

Pages Missing

charge of Mr. John Campbell, now of the Norfolk Nurseries, Simcoe, Ont. Mr. Campbell was succeeded by Mr. E. Carpenter, and Mr. Carpenter, I think, by Prof. Shuttleworth. On Prof. Shuttleworth resigning to take a post graduate course at Cornell, Mr. C. A. Zavitz was appointed to his present position, and it is largely to Mr. Zavitz's indomitable energy and persistent, patient, conscientious work that the experimental work of the College has been brought to its



NELSON MONTEITH, B.S.A.,

President of the Experimental Union.

present position, and to Mr. Zavitz belongs very largely the credit of creating the Experimental Union. He has taken it from the nebulous, indefinite form, which it formerly occupied and converted it into a most serviceable agent for the advancement of Canadian agriculture in general and Ontario agriculture in particular. The work of the Union now reaches every county and district in Ontario, and the very essence of the work that is carried on in the experimental plots is distributed to every part of the Province.

The Experimental Department of the O. A. C. has rendered a great service to the farmers of Ontario by in-

roducing new varieties of grains from all over the world, Russia, France, Germany, Great Britain, United States, New Zealand, Japan and Australia, have been laid under contribution and their best varieties have been brought to Guelph, thoroughly and patiently tested for a series of years in comparison with our best native varieties, inferior kinds discarded until finally only those varieties that have proven themselves very superior have been retained. These best varieties are grown in large quantities, and then to further prove their usefulness they are distributed



C. A. ZAVITZ, B.S.A.,

Secretary of the Experimental Union and Director of its Field Experiments.

by the Experimental Union to every portion of Ontario. In this way the Siberian Joanette, and Danberry varieties of oats have been introduced and distributed all over the Province. When we realize that the average of oats in this Province usually runs about 2½ millions to 3 acres annually and is rapidly increasing we can see what an addition to the wealth of the Province is made by distribut-

ing varieties giving from 2 to 5 bush per acre more than our best common varieties. In barley the Mandscheuri and Oderbrucker have been distributed and have given very general satisfaction. In corn the Wisconsin White Dent, North Star Dent, Black Mexican and others have proved very valuable acquisitions. In nearly all farm crops valuable additions have been made, and we find that our people of late years have not been exploited to nearly the same extent as they formerly were, by agents selling much belauded new varieties of

ing this valuable branch of experimental work.

It is very encouraging to all interested in the work of the Union, to note the steady, uniform increase in the number of experiments and experimenters and to see how thoroughly every section of the Province is covered. Even the new districts of Rainy River, Algoma, Nipissing, and Temiscamingue are well represented, showing that this work is capable of indefinite expansion, and of untold service to the new regions to the north that are just being entered. The zone of successful agriculture and horticulture is constantly widening in Ontario. Within the memory of many living it was thought that apples and other fruits could not be successfully grown outside of a narrow belt along the great Lakes; now we find fruits successfully grown all over older Ontario, indeed, one of the fruit growing districts is that portion of the Province lying south of the Georgian Bay. The numbers of experiments is being constantly added to, this year, 1903, having the largest number in the history of the Union; material having been sent out for some 3345 experiments, covering many problems of interest and importance to the farmers of this Province. The cultivated area of Ontario now exceeds 13,000,000 acres, and if, by the introduction of better varieties, improved methods of cultivation and fertilizing we could add, say, even one dollar per acre annually to the farm crops of this Province what a magnificent result would be attained; and I believe we are doing it; if we take the official reports of the leading States of the United States and com-



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Treasurer of Experimental Union and
Director of Horticultural Experiments.

grains at fabulous prices, that very often proved much inferior if not actually worthless. The experiments with fertilizers too have proven very valuable, as in many sections of Ontario the fertilizer agents have been working our farmers to a very considerable extent. In the horticultural section Prof. Hutt has been working along quietly with increasing results from year to year, although he has met with special difficulties in extend-

pare the results with Ontario, we find that Ontario excels very materially the very best agricultural States of Union, and I believe no small part of

this result is due to the Experimental Department of the O. A. C. and to the Experimental Union.

THOMAS H. MASON.

NATURE STUDY No. II.

Some Things I Learned About the Dandelion.

By R. E. GUNN.

Everybody is familiar with the gold-headed herald of spring that makes the city lawn and rural lane bright



R. E. GUNN, B.S.A.,

First student of the O. A. C. to take the Three-year Course and receive the Certificate of Agriculture.

with yellow sunbeams. As children we used these flowers for crowns or for money, and became familiar with their brightness; but as we grew older our familiarity turned to contempt

when we tried to drive these intruders from our lawns. Now we see that our efforts were fruitless, so once more, as when children, we greet the first dandelion of spring with joy, for we know winter is past. Having seen some peculiar traits in this little plant's method of life I grew energetic one day and decided to find out more about our friend (?) than appears on first sight.

With a spade in hand I made an excursion to find a good healthy specimen that would yield a large fund of information. Large yellow flowers beckoned me, and sure enough after digging nearly three feet I found the end of the long tap root that furnished the plant with food.

If we examine this long brown root we see it is cylindrical in shape (Fig A). Botanists call it a tap root to distinguish it from branching or fibrous forms. If we look closely we see little rootlets coming out in two lines which twist about the root from top to bottom. These rootlets take the nourishment from the soil and pump it up to the leaves and flowers. But what is this I see at the end where I have broken off a portion? A milky substance is coming out, the root is bleeding. Cutting it through I find

a brown skin or epidermis at the outside, a soft spongy tissue under that, and in the centre a hard core of vascular bundles. In the soft spongy tissue when the flowers are all gone and the winter is approaching, this

milky juice is found in large quantities. This store of juice prepares the plant for the winter and gives it a supply of food with which to commence growth in the spring.



SOME FEATURES OF THE DANDELION.

- (a) The long tap root and rootlets; at the top is the short stem as shown by the rings of scars; (b) a leaf showing its peculiar, irregular margin; (c) a single floret from a flower-head, showing the ovary at base, the pappus above it, the strap-shaped corolla, and the stamens surrounding the style; (d) the young flower-bud; (e) the flower-head fully opened, showing the reflexed bracts; (f) a flower head after it has been closed for three days, showing the old corollas as a dried tuft on the top of the closed bracts; (g) the "seed-ball" drying itself, almost ready to be blown away.

At the top end of the root there is an extremely short stem, only found when a close examination is made. It is marked, however, with rings, irregular but evident, so that we can approximately judge the age of our specimen. Even in the oldest plant, which may be many years old, this elementary stem rarely exceeds one-quarter of an inch in length.

