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# The O. A. C. Review

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ONTARIO AGRICULTURAL COLLEGE, GUELPH, FEBRUARY, 1897.

No. 5.

## Editorial.

IN regard to the thesis work which each Third Year man is required to do in some branch of his special course, much dissatisfaction has been expressed. The professors claim that the subjects for such work are not chosen early enough in the year to allow of sufficient time being spent in original investigation. On inquiry among the present class, we find that the majority of them had decided early in the Fall Term upon a line of work which they thought to be suitable but which for various reasons had to be abandoned. In some cases this was caused through lack of apparatus, as for example, work on the fungous diseases of garden and greenhouse plants which would require a special house. Others, again, were declared useless because of a lack of material wherewith to carry on experiments. The unsuitable season had much to do in those cases. The work along purely agricultural lines was impossible on account of the length of time necessary to obtain accurate results. Thus when finally a suitable subject is chosen, the work must be accomplished in short time, either following the usual laboratory hours in the afternoon or at odd periods between lectures.

A great change in the percentage marks required for the degree of B. S. A. has been made by the Senate of Toronto University. In former years, degrees were given to all those who obtained an average of 33% in the examinations, but the new regulations coming into force the present year, demand that the student not only receive an average of 33% in every subject of the general course but also that he obtain a minimum percentage of 40 in each branch of his special course and an average of 50 in the whole of that department. It has been felt that some of the graduates of this college were not worthy to bear the name of Bachelor of the Science of Agriculture. Probably this has been so in a few cases, and to prevent any repetition of the mistake, the standard has been raised considerably. The graduates from henceforth should thus obtain greater glory for their work than should those who have previously obtained the degree on the lower standard. Better application both to the laboratory work and to the reading will now be required, and the man who from this time out

reads B. S. A. his name can proudly say that success came only from earnest labor.

In view of the recent conflagration in the Parliament Building at Ottawa, it would be well perhaps, to look into the state of the fire protection at this College. The new Chemical Laboratory is probably the best equipped of all the buildings. Special pipes run up to the top story giving connections at convenient points where are placed swiveling racks of the best hose. The other Laboratories are however without special hose and depend entirely upon the outside hydrants for protection. Again, the Dairy Department is over a quarter of a mile from the College proper, yet it also has to obtain hose-supply from the main building. Of the force of water at command, it would be unjust to criticise at present, as work is now going on, preparatory to the building of a reservoir which with the new fire-pumps will give ample force and volume when required. In the main building there are sections of hose scattered at convenient points through the various flats. These are supposed to be tested occasionally to see that all are in good working order. With the exception of such as are placed in the new wing, familiarly known as the Hunt Streets, wrenches are required for the hydrants. Where the proper wrenches are kept, no one seems able to say with certainty. Undoubtedly they are not placed in a convenient spot. Some suppose that they may be found mixed up with the other apparatus back of the Physical Laboratory. Some notice of their whereabouts ought surely to be posted in a conspicuous position that no time may be lost in case of an outbreak of fire. We all know the confusion which existed at the last fire in the Chemical Laboratory.

Probably the most pressing need in the College at present is that of proper lighting. Nothing can be more injurious to the eyes than to study by a light at one time bright and glaring but perhaps a few minutes later, low and flickering. To finish the evening, a small oil-lamp gives a softer but feebler flame whereby one must read until bed-time. With all that is now required of us as students here, should we not receive in return those conditions which are most favorable for the proper fulfilment of such duties? Then again, neither of the sources of light at present used, are beneficial to the occupants of a room which is small and not readily ventilated. We earnestly call the attention of the authorities to this matter, hoping that before another year goes by, they may see the way clear to change the present system to that of incandescent lighting.

## Protection of Free Trade.



HIS question has come very prominently before us during the past seven or eight years, on account of the serious depression in all branches of trade. To determine the most beneficial trade policy for any country is always a very delicate problem, and it is by no means simplified, when considered in connection with a depression in the business world such as we have been experiencing of late.

The aim of this paper is to present some of the chief advantages of the different trade systems in general, and to briefly touch on the trade question in Canada from an agricultural standpoint. Let us consider the subject under three heads,—first, Free Trade, second, a Tariff for Revenue, and third, Protection. The divisions are more or less arbitrary, but that is perhaps pardonable on the ground of simplicity.

