where the Street Cars stop.

Text Books, Exercise Books, Foolscap  
Writing Pads,

Up-to-Date Note Papers and Envel-  
opes, Papetries, Etc., Etc.,

Bibles, Hymn Books

Books by Standard Authors, Poets,  
Prayer Books

In fact, everything kept in a well-ordered  
Book Store.

## C. ANDERSON & CO.

### THE LITTLE TAILOR STORE COLLEGE MEN

Are usually particular about their appear-  
ance. They demand character in their  
clothes.

We make the kind of suits and overcoats  
that give a man that "well-dressed" appear-  
ance so much desired.

We make the clothes to fit the man;  
TAILOR individual style and shape into  
them.

### ABOUT OUR PRICES

Being on a side street, our store rent is  
very small compared with main street rentals.

It is this combination—a big business done  
in a small store, with very light expenses—  
that makes it possible for us to turn out  
such high grade work at prices so much less  
than other tailors have to charge you.

Tweed and Worsted Suits \$15 to \$25.

Blue and Black Serges \$18 to \$27.

Overcoats \$16 to \$25.

Trousers \$4 to \$7.50.

## R. J. STEWART

PHONE 456

Opposite Knox Church, Quebec Street

IF YOU WANT A FIRST-CLASS JOB  
— IN —  
**Plumbing, Gas,  
Steam or Hot Water  
Fitting**  
— GO TO —  
**FREDERICK SMITH**  
**QUEBEC STREET**

Prompt attention to all jobbing.  
'PHONE 337.

**Geo. R. Wolcott**  
**Sheet Metal Contractor**  
—  
**EXPERT ON HOT AIR HEATING**  
—  
*— We make a Specialty of —*  
Copper, Galvanized Iron, Slate, Felt  
and Gravel, Tile, Paroid and  
Turnplate Roofing

*Dealer in Stoves, Ranges and  
House Furnishing Generally*

**12 Cork St., GUELPH**

# RAH! RAH! RAH!

WHO ARE WE ?

Why, We are Headquarters for  
SKATES,  
HOCKEY STICKS and PUCKS,  
TOBOGGANS,  
SNOWSHOES, SLEIGHS,  
and  
SPORTING GOODS OF ALL  
KINDS.

INCIDENTALLY BOYS

We've got a Great Line of

**RAZORS AND CUTLERY.**

COME AND SEE US.

**McMILLAN BROS.**

20 WYNDHAM ST.

Phone 31

GUELPH.

# McKEE'S Drug and Book Store

Headquarters for

**Xmas and Holiday Goods**

MILITARY BRUSHES

MANICURE SETS

SHAVING SETS

WORK BASKETS

SEWING SETS

DRESSING CASES

MUSIC ROLLS

JEWEL CASES

BRUSH, COMB AND MIRROR SETS  
in Sterling Silver and Ebony  
XMAS POST CARDS, CALENDARS, Etc.

**LOWEST PRICES**

**J. D. McKEE, Phm. B.**

Phone 66

20 WYNDHAM ST., GUELPH

**YOU...**

Should be interested in our Special Sale of YOUNG MEN'S SUITS in Scotch Tweeds and Worsteds.

Regular \$18 to \$20 Suits  
for .....\$13.75  
Regular \$15 to \$16 Suits  
for .....\$11.50  
Regular \$13 to \$13.50 Suits  
for .....\$9.75

Cut on the latest models and finely tailored. This is your chance to "fit up" for the holidays at a moderate outlay.

**WE** INVITE YOU TO CALL . . .  
AND SEE FOR YOURSELF.

**THORNTON & DOUGLAS**  
LIMITED

LOWER WYNDHAM STREET

**Well - Dressed Men**

The well-dressed man is the successful man of the day. A good appearance counts for a great deal in these particular times, and a little care about neat and well-fitting garments is one of the best investments a young man can make. Have your clothes made to order by first-class custom tailors.

Talk With

**Keleher & Hendley**

A Great Stock of FURS to pick from, and we carry the finest. Our maxim is "Straight Goods and Straight Prices," which will win in any market. Fur-lined coats a specialty.