Next the ground I find old, brown, rotten leaves which serve to protect the exposed part during the winter. These were the bright green ones of last summer. This year the leaves are long and deeply lobed, with the lobes of an irregular shape (Fig. B). The centre portion of each leaf is lower than the sides, so that when rain comes the water is guided into the root where it is needed. In moist places I find the plant has large leaves, while in dry arid spots the leaves are narrow and deeply lobed. The sun striking on the small leaf does not cause so much evaporation as it would with the larger leaf. Thus the plant adapts itself to its surroundings.

High above the whorl of leaves and the surrounding grass we have the flower head swaying on its naked pedestal (Fig. E). How the plant sends up this stalk or scape is indeed interesting. From the time the bud first distinctly appears until the seed is disseminated there is a period of twelve or more days. At first growth is slow, the scape growing from one-fifth to nine-tenths of an inch per day, for the first few days. But this amount soon increases until the maximum record is attained on the eighth day, when by actual measurement the

scape grew two and a quarter inches in twenty-four hours, the greatest apparent growth taking place at night. The growth was so remarkable that I actually thought I must be at the wrong flower, until I found the mark I put upon the fast growing stem.

On the ninth day I first saw the flower open. With regard to the bud I found it and the scape covered for the first few days with a woolly substance. This, I take it, is to protect it from climatic extremes. On the bud itself I found three rows of concentric bracts, the inner imbricated (or overlapping like the shingles of a roof), linear (long and narrow) and erect or standing up around the bud (Fig. D). These protect it, for when the flower opens and closes these open and close with it. The two outer rows are erect for the first few days, but soon turn back, or reflex, and never assume the erect position again.

As the days go on the flower opens and exhibits the gaudy colors to the world. If we examine this flower head carefully we find it composed of many individual flowers, each with the component flower parts (Fig. C).

These separate and individual flowers are each of interest, for they become mature at different times and use different methods in fertilizing the seed. Those flowers situated next the erect bracts become ripe first, and their anthers ripen before the pistils are ready to receive the pollen. This is to prevent self-fertilization, which means deterioration. After these flowers on the outside have been fertilized the receptacle swells and raises those flowers in the centre, until they have developed and have been fertil-

ized. However, this does not happen all in one day, for it takes three or four days for the insects to visit and fertilize all the flowers. The flowers, too, do not remain open for the whole period of the three or four days, but close up at night and during the heat of the day. A mean temperature of about 60 degrees and direct sunlight seem to be necessary to open the flowers. If during the four days no insect has fertilized the plant, the stigmas curl back on the stamens and fertilize themselves. Thus fertilization is insured one way or the other.

On the fourth or fifth day after blooming the plant closes up and remains closed for three days. During the three days the beak or small portion which holds each flower to the receptacle, grows rapidly, and the pappus, which is the calyx, develops until the old corollas are pushed up, and appear as a dried up tuft on the top of a closed bud. This falls off in a day or two and the "fuzz ball" opens to cause amusement to the child and to spread the seat of the plant.

The seed ball opens up in the morning, and the warm summer sun dries it out. When night comes the little seeds with their balloons are all ready to be wafted away on the breeze (Fig. g).

The individual seeds have small hooks at the top to allow them to anchor where a suitable place is found.

We see then that the dandelion can adapt itself to either a moist or a dry climate. It can protect its buds from

too much cold or from excessive heat. It can fertilize itself, if no insect comes its way; and its seed can be disseminated by the gentlest breeze or the heaviest wind storm.

In closely mown lawns the dandelion scape is reduced until the head misses the mower, while in tall grass its gaudy head is raised away above the surrounding plants to catch the eye of the wandering insect.

Considering all these things we must surely say the ways of Nature are wonderful.

"The secret of life is not to do what one likes, but to try to like what one has to do."

It is interesting to note the attitudes of the many and various natures of the editors of college papers. Some seem to hold a perpetual grudge which they are ever avenging; some are grammar cranks, forever prodding people for the little faults of tongue and pen; some are there for business and write well from business standpoints; some are timid and afraid to go on record; others brave but blundering; some mix their parables until you can hardly tell which department they represent; some are brief and others wearily exhaustive; some have literary propensities and their comrades the opposite; but few, very few have that mainly independent pen that speaks the heart's true sentiments unmindful of the world, who strive to instruct, who do not injure us with their wits' keen blade, whose tears are our tears, and who win our friendship by advocating our course without solicitation.—Ex.

THE QUESTION OF THE HOUR.

After nearly a century of successful application of the principles of Free Trade, we to-day see, in England, a return, in the popular mind at least, to the long-discredited theory of Protection. Mr. Chamberlain has definitely put before the British people, a policy which will, if carried into effect, place a tax upon imported foreign food-stuffs, admitting the food-products of the Colonies free of duty, and exacting, in return, a substantial preference in Colonial markets for British manufactured goods. Twenty, or even ten years ago, such a proposition would have met with an unqualified rejection by all parties in England. To-day, if we may form an opinion from the amount of enthusiasm which Mr. Chamberlain has succeeded in arousing, it is very possible that it may meet with the acceptance of the English people, and become, in the near future, the fiscal policy of England. Such a sudden turn in the political feeling of England, may seem as an apology for a discussion of the subject as outlined by Mr. Chamberlain.

While accepting, to the last jot, the doctrine of Free Trade, I cannot but admit that the position of England is a unique and rather uncomfortable one. She is the *cœ* great Free Trade nation, surrounded by nations whose insane ambition seems to be the raising of their tariff walls against her manufactured products. Under these discouraging circumstances, she has seen her products shut out from one market after another until at last, after a long and valient struggle, there appears to be a grave danger

that the markets for those products on which her very existence depends, will be altogether taken from her, or so restricted as to involve the ruin of her industries. Besides, she is haunted by the lean and ugly phantom of Famine. At present she depends for her food-supply upon foreign countries, and is in grave danger from a possible hostile combination of these countries, or the chief of them, which could, in the event of war, by simply ceasing to export wheat to England, reduce her to submission without striking a blow. With these facts before them, we cannot wonder at the favorable acceptance by the English people, of a scheme which promises them a reserved market in their own very considerable territories, a safe and reliable source of food, and at the same time retaliation against their protectionist neighbors. Whether the plan proposed would attain these ends is another question.