Free Trade in its entirety is not found anywhere, except between Provinces or States within the one political unit. It is only possible where a revenue is raised by direct taxation. Now, we always dislike paying taxes. Many of us are inclined to look on taxation as a form of legal robbery. The chief reason for this is that the payment is direct, while the benefits are in a sense indirect. If the taxation is indirect, in the form of an enhanced price for commodities, we do not feel it so much, and therefore indirect taxation is generally more acceptable than is direct. It is generally admitted that indirect taxes take more from the people than direct do, because the cost of collection in the former case is greater. Thus absolute Free Trade, with direct taxation, would be more economical than a Revenue Tariff. But man's prejudices cannot be overcome by mere argument, and so Free Trade, in its more limited meaning, is removed from practical politics.

Turn now to the second division, a Tariff for Revenue only. It is a mean between Protection and Free Trade, and is often known by the latter name. In fact it is really what is meant by the term in practical politics. Its supporters claim that under a Revenue Tariff there are no restrictions on trade; that the state of nature is once more established; that none of the unnatural barriers characteristic to Protection are present; that no class of citizens are favored; that all the people are on an equal footing; and that commodities are cheaper to the consumer, and prices more advantageous to the producer, because he has a wider market, that is, provided the foreign countries impose no duties.

Let us look into the system and see what it really is. By it, a revenue is raised to defray the expenses of government. Taxes are placed on certain commodities imported into the country. The commodities chosen are usually those that will prove the most productive of revenue. These are usually commodities in general use. Now it is a law in Political Economy, that the consumer of the commodity taxed usually pays the increased price. In other words, that the manufacturer and middlemen are able to shift the tax to the shoulders of the one who uses the commodity. Hence the people pay the tax on a commodity, which is in general use. In the same way any particular class may be taxed, by placing a duty on a commodity used more or less exclusively by it. But in imposing these duties, care

must be taken not to tax any commodity that the country is itself producing. This is giving a measure of protection that a Revenue Tariff system is designed to do away with, wherever established. From this it is evident that the commodities to be taxed vary in the case of each country. The commodities suitable for production in any country depend on her natural resources, the habits and number of her inhabitants, and her situation as to the different markets. On the other hand the imports of a given country depend largely on the habits, manners, customs and peculiarities of the people. Take England for example. She derives a vast revenue from the duties imposed on wines, teas and tobaccos. The people are peculiarly thrifty and fond of pleasure of one kind and another. All indulge in luxuries to a greater or less extent. But there is no other country to-day that could raise such a large revenue by taxing so few commodities. In fact most countries find that in establishing a Revenue Tariff the number of commodities that must be taxed to raise the necessary revenue is so large that a certain degree of Protection is imposed. This is certainly a weak point, that the advocates of a Revenue Tariff System carefully conceal.

Let us now consider Protection. The main difference between it and a Revenue Tariff is that the end aimed at is different. The one is to give protection, the other to raise a revenue. Now, in raising a revenue, as was noticed above, a certain degree of protection is afforded in some cases. In Protection, of course commodities are taxed regardless as to whether they yield any revenue or not, while under a Revenue Tariff, many commodities are untaxed because no revenue would be derived, after the expenses of collection were paid. Protection is usually advocated as a means to an end, namely, the encouragement and early establishment of manufactures. Very few advise Protection as a perpetual system. It is true the time set for its abolishment is very indefinite. So much so that many are inclined to consider it a perpetual system. It is generally admitted that new and sparsely settled countries are greatly handicapped, when competing in the markets of the world with old and well settled countries. Wages are high and capital is scarce in new countries, on account of the limited amount of labor and capital available for employment. Thus in the case of young countries the protectionist has many good arguments to present in favor of his system. Adam Smith, the father of most of the economists of this century, says in his "Wealth of Nations": "That this monopoly of the home market frequently gives great encouragement to that particular species of industry which enjoys it, and frequently turns towards that employment a greater share of both the labor and stock of the society than would otherwise have gone to it, cannot be doubted." So it is generally admitted that Protection gives material aid to young industries in a country to which they are naturally adapted. It gives an industry a chance to establish itself, and become able to compete with older establishments. By encouraging industries we get a greater diversity of employment, each individual is more likely to find the occupation to which he is adapted. And the whole country is also benefited in that a depression in any single branch of industry will have very little effect in the country generally. If a district depends solely on one or two lines of trade, a depression in that industry will seriously affect the whole country. But besides giving a start to manufactures, it increases the

national defence and subsistence. A country that is more or less self-contained has a great advantage in time of war. Wages are also enhanced under Protection, and at the same time labor itself is increased. As a disadvantage in this particular it should be noticed that the cost of living is increased. The greatest disadvantage of Protection is however that it is very difficult to decide when it should be abolished. When Protection has been in force for a decade or so, the manufacturers of the country use all their influence to prevent any change in the tariff. And their power is often very considerable, seeing that they control a large class of employees, all of whom are dependent on the industry in which they are engaged. Besides wages as a rule are likely to fall when the tariff is removed, so that laborers as a class are opposed to such a change. Thus it is plain that Protection once established is likely to remain in force for a considerable time, perhaps longer than is to the best interests of the country at large.