**GOLDEN FLEECE**

Agents for best makes Hats, Shirts and Ties.

We have a very complete stock of

**Entomological**

— AND —

**Botanical**

**Supplies**

For Students. At Students' Prices.

**Alex. Stewart,**

— CHEMIST —

NEXT POST OFFICE

**T**HE Memory of Quality Lingers Pleasantly; so why not buy your

**FRUITS AND GROCERIES**

where quality is the first consideration?

OUR PHONE IS 169  
We Deliver Promptly.

**BENSON BROS.**  
GROCERS.

# IF

You think a furniture store should have what you want, we can fill your order and save you money on every purchase. TRY US.

## GRANT & ARMSTRONG

Furniture Dealers and  
Upholsterers

GUELPH, - ONTARIO.

Store a few doors above Post Office.



We send Greetings for the fall season  
to

### THE COLLEGE STUDENTS

We trust that we will have the  
pleasure of serving you when ready  
for your Fall Shoes.

### W. McLaren & Co.

Phone 370 - St. George's Square



All in the  
choice.  
Coarse,  
bitter salt  
gives coarse,  
bitter butter

—no matter how rich the cream  
or how careful the work.

## Windsor Salt

gives that smooth, firm quality—that  
delicious flavour and uniform colouring.

Windsor—purest  
and best of all salts  
—is the least ex-  
pensive. Costing  
no more than  
others, less goes  
farther, besides  
doing better work.  
At grocers' every-  
where. 108



## WE GRIND OUR OWN LENSES

This means not only that we give quick and  
accurate service, but that here you get exactly  
what you should have—not something picked  
out of a box, nearly what you want.

When your EYES require attention go to  
one whose whole time is given to this work.

**A. D. SAVAGE** Guelph's Only . . .  
Exclusive Optician

[ENTRANCE WITH SAVAGE & Co., JEWELERS]  
Headquarters for Microscopes, Field Glasses, Etc

**An Appeal.**

The editor sits in the ghostly light,  
 In his room at the O. A. C.;  
 And he hoarsely croaks: "Come,  
 gimme some jokes,—  
 And bring in your locals to me."

The Juniors, the Seniors they hear  
 what he says,  
 But they answer him back not a  
 word;  
 So he's got to make jokes on the  
 Freshmen folks,  
 Till they feather him into a bird.

◇ ◇

"Archie" Slater was recently seen  
 driving through the streets of Guelph  
 perched on top of a load of furniture,  
 and singing tenderly to himself:  
 "There's no place like home!" He is  
 now "at home" to callers on Waterloo  
 avenue.

**...The...  
 Metropolitan  
 Bank**

---

Capital Authorized	-	\$2,000,000
Capital Paid Up	-	1,000,000
Reserve and Surplus Profits	-	1,183,713

A general banking business transacted.

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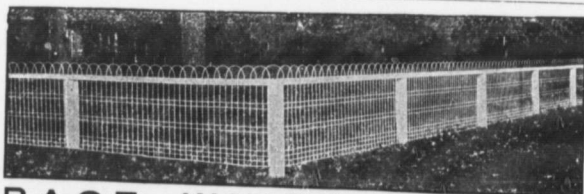
**Students' Accounts**

Receive careful and prompt attention

---

Guelph Branch:

**C. L. NELLES, - Manager.**



**PAGE WHITE FENCES**

The Acme style you see above costs only from 16 cents a linear foot. Handsome and durable for lawns, parks, cemeteries, etc. Any height or length. Gates to match from \$2.25. Write for catalog, or inspect this ideal fence. From us direct or any Page dealer.

**The PAGE Wire Fence Co., Limited**      Walkerville      Toronto      Montreal  
 St. John      Winnipeg

**CANADA'S BIG MUTUAL!**

**The Mutual Life Assurance Co. of Canada**

A Sound Company for Sound Policyholders.

Insurance in Force	-	\$50,000,000
Assets, all first class,	-	\$12,000,000

**GEORGE CHAPMAN, Agent in Guelph.**

Please mention the O. A. C. REVIEW when answering advertisements.