Ultimately, I am inclined to believe such a policy would result in the strengthening of the British Empire, and the establishment of sound and permanent trade relations between the colonies and the mother-land, which would render them independent of any trade restrictions which might be imposed by outside protectionist nations. The British Empire is of so great an extent, and so varied a character, that there is no doubt it could produce, within itself, to good advantage, all that its people could need. There are, in the Colonies, immense tracts of the finest agricultural land, which are at present idle, simply

because they have not yet been peopled. Fill these with people, and there is no doubt that the question of England's food-supply would be solved, so far at least as production within the Empire could solve it. Similarly, all the raw products,—the wool, the cotton, the leather,—which England imports, could be produced to good advantage in the Colonies, and in these too, the British Empire could easily be made independent of the world. At the same time, the increased agricultural population of the Colonies would afford an increasing, and at last a sufficient, market for English manufactured goods. England, by reason of her situation and natural advantages, would remain the great distributing and manufacturing centre of the Empire, and British ships would ply between her ports and those of the Colonies, carrying to and fro manufactured articles and raw products and supplying the varied needs of every citizen of the British Empire. A sound and profitable trade would be established, the permanence of which would be guaranteed by the social and political ties binding the whole together. The British Empire, so constructed, would fulfill the best conditions of Free Trade over a large section of the world, and could wait, with equanimity until the various protectionist nations, tired of their folly, came and sought admission into a commercial combination giving such great advantages to its members. This is, I believe, in spite of the general cloudiness which surrounds it, and makes it difficult of clear discernment, the ideal of Mr. Chamberlain. It is indeed, a worthy and noble ideal, and

and it is a pity that so many obstacles stand in the way of its fulfillment.

The immediate effects of Mr. Chamberlain's policy, I believe, would not be beneficial to British industry. Such a policy once adopted, England would find herself thrown more and more on her Colonies for markets, for the other nations of the world would be most likely to meet retaliation with retaliation, and still further to restrict British imports. The thirteen millions of white men which form the Colonies, already partly supplying their own needs in manufactured goods, can scarcely be expected to give a sufficient market for English manufactures, even under the most favorable conditions, and indeed, it is doubtful if they would make up for loss of trade in other countries. If this be correct, no immediate benefits, from enlarged markets, are to be expected by England. At the same time there is scarcely room to believe that the cost of living in England will not be increased by the tax on foreign goods, light though that tax may be. I am firmly convinced, in spite of all that has been said to the contrary, that the English consumer, and not the foreign producer, will pay that tax. The present price of wheat in England is no chance, but is dependent upon the average cost of production in wheat-exporting countries. If the price were greatly in excess of the cost, more of the land of the world would be devoted to wheat raising, more wheat would be produced, and the law of supply and demand would operate to reduce the price, till it was nearly equal to the cost of production again.

If the price were less than the cost of production less wheat would be grown, till the working of the same laws brought the price again to the level of the cost of production. If, for a short time, on account of a tax imposed by England, foreign wheat-growers are compelled to take something less for their wheat than will repay the cost of production and transportation, that is, than the price under the present conditions of trade, they will decrease the amount of land devoted to wheat, till, on account of a smaller production, the price they receive shall rise to the old level. It is clear that, in order to induce him to raise enough wheat for England's needs, that is, the amount at present used by her, the foreign producer must continue to receive the price he already receives. Hence England must continue to pay that price to him, and, if a tax be imposed, must pay that also. I do not see any way of escape from this conclusion. If this be true we should see, under the proposed system, the demand, and consequently the price, of English manufactures, not greatly, if to any degree, increased, while the cost of production, which is regulated largely by the cost of bread in England, would be surely increased by the amount of the tax imposed on food. Can English manufacturers, already hard pressed, continue to live under the new and harder conditions, till, in the course of years, the higher price paid for Colonial food-stuffs shall attract a sufficient population to Colonial agricultural lands to fur-

nish them with a sufficient market? The immediate increase in the demand for British goods is doubtful. The immediate increase in cost of production is sure. Can English industry afford to take the chances? That is a serious aspect of the case, and worthy of serious thought.

The second object sought, a safe supply of food in time of war, is equally doubtful of accomplishment by the system proposed. There can be no doubt that it could easily be produced within the Empire, but, when produced, there are still the difficulties and dangers of a long sea voyage between the Colonies and England. In time of war the commerce of the Empire would become the proper prey of the enemy, and, on long sea voyages, so long that even the grand navy of England would find it impossible to efficiently police the course, British ships would be so exposed to capture by the enemy, as to greatly lessen, if not altogether stop all trade by water, within the Empire. In this case England would find herself dependent, as now, upon neutral foreign nations for food, and her condition in this regard would be in no wise bettered by the change.

In regard to retaliation against foreign protected nations, England is not well situated for its application. The things she imports—foods and raw materials—are absolutely necessary to her own existence, and cannot be produced in sufficient quantities in the agricultural lands of England, while the increase in the Colonial pro-

duction must of necessity be slow. No duty imposed can greatly lessen the amount of these things consumed, since they are absolute necessities, and what is required of these, over and above the amount produced in England and the colonies, must under the new system, as under the old, be imported from foreign countries. No duty imposed by England can greatly lessen this amount. Hence, retaliation against foreign nations, at least in the matter of food and raw products, must very largely fall short of its object. On the other hand, England herself is very open to injury by retaliatory foreign duties. The manufactures are to a very great extent, not necessities, but luxuries. Hence, if, in a foreign country, the price at which they can be sold is raised by a heavy import tax, the people will use less of them, and consequently the demand will be lessened, and English industry injured to that extent. Retaliation is not a game at which England can safely play.

To my mind none of the three main objects aimed at by Mr. Chamberlain's policy—the extension and preservation of British markets, the providing of a secure food supply in time of war, and retaliation against foreign Protectionist nations—are likely to be immediately, or even within a reasonable time, achieved. In the meantime England finds herself in somewhat of a dilemma. She has to choose between the continuance of conditions which many of her people declare to be decidedly unfavorable, and a new system, which must seem to many more but a leap from the frying-pan into the fire. The whole

world is awaiting with great interest her decision. Meanwhile we would like to know how much of her trouble is caused by adverse trade conditions, and how much by the deterioration of her people, brought about by that tendency which promises to be the bane of the Anglo-Saxon race, the tendency to desert the land, and herd together, under unnatural and unhealthy conditions, in the great centres of population.

E. C. DRURY.

Two green little Freshmen in a green
little way
Ignited some Phosphorus just for
fun one day.
Now a little green grass doth tenderly
wave
Over green little Freshmen's
green little grave.

"There is no road to success but through a clear strong purpose. A purpose underlines character, culture, position, attainment of whatever sort."

How many men know what should be done but never do it? This is why so many men never rise higher than the commonplace.