What has Protection done for us in Canada? Have we received any real advantages from it? Was it a bulwark against the recent depression? Have we reached the point when it should be abolished? Would it be advantageous for us at the present time to change to a Revenue Tariff? These are our most important political questions today. All are awaiting the coming Session to see what the present Government have in store for us in the line of tariff legislation. All admit that the country has advanced under Protection. All see now that it was suited to our conditions when it was introduced. Many now, however, think that it has had its day, and that it has been found wanting under a serious depression in trade. We all agree that we felt the depression very severely. Still many claim that it was more severe in other countries. The Protectionists say that we were saved from it by the Protective Tariff. In the United States, however, where prices were considerably lower, they have a higher protective wall than we have. Perhaps the reason we did not feel the depression as much as some other countries is to be found in the character of the people themselves and not in the tariff. Canadians are very steady, shrewd and careful and not so inclined to run risks as our cousins across the border. Besides we have a banking system that would be a source of strength to any people, and perhaps more to us than to a country inclined to take greater risks. Still it must be admitted that a young country is more secure against competition when a moderate Protective Tariff is in force. In those days, when competition is so keen, it is a very serious question for us to decide, whether we are strong enough to fight against the older countries in the markets of the world. We should never lose sight of the fact that we are more or less the natural competitors of the United States in all that we produce, and that they are much stronger than we. The cost of production is as a rule less in the United States, and so if we wish to follow any line of industry it must be protected against their competition so long as the cost of production with us is greater.

But some one may object and say that this is an agricultural country and we do not need manufactures. Canada is certainly an agricultural country. Our agricultural resources have as yet been only partially developed. Still do we not need manufactures in an agricultural country? Child, the economist, says: "Laud and trade are

twins, and have always and will ever wax and wane together. It cannot be ill with land but trade will feel it, nor ill with trade but land will fall." And Adam Smith gives three ways in which flourishing commercial and manufacturing towns contribute to agricultural advancement. First, these towns afford a close and ready market for agricultural produce. Second, the wealth acquired in the towns goes to aid and advance agriculture. Third, the towns make the country more stable and ensure better government. Thus the encouragement of manufacturers is of vital importance to us as an agricultural country. We need large towns and centres of population if agriculture is to flourish.

What would be the advantages of Reciprocity with the United States? The farmer is inclined to think that if the United States admitted his goods free from duty, he would receive a good price for his commodities. Would this be so in the case of grain at the present time? Is not the market price in the States lower than it is with us, as far as grain is concerned? Even in stock do not our neighbors produce as cheaply as we? A few years ago we had a good market for horses in the United States. But owing to the introduction of electricity and the bicycle, that trade is very much narrowed and confined. Besides, this is only one side of the subject, for if our goods were admitted free into the United States, we would have to allow the same privilege to them. Then our markets would be flooded with the surplus grain of the Western States. We have too much grain in this country at present. What we want is a market in a country that does not export grain. If, on the other hand, we had Reciprocity with the United States our manufactured commodities would be cheaper, and we could import many commodities that we do not produce ourselves. But, as has been mentioned above, the revenue must be raised, and it is extremely probable that a large number of commodities would be taxed. In fact the number taxed might be nearly as much as under Protection. Thus the difference between the present tariff and Reciprocity, which implies a Revenue Tariff would not be so great as many would lead us to believe. There is no doubt, however, that many modifications of the present tariff could be made in favor of the farmer. It would be a boon to him if all agricultural machinery and implements were placed on the free list.

In conclusion, the question may be summed up in a few words. To come to a definite decision it would be necessary to decide if our industries are firmly enough established and can compete with all-comers in the markets of the world. If the answer is in the affirmative, abolish Protection. If in the negative, Protection should still be continued, because without prosperous manufactures, a country cannot advance. A Revenue Tariff has many advantages over a Protection system, but it is not suited to a country that has not well established industries. Of course modifications can be made that would be beneficial to a large class of citizens. But as this savors more or less of class legislation, it is open to serious objection. It is thus plain that the whole subject resolves itself into one of relative advantage. No system is perfect, each has its disadvantages. The subject is an open one and each individual must decide for himself, for opinions differ widely on very elementary parts of the problem.

# THE O. A. C. REVIEW,

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FEBRUARY, 1897.

## Humus as a Factor of Soil Fertility.



WHILE there is so much discussion among agriculturists at the present time in regard to the best means of maintaining and increasing the soil fertility a few notes on the composition and importance of this factor of soil fertility cannot be amiss. We know that the humus must not be allowed to decrease or the plant will suffer. What is this humus?