# DYNAMOS AND MOTORS

FOR DIRECT AND  
ALTERNATE CURRENTS

—MADE BY—

**Toronto & Hamilton  
Electric Co.**

99-103 McNab Street, N.  
HAMILTON.

## DOMINION BANK

GUELPH

Total Assets - \$49,000,000

A General Banking Business Transacted.  
Savings Bank Department in connection  
with all offices of the Bank.

Deposits of \$1.00 and upwards received.

Bankers for the O. A. C.

Manager Guelph Branch

**H. C. SCHOLFIELD**



## The Underwood

Every Typewriting Contest of any importance in recent years has been won on the Underwood—the championship of the world in nine successive events, as well as contests of a more local character.

At the contest in Toronto on November 29th for the championship of Canada, the nine best records were made on the Underwood. Various makes of machines were represented.

The Underwood is the best typewriter.

**United Typewriter Co. Ltd.**

7 ADELAIDE ST. EAST, TORONTO.

## College Pins



DIAMOND HALL has unexcelled factory facilities for the manufacture of all CLASS PINS, PRIZE CUPS and TROPHIES. Upon request, original designs will be forwarded embodying School Colors, Crests, or any other special features desired.

Our prices will be found as reasonable as is consistent with the high standard maintained by this House.

**RYRIE BROS., Ltd.**

134-138 Yonge Street

TORONTO

*The Burgess Studio**HIGH-CLASS PORTRAITS**Special Rates to Students*

We are at your service for good  
Photographs. Call and see us.

**J. W. ROGERS**

STUDIO OVER DOMINION BANK

**Walter E. Buckingham, B.A., LL.B.**

BARRISTER

Solicitor, Notary, Conveyancer, Etc.

Douglas Street, GUELPH.

Office Phone, 175.

House Phone, 404.

-- GO TO --

**PETRIE'S****DRUG STORE**

For Medicines and  
Toilet Articles,  
Seed Bottles, Etc.

Headquarters in Guelph for all kinds of

**Photographic Supplies.**

Films developed and prints made.  
Latest designs in Comic and Picture  
Post Cards. Remember the place.

**Petrie's Drug Store**

Lower Wyndham Street.

**PRINGLE** THE JEWELER

Entomological Supplies,  
Magnifying Glasses, all qualities,  
Fountain Pens  
Rubber Stamps,  
O. A. C. and Macdonald Institute  
College Pins

**The Busy Book Store**

O.A.C. and Macdonald Students  
cannot do better than come to us for  
all College Supplies. A full line  
always in stock.

Buy a Sterling Fountain Pen and  
stop dipping.

**SCOTT & TIERNEY**

Phone 72

Lower Wyndham Street

**Economical - -****- - - Clothing**

The best value for your  
money is always got at our  
Store. We can clothe you for  
little money, and we can give  
you as high-grade garments as  
are made in Canada. In fact,  
all our garments have CLASS  
about them. A call solicited.

**J. A. SCOTT****Designer of Men's Garments**

'Phone 72

**McHUGH Bros.,**  
**26 Lower Wyndham St.**

Are prepared to supply students with the finest range of Pipes, Tobaccos, Cigars, Cigarettes, Pouches, etc., at prices consistent with quality.

The finest assortment of goods shown in the city. Come in and see us.

DID YOU EVER  
SEE A PRINTER  
PRINT LIKE  
THIS PRINTER  
PRINTS? . . .

**J. J. KELSO**

Opposite Post Office, - Guelph

**Snowdrift**  
**Peoples**  
**Maple Leaf**

Three well-known brands of Flour.  
 Ask for them and be sure you get them.

**The James Goldie Co., Limited**  
**GUELPH**

Telephone 499

**HEADQUARTERS**

FOR HARDWARE AND  
 SPORTING GOODS AT  
 LOWEST PRICES.

**G. A. RICHARDSON**

Upper Wyndham Street - Guelph

**OAK HALL**  
**Clothing Store**

CLOTHES PRESSED AND CLEANED

We keep a Practical Tailor to do this work.