"All along life's pathway we see people side-tracked, wavering, oscillating, who waited until their opportunities had gone by, until the tide had receded, until the nick of time was beyond their reach. There is nothing else which will so energize and brace up all the faculties as a habit of quick, energetic decision and prompt action."

Agricultural Department.

EDITED BY J. C. READEY.

"Now."

—
 "A man's best friends are his ten fingers."

—
 Better underestimate your mental capabilities and work hard, than think yourself a phenomenon and "dawdle."

—
 To the student with a head of normal size, an education has just begun when he has graduated.

—
 Are you at college for a definite and worthy purpose? If you cannot answer in the affirmative there is something seriously wrong.

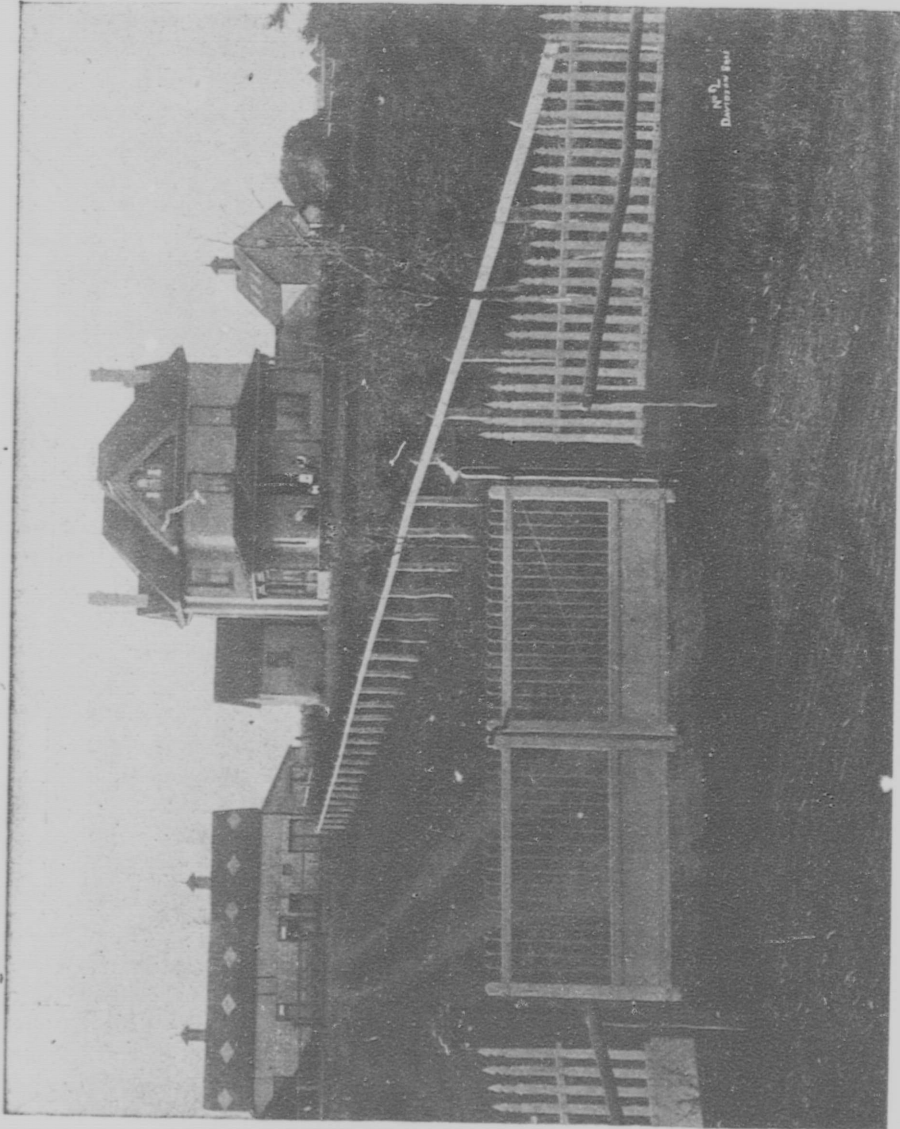
—
 "I call a complete and generous education that which fits a man to perform justly, skilfully and magnanimously, all the offices, both public and private, of war and peace."—Milton.

—
 A learned clergyman was thus accosted by an illiterate preacher who despised education: "Sir, you have been to college I presume?" "Yes sir," was the reply. "I am thankful," said the former, "that the Lord opened my mouth without any learning." "A similar event," retorted the clergyman, "happened in Balaam's time."

Starting the Farm.

Quickly, all too quickly, the sunny days of college life fade away, and the students find themselves face to face with life. Many of them start out well equipped financially, while others are confronted with that great inconvenience, lack of capital. The starting of the farm will be modified quite largely by this important factor, but there are a few principles which it will pay to recognize, whatever the financial standing of the beginner may be. Each man, too, will have his own idea of what a farm home should be, but all men are agreed that tidiness and system should characterize the farm and farm work, and that high quality should be no less characteristic of the farm produce. To reach this end involves the whole problem of successful farming, but we shall deal only with the question of a good start.

It is not necessary to mention that the first essential is a good education; that with our readers goes without saying, so we may begin with the selection of the farm, whether that be done before or after the college course. It never pays to buy a poor farm. Poor or rough land makes farm life a drudgery. The same may be said of the farm which lies too far from a good market for the produce for which the farm is adapted. By a poor farm we mean one that has been



A Canadian Farm Home—By Courtesy "Farmer's Advocate."

exhausted, overrun with weeds, or is broken by rocks. Some men are induced by a low price to buy a large quantity of land with any or all of these objections, in preference to a first-class well-situated farm. It is better to pay twice the price for half the land that has none of these objections and is near a good market. The nationality, morals, and social conditions of the neighborhood should

time should be studied, to find out what crops succeed best and what treatment is giving the best results. This will afford a good basis for work, and in time improvements may be introduced. With the aid of the knowledge thus gained a plan of operations can be laid. The size of the fields, the position of the fences, the crops to be grown, the rotation to be followed, and the kind of stock to be



English Country Home—By Courtesy "Farmer's Advocate."

be considered. Such details as educational and religious advantages, liability of the section to storms, drought or frosts, good building sites, water supply, good roads and rate of taxation should not be overlooked.

Having secured a farm, the next step will be to lay out a plan. The methods of those who have been settled in the neighborhood for some

kept should be decided upon. The system may be modified as experience directs, but haphazard methods can have no place with the most successful farmer.