By the term "humus" is generally understood any animal or vegetable matter in the soil which is in the process of decay. The name signifies a whole group of compounds and not a single chemical compound of definite composition. It originates from the dead leaves and roots of previous vegetation, or from organic manures, and is composed of carbon, hydrogen, oxygen, nitrogen and ash.

Although the humus itself is so imperfectly understood it has been ascertained that the carbon ranges from 40 to 65 per cent, oxygen from 25 to 35, the hydrogen from 3.5 to 5, while the nitrogen ranges from 6 to 10 per cent.

When the humus is extracted from the soil it is a black or brownish-black liquid, which yields a hard slimy black mass. Along with the humus materials, potassium, iron, alumina, phosphorus and calcium are extracted, and the term humates has been applied to these compounds resulting from the union of the potash, iron, etc., with the humus.

When this humus or decaying vegetable matter becomes decomposed by the bacteria of nitrification the constituents are rendered available as plant food. The humates spoken of can also be utilized as plant food. With oats it has been found that they will grow and produce fertile seeds when all the food was supplied in the form of humates, assisted by the organisms present in the soil which carry on the work of fermenting the humus.

Aside from the distinct value as plant food, the humus absorbs

and retains moisture much more readily than any other ingredient, so that a soil which is rich in humus will withstand drought very much better. It fixes ammonia in the soil, and thus prevents loss by leaching, or evaporation, and it improves the mechanical condition of a heavy soil, making such soils lighter, more porous and less adhesive. On a sandy soil humus seems to bind together the loose particles of sand and so prevents the excessive leaching of plant food. It also increases the power of the soil to retain water and withstand the drought, thus affording at the same time a cooling influence on the soil.

A virgin soil has generally a good supply of humus, but continued cropping and the cultivation of grain crops without farm manures or a proper rotation of crops soon exhausts this supply, and the soil loses its fertility. The plowing down of green crops or crop residues, and the application of farm yard manures are the common means of retaining the humus. The muck from peat bogs is sometimes used along with manure as an absorbent and fertilizer, and at the same time for the purpose of supplying humus. The crops that leave the most residues in the field are the most favorable for its maintenance. Root crops leave very little of such matter.

The presence of much water about the humus prevents oxidation and consequent loss of food to the plant; but if circumstances were such that the plants could obtain this food in the presence of the water it would be favorable for the retention of the humus.

It is sometimes the practice to plow down green crops to serve as humus, and this will do so if the green matter be left long enough to properly decay. In this manner weeds would to some extent serve the same purpose. Good crops of grain always produce more humus by their residues than poor ones. On the other hand, circumstances which tend to decrease the plant food must be avoided, e. g., the leaching of the soil by water, the growing of crops not properly rotated, and the continued cropping and cultivation of the soil without due return of organic matter. In a rotation of crops, summer-fallowing should not be included, because plowing the land several times during the summer season adds nothing to its fertility and is particularly destructive upon the humus and nitrogen.

## The Restoration of the Consistency of Pasteurized Cream.



THE pasteurizing process as a means for purifying milk for commercial purposes, from germ life of all sorts, is rapidly growing in favor; and as the greater purity and better keeping qualities of these products become more generally recognized the demand for them will increase quickly. The only serious objection raised against these products is that their consistency is reduced when compared with normal milk or cream (they have a more watery appearance). This objection has seriously prejudiced the consumer against these products, especially at the present time when it is on trial in many places.

At the Wisconsin Experiment Station they have been carefully studying for some time on this subject in order to discover the cause, and determine a remedy to overcome this difficulty. Last August

they announced that they had resolved upon a method which is cheap and entirely satisfactory.

They have found that the consistency of cream may be restored by the addition of lime in solution. As lime is only slightly soluble in water, simple lime water cannot be used, as the volume that would be required would dilute the cream too much. In order to overcome this difficulty they use lime dissolved in a solution of cane sugar, as this solution is over one hundred times more concentrated than simple lime water. It can be used without decreasing the percentage composition of the solids of the cream to any appreciable extent. This solution of lime in sugar is called "viscogen" on account of its viscous producing powers, and the treated products, visco-cream, visco-milk.

The method of preparation is as follows: Two and one-half parts by weight of granulated cane sugar are dissolved in five parts of water, and one part of quicklime gradually shaken in three parts of water. The milk of lime is strained and added to the sugar solution. The mixture is agitated at intervals for two or three hours and then allowed to stand until the clear liquid can be separated off. The solution should be kept in well corked bottles as it has a tendency to absorb carbonic acid, thus reducing its strength and giving it a dark color.