**PHONE 510**

PARCELS CALLED FOR AND DELIVERED

**Jones & Johnston**

**INSURANCE**

**Real Estate and Steamship**  
**Agents**

Ask for information about the Dominion Line  
 Excursion Party to Edinburgh, Scotland.

**PHONE 216**

St. George's Square, Guelph, Ont.

— THE —  
**Dawson Commission Company,**  
**TORONTO**

Will be pleased to handle your shipments of Poultry, Butter, Eggs, Apples, Honey, Beans, and other farm produce, and they can get you as good prices as any other firm in Toronto.

Correspondence solicited.

**The Dawson Commission Company,**  
**TORONTO.**

STAMPS FURNISHED.

We can supply you with anything you need in Tinware, Graniteware, Aluminum or Nickleware. A full stock.

**H. Occomore & Co.**

UPPER WYNDHAM ST.

'Phone 328.

## NEW IMPORTATION OF CLYDESDALE STALLIONS

Mares and Fillies, Hackneys and Shetland Ponies

Your choice of 30 Mares and Fillies, including winners in Scotland, at moderate prices.

For particulars apply to G. A. BRODIE, BETHESDA, Ont.

Stations: Stouffville, G. T. R.  
Claremont, C. P. R.  
Gormley, C. N. R.

Telephone Service from stations to residence

## Smith & Richardson

COLUMBUS, ONT

Importers of Clydesdale Horses

This year's importation is by far the best bunch we ever landed, among them the Toronto and Ottawa Winners.

R. R. Stations—G. T. R.—Oshawa.

Brooklin.

C. P. R.—Myrtle

Long Distance 'Phone at Residence.

## Pine Grove Stock Farm

Rockland, Ontario, Canada.

BREEDERS OF

SCOTCH SHORTHORNS  
and SHROPSHIRE

W. C. EDWARDS & CO., Limited

PROPRIETORS

JAMES SMITH, Superintendent.

## J. DRYDEN & SON

Maple Shade Farm BROOKLIN, ONT.

Home of the oldest and largest herd of Cruickshank Shorthorns in America.

Shropshire flock founded 1871.

Station—C. P. R., Myrtle, 3 miles.

G. T. R., Brooklin, 1½ miles.



Poultry, Pet Stock, Farm and Garden Books of all kinds.

Fanciers' and Stockmens' Printing Leg Bands and Stock Markers.

We have the most complete line of Poultry and Pet Stock supplies in Canada. Catalogue free.

A. J. MORGAN - BROOKLIN - ONT. - LONDON

## PHOTOS!

COLLEGE GROUPS

— AND —

INDIVIDUAL SITTINGS

Promptly attended to.

D. H. BOOTH, Photographer

Upper Wyndham St.

Next RYAN'S

THE

ELECTRIC BOILER  
COMPOUND CO., Ltd  
GUELPH, ONT.

Walker's Electric Boiler Compound

High Grade Lubricating Oils, Greases, Packings, Belt Lacings, Flue Scrapers, Etc.

Crystal Cream Separator Oil  
— A SPECIALTY

## Waters Bros.

— Headquarters For —

FRAMES, PICTURES, ETC.

## O. A. C.

Note Books, Drawing and Writing Materials, Seed Bottles, Microscopes, Field Glasses, Waterman Fountain Pens, etc.

WYNDHAM STREET

## Dunrobin Stock Farm

CLYDESDALES, SHORTHORNS  
YORKSHIRES

A choice collections of the above line of stock always on hand.

Donald Gunn & Son, Proprietors

Beaverton P. O. and Station

G. T. R. and C. N. O. R.

Please mention the O. A. C. REVIEW when answering advertisements.

— GO TO THE —

## HUB BARBER SHOP

For a good Shave and Hair Cut

GEO. A. LEADSTON, Prop.

## SOCIETY CARDS

Ladies' or Gent's. Printed. 50c per 50; 75c per 100. By mail prepaid. All kinds of Commercial and Society printing.

O. R. WALLACE, Opera House Bldg.

GUELPH, ONT.

## D. W. FOSTER, L.D.S., D.D.S.,

— DENTIST —

Corner of Wyndham and Macdonnell Streets

Over Dominion Bank

Telephone 14.