A great deal of attention should be given to the arrangement and fitting of the buildings. Comfort, convenience and beauty should be the aim. There are few farms so equipped with

buildings that they will suit the tastes of a new-comer. In the case where a change is desired, as well as where new buildings have to be erected, a definite plan of the yards, lawns, orchards and groves, should be drawn out before a change is made or a foundation-stone laid. Provision should be made for the convenient extension of buildings as business required it. There are few things more unsightly or more indicative of thriftlessness than six or eight small buildings set at random in a half-acre barnyard. Besides the unsightly appearance, there is the inconvenience in caring for the stock. No plea is put forth for elaborate buildings. In fact we think that anything beyond the beauty of convenience and utility, combined with tidiness, is a mistake; but we do believe that the objects of nature, such as trees, lawns and flower-beds, which are comparatively inexpensive and within the reach of the farmer as they are within the reach of no other person, should occupy a prominent place in the attempt to make the farm home what it ought to be. In many cases, in fact in most cases, it will be impossible to carry out the plan all at once. It may take many years, but it is necessary that a start be made with some definite idea in view, in order that, as years go by and circumstances permit, steps may be taken which will tend to the completion of a comfortable, convenient, and beautiful farm home.

With more forethought and definiteness of purpose on the part of the coming generation of farmers, the Canadian landscape may be made more beautiful, homes made more at-

tractive, and farming made more profitable. What greater pleasure can come to the agriculturist than to see the realization of the plans which though modified later by experience, he had formulated in his youth.

The Senior's Course.

For several years the agricultural specialists have received the greater part of their training in live stock by visits to some of the most prominent breeders who live within reasonable distance from the College. This year the class is the largest that has ever been at the College. Already several expeditions have been made, and the interest manifested by the boys, the quality of stock examined, and the discussion led by the instructor and breeders, is indicative of good work being done. The thanks of the students are due to the gentlemen whose stables, flocks or herds are visited, and we feel confident that when the graduates of this institution enter upon agriculture for themselves that the kindness and courtesy of these gentlemen will be rewarded in a very tangible form.

This method of training we believe to be an admirable one. It has an advantage over the system of keeping cattle at the College for the use of students, in that a greater variety of stock may be examined and the ideals of different breeders observed. Moreover, there is the advantage of the broadening which comes from hearing the differences of opinion held by the owners themselves. There is a side of the question, however, which will bear criticism. So far, the stu-

dents have had to bear the total expense of these trips, and the expense is considerable. We claim that this is an injustice. Our fees, though not large, are intended to cover the cost of tuition without extras. In all the other leading colleges large amounts of money are spent in providing first-class stock for the use of students. If the Department cannot provide such an equipment they should at least meet the expense involved in the series of visits. The request is not exorbitant. Three hundred dollars annually, or less than half the price of one good animal, would meet the greater part of the expenses, and make this important part of our training what it ought to be. The present class probably cannot hope to share the benefits of a change, but in the interests of our successors, and for the position of our College, we hope to see the defect corrected.

Agricultural Conditions in the West.

The Canadian West has been known as the Granary of the Empire on account of the amount of wheat which it produces, and because of the western farmers going in so exclusively for wheat raising. And so long as the present yields can be maintained, and present prices for wheat realized, it will be impossible to induce him to change his practice of making wheat the chief product of his farm. But, during the past two or three years, there has been a growing tendency among farmers to branch out a little more into other lines of agriculture. This change is due, in part to the fact that it is possible for the soil to become depleted in its stores of plant

food, and soon will require some return in the shape of manure; and partly, because the farmer feels the need of some other product to fall back upon, in case of short crop. It is also plain that he must find some form of employment for farm hands during the slack season between threshing and spring work.

These circumstances have encouraged the development of the live stock industry and the improvement of our herds. Apart from range cattle, very little has been done until recently, to supply the British meat market. During the last few years, however, a very decided interest has been taken in the breeding of cattle to meet that demand; and the names of such breeders as Thos. Greenway, of Crystal City, J. G. Barron, of Carberry, and J. G. Washington, of Ninga, are beginning to have more than local fame.

A very sharp lesson has been given this year, to those who have been feeding scrub stockers for the ranges. In the past, the boundless area of the western ranges and the luxuriant growth of grass, was capable of putting fat onto almost any "rack." But the range area has been decreased by settlement, and constant grazing has lessened the yield of natural grass. Under these conditions the high-grade animal has proved most profitable, and so the scrub stocker can hardly be sold at any price. Hog-raising is becoming more popular, as farmers find hogs more easy to mature on their own farms and more profitable than cattle.

The increase of live stock has brought about the introduction of new crops. Root crops are more

widely grown. Fodder corn has been grown successfully, and, in a few places, the silo has been introduced. Cultivated hay crops are already an important source of our hay supply. At the present time considerable interest is being taken in clover crops. It has been found that the chief cause of failure with these is the fact that the bacteria which inhabit the root nodules of leguminous crops, are for-

eign to our soil. The process of soil inoculation with the required bacteria has been tried with success on these crops. So it is possible that clovers may yet be successful here.

These changes point to a time when crop rotation and diversified farming will yet supplant the present system of purely wheat farming.

C. L. STRACHAN.

Horticultural Department.

EDITED BY T. C. BARBER.

The Surplus and By-Products of the Peach Industry.

(CONTINUED.)

There are many methods of disposing of peaches other than that of handling them in the fresh state. I will endeavor to explain, in as concise a form as possible, some of these methods. As stated in the last issue of the Review, it is not our purpose to infer that the systems and processes outlined in the following paragraphs are the ones *par excellence*; nor have we the space to discuss or propound them in minute detail.

During the past season the writer had the privilege of visiting some of the peach sections of Canada and the United States, and, in the course of his observations, spent a short time in a few canning and evaporating plants.

By means of the canning factory, the evaporating plant and the distillery, we can utilize and conserve fruit that would otherwise be a loss to the grower. For this important reason,

we shall attempt to consider one or more of the methods and principles commonly practised in connection with these various phases of the peach industry.

COMMERCIAL CANNING.

This is a business by itself and one that requires expert labor and management to be a success. The average fruit-grower who intended to go in for canning as a business would have to employ an experienced canner, as it would not be possible for him to attend to the orchard, the gathering of the fruit, and the management of the cannery at the same time. To be successful, a cannery must be run for as long a season as possible and with economy, so as to do the largest amount of work for the capital invested; and nothing but standard or high-grade fruit should be put up, so that a name and reputation for reliability and excellence of the output can be established. Unless the orchard be of large size and planted with selected varieties, ripening in succes-

sion, and especially adapted for canning, it would not be possible for the individual grower to keep up a constant supply of suitable fruit for the cannery from any one orchard. For these reasons it is obvious that the average fruit-grower, without experience, would in all probability fail to make a success of the canning business. A more practical idea would be the establishment of co-operative canneries in the centres of our principal fruit-growing districts.