As it is strongly alkaline, it must be used with caution. Under no circumstances should the milk be rendered alkaline. Either normal or pasteurized cream should not contain over two-tenths per cent. of lactic acid. To completely neutralize a two-tenths per cent. milk would require one part of viscogen by volume to about ninety of cream. As it should never be fully neutralized, the amount of viscogen required in the prepared cream is usually about one part to one hundred and fifty.

The exact amount of viscogen needed can be determined as follows: Take a graduated pipette filled with viscogen and titrate the amount required to completely neutralize a definite quantity of the cream. The neutral point is determined by the use of indicators, such as litmus or phenolphthalein. When near the neutral point, add more carefully, noting quickly any slight change of color. As soon as a pink color appears in the cream, it shows that the neutral point has been reached. The color should disappear quickly, or it is a sign that too much of the solution has been added. The total amount of viscogen necessary to neutralize this unit of volume should then be carefully noted, and the ratio of the whole amount of cream to this unit determined.

For instance, suppose that it takes four cubic centimeters of viscogen to neutralize one pound of cream, and we wish to treat one hundred pounds, then there will be required  $100 \times 4$  or 400 c. c. of viscogen to completely neutralize the whole amount. But as the cream must never be neutral, it would not be advisable to add more than two-thirds of this amount, or 267 c. c.

Having determined the proper quantity of viscogen to use, it should be carefully measured, and slowly added to the cream, with constant stirring. Before adding the viscogen the cream should be cooled to a point below  $60^{\circ}$  F.

This viscogen may also be used effectively for increasing the body of separated cream, or to increase the viscosity of cream intended for

whipping, as it enables one to whip cream at temperatures that would otherwise be impossible.

A great advantage of this viscogen is that it does not detract, but rather adds to the value of the milk. No one can object from a sanitary standpoint to the amount of sugar added, while the lime is insignificant, not exceeding the variations in lime content between samples of normal milk from different sources.

## Farming in Bermuda.

In the following short article I shall confine myself to a few random remarks on some of the natural conditions which influence agriculture down here in Bermuda.

First, meteorological conditions. Although but about sixty hours from Ontario, frost is here unknown. The following temperatures were taken indoors at the hours of 10 a.m., noon and 3 p.m. The lowest is for March:  $64.3^{\circ}$ ,  $65.2^{\circ}$ ,  $65.6^{\circ}$ . The highest is for August:  $81.9^{\circ}$ ,  $82.9^{\circ}$ ,  $83.4^{\circ}$ . The temperatures are for 1893, the latest that I could obtain.

Owing to the moist climate slight excesses of temperature are felt much more than in the dryer climate of Ontario. The average rainfall for ten years is 5.3 in., 2.7 in. more than the average precipitation (snow and rainfall combined) in Ontario for ten months in fourteen years. Rain-water is used almost entirely for drinking and for stock. When the necessary precautions are taken it is quite pure, and the flavor is very good; but it is not cold. Bermuda is "the still-vex'd Bermoothes" of Shakespeare, and well does it deserve the term. Wind-storms are prevalent, and are the worst enemies against which the farmers have to contend. The wind is not half so bad as the salt spray which is blown across the island, injuring severely all our crops.

The average soil is a dark red brown, grading into sandy loam on uplands, and clay loam in bottom lands. It is light and friable, and very easily cultivated. The limestone bottom is in many places but a few inches below the surface. Owing to the open nature and shallowness of the soil, it retains moisture but a short time. Pasture is almost altogether permanent and natural. The poorer land is generally reserved for this purpose; therefore, the pasture is in many cases short and scanty. Crab-grass is the most important pasture grass. There are a few wild legumes; the most common is Marylock. Sea-grass, driven into our bays by Atlantic storms, is used largely as manure.

I consider Nut-grass (*Cyperus rotundus*) and fine or Bermuda-grass (*Cynodon Dactylon*) to be the only weeds found in our cultivated fields that are really obnoxious. The first has an underground "nut" that will spring when the parent plant has been removed. The second is similar to Couch grass, but smaller—and worse. Wireweed and Vervain (*Verbena hastata*) are obnoxious in our pasture. Of the "bad" weeds of Ontario we have representatives. As our mode of farming is so very different, these weeds do not affect us as they do the Ontario farmer. I have noticed the following weeds growing here: Mustard, pepperwort, chickweed, purslane, mullein, ox-eye daisy, tansy, golden rod, sow thistle, chicory, dandelion, motherwort, catnip, rib-grass, and may-weed.