## CLOTHES

CLEANED, PRESSED AND REPAIRED

Work done right. Prices right.

Quebec St., opposite Chalmers' Church **CHAS. A. KUTT.**

## R. H. McPHERSON, Barber

HAIR CUT, 15c; SAT., 5c EXTRA

Close 7 p. m.

Upper Wyndham Street, GUELPH.

## LEE LEE & CO.,

Opera House Block

HAND LAUNDRY

Goods called for on Monday, and returned on Wednesday. We guarantee best work in Guelph.

R. TONAWANDA, N. Y. TORONTO, ONT.



— REFERENCES —

## AGRICULTURAL COLLEGES

At Guelph, Truro, St. Anne de Bellevue, Winnipeg, and the trade generally.

BROADFOOT'S

## Red Cross — Pharmacy

Phone 381 - St. George's Square.

## CITY SHOE STORE

Try us for Sporting Shoes of all kinds. Satisfaction guaranteed.

**W. L. KEIL,**

Cor. WYNDHAM ST. and MARKET SQUARE.

## MARRIOT & CO.

FLORISTS,

Roses, Carnations, Chrysanthemums, Smilax, Asparagus, Etc.

Phone 378. St. George's Square.

## NOTICE

The best and most convenient Barber Shop for O.A.C. Students.

**WM. COON, St. George's Square**

Street Cars every 15 minutes. Three chairs. No waiting.

Stewart McPhie

W. A. Mahoney

## McPHIE & MAHONEY

— ARCHITECTS —

Phones: Office, 215; Residence, 237

Telephone Building - Guelph, Canada

# Our Groceries

— ARE ALWAYS —

**Fresh, Wholesome and Strictly First Class**

17 Lower Wyndham.

Telephone 112

## Jackson & Son

Guelph and Ontario

Investment and Savings Society

SAVINGS BANK DEPARTMENT.

Deposits of \$1.00 and upwards taken

Highest current rates allowed.

**J. E. McELDERRY, Secretary-Treas**

# TWICE AS MUCH WITH $\frac{1}{2}$ THE LABOR



That's the easiest surprise that awaited many a farmer and dairyman when he got a U. S. Cream Separator. The "old way" meant little profit—much work. Now they say it's "just the other way about"—**Big Profits—Little Work.** Your money is in the cream. Why not get it all out? **YOU CAN. The standard and reliable**

## U. S. CREAM SEPARATOR

*Holds World's Record for Cleanest Skimming*

and in some cases skims DOUBLE the cream out of the milk that you can get the old way without a U. S. Separator. And the cream will be smoother—and make richer, finer butter and cheese, that brings a higher price.

### HOW and WHY?

That's just what we want to make plain to you. Our new, illustrated book No. 143 explains clearly the "How and Why." Please send for **free** copy. You can easily see for yourself why the U. S. says the best from the thirty plain illustrations which

**Catalogue No. 143 Shows.**

## VERMONT FARM MACHINE CO.

BELLOWS FALLS, VT.

Canadian shipments made from our warehouses at Sherbrooke, Hamilton, Calgary and Winnipeg. but ALL correspondence should be addressed to the Head Office, BelloWS Falls, Vt., U. S. A.

### More Than Doubles Profits

Jan. 1st, 1904, I commenced selling cream from four cows separating with an old-fashioned "\_\_\_\_\_ separator." During the year I sold the entire output of "m" (1358 lbs. cream) total value \$88.82. In April, 1905, I commenced to use a No. 6 U. S. Separator (same four cows) and up to January 1st, 1906, (only nine months) had sold 2405 lbs. cream, total value \$195.07. I kept accounts for my own satisfaction and when I found they balanced so much in favor of the U. S. machine I thought you ought to know it.

Respectfully,

AL. E. BIGGS,

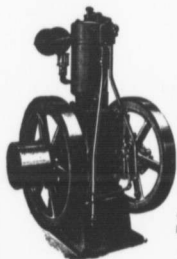
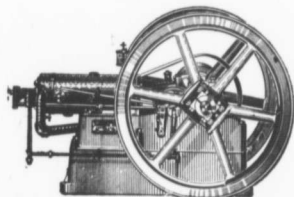
Lopez, San Juan Co., Wash.,  
Feb. 6th, 1906.