The process of canning peaches may be briefly described as follows:—The fruit on arrival at the cannery is first halved, pits removed and peeled. This is done by women who are paid so much per bushel for the work, usually about 20 cents. About 75 good peelers are required to turn out 10,000 cans of first grade fruit per day. For low grade fruit, such as "peeled pie,"—which is only another name for fruit-pulp—more peelers are necessary. In both cases foremen should instruct and watch the peeling.

From the peelers the peaches are carried by boys to the packing or filling tables. Here they are placed in cans, the size of which depends upon the grade of fruit being put up. Standards, or first grades, are packed full and tightly into 2½ pound cans (which are 4 inches in diameter by 4¾ inches high). Second grade and peeled pie are placed in cans of different sizes, which are filled two-thirds full. About twenty or twenty-five packers are required to handle the peaches for the above mentioned daily output.

To aid in its preservation, standard fruit is sweetened either with sugar or syrup. The latter is made by dissolving the best chrySTALLINE cane sugar in

boiling water, and is added when cold till the can is completely filled with fruit and syrup. A more common method, however, is to place the sugar directly into the cans, and before the peaches are put in. About 1½ ounces of sugar per 2½ pound can is used, making what is termed a 20-degree syrup. The strength of the syrup varies, however, according to the quality of the fruit to be put up.

After the sugar and fruit is added, the cans are "trayed off" (i. e. placed on wooden trays containing a definite number of cans each), taken to the water tank and filled with water.

The trays are now placed in an "exhaust" box and steamed; standards, jacket pie (unpeeled peaches) and peeled pie for five minutes, second grade for three minutes. This is done to have the peaches thoroughly heated before covers are put on, in order to insure a better state of preservation. The time for steaming can only be known by practice, the above mentioned time being only approximate.

From the exhaust box the fruit is taken and placed on a wiping table, where a girl wipes off the tops of the cans with a brush. To keep tally of the work done by the "cappers," who are to follow, the girl places a check or ticket on each tray.

The cappers then take the cans, pocket the checks, and "cap" the cans; i. e., solder on the lids. A vent-hole in centre of cover, to allow air to escape when capping, is also tipped with solder. The cappers should mark the cans (each man having a distinct mark) to trace the origin of possible leaks. Three men can cap and tip 10,000 cans in ten hours.

They are paid by the piece, usually about \$1.50 per 1000.

After capping, the cans are placed in iron cages and "processed;" i. e., submerged in boiling water and cooked till the fruit has reached the right consistency. In the cooking of the fruit expert knowledge is absolutely necessary, as no hard-and-fast rules can be laid down. It is simply a question of practical experience, and depends entirely upon the grade of fruit, its ripeness, texture, and cooking qualities. The time required for peaches to be properly cooked and to acquire their full flavor may vary from five to twenty minutes. The following, however, may serve as an estimate:

Standards.....	9 min.
Jacket Pie.....	12 "
Seconds.....	8 "
Peeled Pie.....	12 "

As soon as processed, the cans are removed to a vat of cold water, where they are cooled. They are then stored for a week or ten days, so as to show up any leaks that may occur. These are thrown out and the good cans are prepared for sale.

The remainder of the work is merely finishing, and consists in coating the ends of the cans with blue or bronze, to improve their appearance; labeling, for which purpose a good showy lithograph should be used; and the final packing in cases, also labelled, for the market.

PEACH PULP.

Under the previous section of this article we have referred more or less to the manufacture of fruit pulp, or pie-fruit as it is sometimes called; but, as there has been a considerable inter-

est among fruit growers this past season regarding the matter, and as literature on the subject is scarce and difficult to find, a few additional suggestions may be appropriate.

The particular value of fruit pulp is that it is a cheap means of preserving the inferior fruit that is not good enough for canning; and we are enabled, thereby, to keep it until convenient to make it into jam. At home and where the facilities for canning are not available, all surplus peaches that are sound, whether high grade or inferior, may be utilized in this manner. It is only in the commercial canning factory that the manufacture of pulp is reserved for the inferior fruit.

The main difference between ordinary canned fruit and the preparation of peach pulp is that in the latter there is no sugar or syrup used in its preservation. The peaches should be halved, peeled and cut into pieces, the size of which will depend upon the soundness of the fruit. These are placed into cans of some uniform size, water is added to cover it, and it is steamed, as previously mentioned. Where steaming is not practicable, the lid may be put on as soon as the cans are filled, leaving a vent-hole in the centre. The cans may then be placed directly into the boiling water and cooked until the whole of the contents is raised to boiling point, and all the air in the cans has been driven off. The time required to cook pulp will vary from ten to twenty-five minutes according to the condition of the fruit being put up. The vent-hole is then closed and the cooking is complete. The cans are examined for

leaks the same as for ordinary canned fruit.

HOME CANNING.

Every fruit grower should put up enough fruit during the season to supply all home requirements, as the process of canning in the home is by no means a difficult or costly one. Moreover, in seasons of abundant crops and where a commercial canner or other means of disposing of the surplus are not available, home canning is a valuable aid in saving the surplus that would otherwise be lost. Almost every grower should have at hand ready for use all the necessary material for canning at least enough fruit for home consumption.

The fundamental principle involved in canning, whether at home or in the factory, is that of destroying the germs of fermentation by the application of heat. It is essential that this principle be recognized in order to retain much of the natural flavor and richness of the fruit and to insure its preservation.

Many methods of conserving peaches in the home are practiced. One only I shall briefly attempt to outline. If any of my readers are further interested in the matter, I refer them to any one or all of the students of the Macdonald Institute, as this question more properly falls under the province of domestic science rather than that of horticulture.

After the fruit has been prepared, as previously described under the head of Commercial Canning, it is placed in jars before cooking, and covered with syrup. The jars are then put in a large oval boiler or other suitable vessel, having some device to prevent

the jars coming in contact with the metal bottom and being broken during the cooking. Cold water is then added to the vessel till it reaches the necks of the jars. This is slowly heated to the boiling point, at which stage the peaches should be sufficiently cooked. The lids should be put on immediately and the jars sealed airtight, as the fruit will not keep otherwise.

A. B. C.

(To be continued.)

POINTERS.

To get rid of moss and lichens adhering to the bark of trees, apply a coat of white-wash.

As soon as the trees of an orchard come into bearing, all other crops except cover crops should be discontinued.

Worthless and decaying trees in the orchard are only harbours and breeding places for insects which prey upon the fruit and the trees. The sooner they are grubbed out and burned the better for the health and thrift of the rest of the orchard.