We have not many birds that affect us. Our best insectivorous bird is the Blue Bird (*Sialia sialis*). This bird is being fast driven to the wall by the English sparrow. The latter bird is as aggressive and troublesome here as elsewhere. Black Birds trouble our fruit. Crows used once to be very troublesome, but since a bounty was placed on their heads they have retired. While speaking of pests, I must not omit rats. These destroy our produce mostly when stored, but some they attack in the fields, especially sweet-potatoes. Of insect pests, cut worms are the worst. I have noticed the oyster-shell bark-louse (*Mytilaspis pomorum*) on the Guava tree (*Psidium Guaiava*); and the mealy bug (*Dactylopius destructor*) on the Sugar apple-tree (*Annona muricata*).

St. David's, Bermuda.

Mar., '95.

## Personals.

We have the following ex-students back for the Special Dairy Course:—W. N. Counsell, '91, Hamilton; Jas. Thomas, '96, Woodville; R. H. Woodcock, '96, Wigan, England; G. W. Black, '96, Winchester.

—o—

W. E. Thom, '95, is with his father on their dairy farm near Morrisburg, and reports having had a successful year. He is introducing Jersey blood into his herd.

—o—

A. C. Johnston, '96, is farming in Dundas Co. He is specially interested in dairying and poultry, and will, no doubt, be eminently successful.

—o—

W. C. Brooks, '93, is foreman at B. G. Tisdale's farm near Brantford. He writes that they are selling milk and cream in the city and also growing high grade seed grain.

—o—

E. E. Mills, '96, is about to branch out for himself, near St. Thomas. The present class have grateful recollections of Ed., and earnestly hope for his success.

—o—

C. M. Macfie, the star man of the '91 class, has a splendid dairy farm near Appin, Middlesex Co. He has lately taken unto himself a wife, and is on the high road to prominence as a farmer.

—o—

Geo. C. Gooch, '95, is still in the insurance business in Toronto. He is winning a local reputation as a crack shot.

—o—

We notice the name of J. P. Fitzgerald, '93, in the last list of graduates from the Ontario Veterinary College, Toronto. N. Rippen, '94, is now in attendance at that institution. It is a notable fact that a considerable number of our ex-students take up Veterinary Science, and this speaks well for Dr. Reed.

—o—

R. McNaughton, '93, is farming near Walkerton. He follows dairying, and makes better; giving as his opinion that it is the most concentrated and least exhaustive method of husbandry.

—o—

D. Aylesworth, '92, is farming near Olesca, Lennox Co. He was recently elected to the Presidency of his County Agricultural Society.

—o—

T. B. Harvey, '92, has purchased one hundred acres of bush land near Claring Cross, Kent Co., and is hard at work clearing it up. He is a firm believer in systematic tile drainage and finds that it pays "every time."

—o—

E. E. Wilson, '91, rented one hundred acres of land near Caledon last spring. He reports having had a very successful year.

—o—

The many friends of George A. Smith, B. S. A., '96, will be pleased to learn that he has been appointed as Assistant Chemist to Professor Caldwell of Cornell University. The competition for the position was very keen, and Mr. Smith's appointment is a deserving compliment to his ability, to our Alma Mater, and to Prof. Shuttle-

worth. The regents of Cornell are to be congratulated on the wisdom of their choice, for we are confident that "Geordie" will soon make his mark.

—o—

M. W. Doherty, B. S. A., '95, from whom we received our information regarding Mr. Smith, is also at Cornell, and while he says nothing of himself, we learn on reliable authority that he is doing good work and is likely to be heard from in the near future.

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An accident befell Wm. Squirrell, jr., of the present second year class, when working in the bush, on Feb. 4th. While engaged in cutting a limb, above his head, the axe glanced and struck him in the face, inflicting a very ugly gash which required twelve stitches. We are pleased to report that he is doing well, and we expect soon to have him with us again.

—o—

S. N. Monteith, B. S. A., '90, has been elected to the Wardenship of Perth Co. He has been in public life for some time as Reeve of Downie, and we extend him our hearty congratulations on his fresh honors. Mr. Monteith is still a young man, and judging from his present position, we may expect to hear from him again.

—o—

From the St. Marys "Journal" of Jan. 7, we clip the following:—"A very happy event took place at the residence of Mr. Robert Beatty, of Kirkton, on Wednesday, Dec. 30th, when his youngest daughter, Miss Alice, and Mr. James Moore, son of Mr. James Moore, sr., were united in marriage. The ceremony was performed at 12 o'clock by the Rev. Mr. Snowdon, assisted by the Rev. C. Fletcher. The bride, handsomely dressed in white satin, was a picture of beauty, delighting the many guests present. Mr. and Mrs. Moore took the evening train for Toronto, accompanied by all the good luck a shower of rice brings, and the well wishes of all."

The Review adds congratulations.