## A YOUNG GIRL CAN RUN IT!

Please mention the O. A. C. REVIEW when answering advertisements.

Do 10 Hours Work  
of 4 or 5 Horses  
for 75c to \$1.00



What farmer would not give a great deal to have power equivalent to that of 4 or 5 horses ready for use in a moment, and at a cost of 7 or 8 cents per hour? That is exactly what the farmer has who owns a 4-horse power I. H. C. gasoline engine.

A semi-portable gasoline engine may be converted into a power plant on the farm. It may be transported from place to place about the farm, wherever the farmer requires power for shredding fodder, grinding feed, sawing wood, pumping water, operating cream separator, churn, etc.

The I. H. C. gasoline engine line includes Vertical 2 and 3-horse power; Horizontal (portable or stationary) 4, 6, 8, 10, 12, 15 and 20-horse power; pumping engines and jacks, spraying outfits, and a 1-horse power air cooled engine.

For further information concerning I. H. C. engines call on the local agent, or write for illustrated catalogue and lithographed hanger.

CANADIAN BRANCHES: Calgary, London, Montreal, Ottawa, Regina, St. John, Winnipeg, Toronto.

International Harvester Company of America (Incorporated)  
CHICAGO, U. S. A.

## RAPID BUNDLE DISCHARGE

No Tangles, Choking or Clogging

There's a big satisfaction in owning a Binder that ties securely, and delivers each bundle in perfect time with the other mechanism that cuts, elevates and delivers the grain to the packers. That's why our

## Improved No. 3 Binder

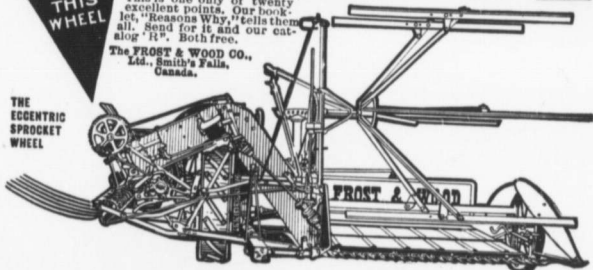
is so popular from British Columbia to Nova Scotia. C. W. Harper, Brandon, Manitoba writes: "After trying your Improved No. 3 Binder, 7-ft. cut, in a very heavy piece of wheat (100 acres), I felt satisfied that the machine was all right, and decided to keep it. One thing I must say, it ties every sheaf, and elevates the grain." Each movement from the cutting of the knives to the discharge of the bundle promptly follows the cutting of the knives to of the train of clock-wheels. An important and indispensable part of the tying and discharge mechanism is the "Eccentric Wheel" shown in cut near large pointer. This wheel is used exclusively on Frost & Wood Binders. When compressing and tying, the chain pulls over the large spokes and makes a snug, tight bundle. When making a rapid discharge of the bundle and the short spokes, thus the knot is tied the chain runs over the short spokes, thus making a rapid discharge of the bundle and a quick return of the needle for the next sheaf.

This is one only of twenty excellent points. Our booklet, "Reasons Why," tells them all. Send for it and our catalogue "It". Both free.

The FROST & WOOD CO.,  
Ltd., Smith's Falls,  
Canada.

THIS  
WHEEL

THE  
ECCENTRIC  
SPOCKET  
WHEEL



# He Had the Laugh on Us!

---

**He Said**—"I have received your letters about buying a Separator, but I don't need any separator as what cream I don't get in skimming by hand goes to the pigs, and you should see how fat and nice they are. So if I don't get it all for butter I get the rest in pork."

**We Said**—"Your sense of business needs whetting, and if you keep on feeding 25 cents a pound butter fat into 8 cents a pound pork, when 1 cent a pound oil meal or other substitute will do the trick ---you'll get it right under the chin."

---

## DE LAVAL

### Cream Separators

"Better Than the Best of Others"

173-177 WILLIAM STREET, MONTREAL, QUE.