In applying artificial fertilizers find out what constituents they contain, and whether they are available to the plants or not when needed. "A hundred pounds of potash in a hard lump is worth less to a given plant than an ounce in a state of fine division." (Bailey).

T. C. B.

The O. A. C. Review.

BUSINESS MANAGERS:

H. H. LEDREW.

A. J. HAND.

SUBSCRIPTION RATES:

Annual subscription—Students, 75 cents; Ex-students, 50 cents.

Single copies, 10 cents.

Advertising rates on application.

Ex-Students are requested to contribute to our columns.

If you do not receive your REVIEW within the first week of the month kindly notify the Business Manager.

NOVEMBER, 1903.

Editorial.

The Alaskan Boundary.

The Alaskan boundary question is decided. The final notes of the miserable affair have almost died away, and, apparently every possible and many impossible things have been said upon the subject. Once more has acute American diplomacy deprived us of what were undoubtedly our rights, and once more has English stolidity and stupidity yielded every claim to chase the alluring phantom of American friendship. We wish not to say one unkind word, nor pen one single line that might tend to stir up feeling against the land that gave us birth, but we cannot blind ourselves to the fact that often, and far too often, have Canadian interests been sacrificed to propitiate the blind goddess of American friendship. From ocean to ocean the same old process has continued. We were robbed out of Maine and the open harbor of Portland. We lost the State of Washington and many a broad and fertile acre between Lake Superior and the Pacific Ocean, and now the talons of

the eagle are protected while their grip is extended far down the panhandle of Alaska. Had a fair and just tribunal decided this controversy, and given their decision adversely, no murmur would have been heard, but in this case we feel that the dice were loaded against us and that we were wounded in the house of our friends.

Canadians are not faint-hearted grumblers. Resolutely and manfully shall we set ourselves to the work of overcoming the difficulties of the position in which this decision has placed us. Communication with the Yukon will be established by some means other than the open sea, and the harbors to which we laid claim will remain in the hands of the United States as nothing but standing monuments of American cupidity.

What the outcome of the present difficulty will be is somewhat difficult to forecast. Time brings rapid changes and for Canada the changes may prove more than ordinarily rapid. We stand to-day on the threshold of our national life. A few years from now our population will be doubled;

we shall be in the vigor of our young manhood. Then, shall there not come some change in our political status? For Canada there can be no standing still. Either we must form with the motherland a closer bond of union, in which Great Britain will no more think of sacrificing our interests than of giving to a foreign foe the suburbs of old London; or we must stand alone, entirely independent, a separate unit among the nations of the world. In spite of keen disappointment at the action of the British Government, we strongly incline to the former suggestion, and if from the ashes of the present failure shall emerge more satisfactory Imperial relations we shall feel that our present sacrifice has not been in vain.

* * *

Readers of the Review will notice that E. R. Bollert & Co.'s advertisement, which usually occupied a space immediately before the reading matter, has been changed to the 4th page of the book. Mr. Bollert has not left us, but is still a warm supporter of the Review, and the students whom it represents. Everything that a College boy wants in the line of clothing is to be found at his store, 25 and 27 Lower Wyndham St.

* * *

Students' Judging Competition.

As a College we have decided not to send a team this year to compete in the Students' Judging Competition at the International Live Stock Show. This course was decided upon after much discussion between the senior students and several of the professors directly interested, as the best manner of registering our objection to the

present method of conducting the competition. It was admitted by all that it would be a distinct advantage to any student to attend the International, but, to compete as a college, it was thought, would be decidedly impolitic on our part, thinking, as we do, that the Spoor trophy could never come to the O. A. C. under the present system of management. We have always held, and still hold the opinion that the management of the competition should be controlled by a representative committee, who could administer justly, and act as an impartial court of appeal. However, certain controlling voices have said otherwise, and our only course was the one decided upon. But we are glad to hear that we are co-operating in this matter with many of the most important American Colleges, such as Wisconsin, Illinois and Michigan, and hope that in the near future the voice of the majority interested will be the controlling one. There is no competition unless mutually satisfactory to all concerned.

* * *

Our Bulletin Board.

With this issue of the Review we commence the publication of a page entitled "The Bulletin Board." On it, and under that caption, we shall from time to time publish items of interest to our advertisers, students, ex-students and friends. There are several important announcements in this issue. Have you seen them? If not, look up our bulletin board among the advertising pages at the back of this number.

* * *

Regarding the recent movement of our agricultural leaders to more

highly paid positions in the neighboring republic, the "Weekly Sun," of Toronto, remarks as follows:

"For the position which Canada has attained credit is largely due to the enterprise and industry of the man on the farm, but the services of men like Live Stock Commissioner Hodson, Deputy Minister of Agriculture James, Prof. Robertson, Director Zavitz of the Experimental Union, and Superintendent Creelman have been of untold benefit in the same direction. We simply cannot afford to let such men leave us for the sake of a few hundred dollars a year. The money which will be uselessly spent within the next twelve months in fattening railway promoters at the public expense would be sufficient to provide a fund big enough to earn an annual interest equal to the sum necessary to place the salaries of the leaders in the work of agricultural education on a satisfactory basis."

With the "Sun's" fling at the government regarding railway expenditures, we have nothing to say. Politics is not our business. But we do not hesitate to support the statement that every effort should be made to retain the services of those whose work has done so much to build up and strengthen the agricultural position of our country. To lose these leaders in agricultural organization would be a direct loss to the Dominion, and besides, they would simply be going forward to strengthen the hands of our competitors in the struggle for possession of the world's markets. Canada can easily afford to pay these men for their services, and to lose them for the sake of a slight increase in pay would be poor economy, if not suicidal parsimony.

A few short months will roll around and we of the senior years will pass from under the protecting agis of our Alma Mater to face the conflict on the battlefield of life. Whether we stand or fall in that conflict depends in part upon the opportunities we have had for self improvement, but it depends more largely upon how we have availed ourselves of these opportunities. The world will judge us not only by what we know, but also by what we do. The struggle for reforms is not a battle of the past, and depend upon it, we who have spent four years of our lives in the preparatory camp of a college, will be supposed to take our part in that struggle, and to become leaders in whatever position our lot may be cast.

Has our training been such as to fit us for the positions we are to occupy, or are there essential features still lacking in our course? We may go forth to our life work with minds replete with ample stores of knowledge and trained to methods of accuracy and precision, but unless we are capable of imparting that knowledge to others, we can never become leaders among our fellowmen, and must remain at best as "mute inglorious Miltons."