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By way of additional reference to some ex-students whom we have given notice in our columns, we have the following:

While assisting in Farmer's Institute work in Algoma, T. Raynor B. S. A., '89, was so unfortunate as to break through when crossing the ice to Manitoulin Island. He contracted a heavy cold, which developed into pneumonia before he reached his home in Prince Edward Co., and for some time lay very ill. He has, however, recovered sufficiently to be pronounced out of danger.

The last issue of the "Farmer's Advocate" contains a comprehensive article on "Modified Milk," by J. Wilson Knight, B. S. A., '96. Joe has been engaged in this business since graduating and should speak with authority. It may be added that this is not his first attempt at writing for the agricultural press.

A recent issue of the Orillia "Packet" contains the following:—"A night school, taught by Miss F. Wright and A. T. Wiancko, B. S. A., has been organized at Sparrow Lake, for the benefit of a number of their young folk who are desirous of furthering their knowledge of book-keeping, mathematics, history, geography, practical English, etc. This affords those attending an opportunity to spend the winter evenings profitably."

More power to your elbow, A. T.

"American Gardening" of Jan. 2, contains an article on "Horticulture in Canada," which was condensed from an essay read before the Horticulturist's Lazy Club of Cornell, by P. Kennedy, B. S. A., '94. The subject is treated very fully and Pat is entitled to credit for it.

## Y. M. C. A.

The meetings of the Association have been held regularly with an increasing interest manifested by the members. The Rev. R. J. M. Glassford in December, and Rev. J. C. Smith in January, gave us very interesting addresses. The other meetings were conducted wholly by the members of the Association. Sunday morning classes have been resumed in five of the rooms, with the International lesson as the basis of study. While our prime object is to promote a spirit of Christian fellowship among the students, and thus to win souls for the Master, yet we also desire to fit the active members for a life of loving service when they scatter to their homes everywhere throughout the Dominion. Who can estimate the wide field for good which is thus opened up for us, and what a responsibility rests upon those to whom He has entrusted His work here?

In the Bible Class Mr. Reynolds has continued a series of splendid studies in the life of Jesus. All who have heard him will carry away a fuller and brighter view of the Saviour, whom it is our desire to love and serve. Do not let the attendance at the meetings diminish, and come prepared to discuss freely the day's lesson.

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**Locals.**

"Oh, it's you is it?"

—o—

Janitor—"Did you blow out the gas?"

Fitzy—"Of course I did. You didn't suppose I'd go to bed with it lit, did you?"

—o—

The difference between 1st and 2nd years:

The freshman talks of maw.

The Sophie tells of the maw-in-law.

—o—

Professor:—"What influence determines a young man's politics?"

Experienced Student:—"Why, his father."

Prof.:—"Than the mother decides upon his church."

Exp. Stud.:—"No she don't, 'tis his best girl."

—o—

A student came the other day

To dwell within our town,

He registered with the president;

The boys did him up brown.

He felt so tired he thought he'd sleep,

And then it came to pass,

He jumped in bed, pulled off his boots.

And then blew out the gas,

And the blow almost kil'd Fitzy.

—o—

No doubt our many readers will regret to hear that since our last issue, we have been the defendant in a libel suit. We are very sorry that our columns misrepresented Mr. Boyd's story about the car of lumber, and humbly beg his pardon for any injury, it may have done

his character. Mr. Boyd's version of the case was that the car was laden with stone instead of lumber, but it seems that the wind blew it off with as much ease as if it had been lumber.

—o—

## How They Do It.

I sit in my room, e'er the gas is lit,

And hear a dreary sound

Like some imprisoned soul that beats

In vain to break its bond.

A restless knocking, then a space

Of silence, then again

I hear the dreary rat-a-tat

That sounds so sad, so vain.

Oft in the afternoon, as now,

I hear its cadence low,

And then my spirit whispers me,

"They're making hash below."

o--

In the recent Mock Parliament, a supporter of the Government was urging the necessity of damming a certain river for the propagation of fish. One of the Opposition rose to a point of order claiming that the honorable member was using unparliamentary language. The Speaker insisted on an apology, but the member replied that if any person could stop a stream of water without damming it, the Government would adopt his method immediately.

—o—

## GOSSIP FROM THE SMOKING-ROOM.

Wagg has changed his church.

Pat has some wonderful attraction in Toronto.

Boyd confesses that he cannot beat Pompey's fish story.

A. C. Wilson has applied for the position of choir leader in the First Baptist Church.

Lecturer in Agriculture has been holding conferences with the Farm Superintendent as to the cause of the sudden growth of first year "side-boards."

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

Sir,—If it is not too presumptuous on my part I should like to ask through your columns why pig pens are cleaned on Sunday. Do pigs go before men? You would think so if you had to clean them out on the Lord's Day. Six days shalt thou labor, etc., and on the seventh day do only what is necessary.

When the students of the O. A. C. who are to be the model farmers of the next decade can pass the day without having their pens cleaned, can a pig not do as much? We have to make our own beds and shake down our own straw; why should more care be taken of an animal which squeals and screeches even more on the Sabbath than on other days?

A man surely not be kept from church on account of a hog. It is



impossible to feel at home or comfortable in your pew when you are painfully aware that you were cleaning out the pig pens two hours ago, and also notice that the people immediately behind you are very busy with their handkerchiefs. Which derives the most benefit, the pigs having their pens cleaned or the boys getting to church to hear the sermon and meet somebody at the door afterwards? I think this model farm should show an example in all things to the community at large.

#### ONE WHO WORKS ON FARM CATTLE.

O. A. C., Feb. 8th, 1897.

## Athletics.

**T**HIS year's hockey team is now scattered in different parts of the country. But the boys seem to still stick to the game and improve in their play. N. F. Wilson, last year's captain and point, is playing forward in Buckingham team. This team is in the Quebec league and is expected to win the intermediate championship. D. J. MacPherson is playing with Lancaster's crack team which has already done such good work. He is playing forward with such men as Rayside, late of Queen's hockey team. G. A. Smith is trying to boom hockey at Cornell, but owing to lack of ice cannot accomplish much. J. Nasmith is at home in Toronto but is now out of the game, although he started the year as captain of the Orients (one of the junior teams in the city league). He had to drop out owing to business pressure. We have not heard of W. S. Smith so far this season, but he was too fast to go unnoticed, and we hope will show up yet in some good team. Elliott, last year's goal keeper, is still at school, and occasionally plays for the Royal City team down in Guelph. Tivy Robertson, who played in some of the games last year, is now playing for the same team as Elliott, and is their star forward. Parker is still at school and has been playing for the Victorias of Guelph (junior league team), but has now dropped out of the game for the season. Hockey is the best of the winter sports, and it is too bad that we have had no team for this season, but owing to a stress of work the rink has not been in shape and consequently we have had no place for practice.

On looking through the athletic notes of other and similar institutions we see that they make good use of their gymnasiums. Here we would almost forget that we had such a place if we did not see the building and occasionally, when we feel like it, go to drill. There are no students in the school who take regular exercise there. This may be due to the lack of an instructor, but even that is only part of an excuse as the caretaker will give instruction on most of apparatus. All work and no exercise makes the student a dull boy, so use the gimmy and benefit by a little judicious training.

## Exchanges.

The water floweth,  
The subscriber oweth,  
And the Lord knoweth,  
That we are in need of our dues.

So come a runnin',  
E'r we go a gunnin',  
This kind of dunnin'  
Gives us the blues.—Ex.

#### TRUTHS FROM GREAT MENS.

A block head rubs his thoughtless skull.  
And thanks his stars he was not born a fool.—POP.

Anger is like a full hot horse, who being allowed his way,  
Self mettle tires him.—SHAKESPEARE.

Cultivation is as necessary to the mind as food to the body.—CICERO.

Miss Clara Brett Martin was called to the bar at Osgoode Hall recently. According to regulations provided by the Law Society, she wore a tailor-made coat, with skirt under the barrister's gown, and a collar and white tie, sans chapeau.

That enterprising publication, *The Massey Magazine*, has a good number for February. It contains a short historical sketch of the University of Toronto, by William Houston, M. A.

The idea of a provincial University for this Province had its origin with Lieut.-Governor Simcoe. The first land grant was made in 1798. But the charter of incorporation was not given until 1827. The Rev. John Strachan, D. D., was first Chancellor. As he had been chiefly instrumental in securing the charter, Dr. Strachan saw that the Anglican Church interests were not neglected. In 1837, however, the Charter was secularized so far that those connected with the College need not belong to the Anglican Church. King's College was established as a teaching institution in 1843, a college building having been erected in Queen's Park. Although the college was not entirely Anglican it had a Faculty of Divinity; this however was abolished in 1849 and the institution completely secularized. In 1858, the present University building was erected. It is said there is no building of a similar character on this continent,—that surpasses it in beauty, style and sight. When the Faculty of Divinity was abolished the name of the College was changed to the University of Toronto. Since then its progress has been remarkable. Its standard has been raised several times and the number of students in attendance has increased enormously. In 1887 the University was given increased powers and functions. It can now enter into confederation with other Colleges. Thus its sphere of usefulness is considerably broadened. As yet the Methodist University, Victoria College, is the only one that has availed itself of these privileges. But doubtless others will soon follow its example.