Is there not a weakness in this regard, and should not something be done to strengthen our training along the line of public speaking? The Literary Society affords some practice in the art, but scarcely gives to the senior years the amount of instruction they require. On several occasions a thoughtful staff has tried to place the subject of Practical English upon our curriculum, but on each occasion the allotted time for this train-

ing was shortened, in order that we might devote our time to the more strenuous work of studying the relative heights of water in two glass tubes, or measuring, with infinite care, the luminosity of the grasshopper's compound eyes.

Is this as it should be, or could we find time to devote at least one afternoon a week to the development of this essential feature of a first-class education? Assuredly we can. If we are in earnest in the matter a way will be opened up for the accomplishment of our purpose, and in no other form of work would a little effort be more amply rewarded. Some difficulties may, at first, be encountered in adding a new subject to an already crowded time table, but we look forward with confidence to the time when Practical English will be considered one of the most essential features of our college course.

The Birmingham *Post*, one of Mr. Chamberlain's lights, has the following to say in regard to the Alaskan Boundary Award:—

"We can, however, sympathize with the Canadians in their disappointment with an award which deprives the Dominion of all access to the Pacific except by Portland Channel and Observatory Inlet."

We beg leave to call the attention of Mr. Chamberlain to the fact that we still have a few hundred miles of coast line and several excellent harbors along our Pacific coast, which have not been annexed by the United States. We do this, lest his official organ should, from the depths of its wonderful caverns of knowledge, announce that the staff of the O. A. C. REVIEW and the Welland Canal had been annexed to Uncle Sam's Dominions.

Our Old Boys Page.

J. A. Selling, '88-90, is gold mining at Fairbanks, Alaska, near the Tanana river.

A. W. Hawke, '96-97, is on a farm at Drinkwater, Assa., where he is upholding scientific agriculture.

D. T. Elderkin, B.S.A., '03, our editor-in-chief of last year, was at the O. A. C. about two weeks ago.

W. P. Gamble, B.S.A., '97, has received the offer of a good position at Ames, Iowa, but has refused, preferring to remain in Ontario. The salary offered was \$1,800.

J. H. Burns, '91-94, is farming at St. Marys, and is making a specialty of bee-keeping.

A. B. Wilmot, 86-88, is practicing law at Fredericton, and is making a good thing out of real estate.

Mr. G. C. Creelman, B.S.A., '88, Superintendent of Farmers' Institutes, has received offers from two different States, asking him to take the same position there that he now holds in Ontario, at a much larger salary. We do not know whether he will accept either offer.

P. J. Wilkinson, 77-79, is farming at
Cambray, Ont.

J. E. Tolton, 88-90, is farming at
Oak Lake, Man.

W. M. Newman, 92-94, is a physic-
ian at Spokane, Washington.

D. J. McPhail, 95-97, is now a stud-
ent at McMaster University, Toronto.

Proctor Burwash, '99-00, is in Cal-
gary at a varied assortment of jobs
which keep him busy.

J. A. Drummond, '98-99, is now re-
siding in Winnipeg, Man., where he
holds the position of grain inspector.

B. M. Eftyhithes, B. S. A., '03, was
at New York Botanical gardens in
August last.

A. R. Yuill, 90-92, is manager of
Meadowside Stock Farm, Carleton
Place, Ont.



Geo. Harcourt, B.S.A.,

President Western O. A. C. Boys' Union.

F. W. Broderick, B. S. A., ('03), was
at the O. A. C. on Thanksgiving week.

Geo. Cowle, '03, Associate, is at
present with the City Dairy Co., Tor-
onto.

G. R. Mallory, 96-98, is manager
for F. E. Came, of the Chamcook
Farm.



W. J. Palmer, B.S.A.,

Director of Agriculture, Orange River
Colony, S. A.

J. H. Stark, '04, is on his father's
farm, about seven miles out of Peter-
boro. He will be here for the Union.

Chas. Whitely, 88-90, is travelling
instructor in dairying for the Dept.
of Agriculture, Ottawa.

R. H. Williams, '02, is working with the Live Stock Dept. at the Massachusetts Agricultural College.

J. H. Toasland is at Killarney, Manitoba, making two blades of grass grow where one grew before.

H. Z. E. Keys, 97-98, is at present attending school of practical science. He was working in the summer at surveys, and has charge of railroad construction.

G. H. Greig, '77, formerly editor of the western edition of *The Farmer's Advocate*, has recently been appointed secretary of the Live Stock Association of Manitoba.

A. Burnett, 91-92, who was here for a term two years ago, was at the sale of pure-bred stock at the O. A. C. on Oct. 21.

S. F. Fox, M.P.P., is the right sort. He has not time to read the *REVIEW*, but he sends a dollar to get it for two of his friends.

O. M. Sugden, '99-00, who attended the college for a while, is in Winnipeg with a prominent firm of brokers in that city.

"Archie" Mackray is now at Frankford, and is following the plow in a literal sense of the term. He expects to be here for the Experimental Union.

P. Powys, 82-84, has a fine farm on the banks of the St. John river, near Fredericton. He won several first prizes for some colts and dairy cattle at the Fredericton Exhibition.

W. W. Hubbard, 82-84, C. P. R. agricultural agent for the Maritime provinces, is doing good business in draught horses in the St. John valley.

We are indebted to T. G. Raynor for the "personal" items which he has taken the trouble to send us concerning the boys in the Maritime provinces.

Two of our Muskoka boys, Cyrus Lawrence, '74, of Sprucedale, and Henry Coale, '74, of Rosseau, are farming at their respective homes, and are doing well.

R. J. Downing, '04, writes that he still takes a lively interest in everything connected with the O. A. C. He is at present working with his father at home at Fenaghvale.

C. Fred. Fawcett, '95, is manager of the Round Hill Creamery, Upper Sackville, N.B., and reports a good trade. Most of his products are taken by the Mount Allison Colleges.

W. F. Osborne, who was here last year, writes us that he has given up agriculture, has bought out the Belleville branch of the Rudd Harness Co., Toronto, and is running it at present.

Prof. W. L. Carlyle, B.S.A., '92, whose photo appeared in our issue of January last, has accepted the position of Head of the Department of Agriculture, at Fort Collins Agricultural College, Colorado. He was, until lately, Professor of Animal Husbandry at Madison, Wisconsin.

Prof. Carlyle paid a visit to the O. A. C. a short time ago.

W. B. Roberts, '99-00, is on a farm at Sparta, and is going into the breeding of pure bred cattle, sheep and swine. He wishes his class-mates success.

Richard H. Clark, '98-00, is now farming at O'Connor, about twenty-five miles from Port Arthur. He has taken up 160 acres of good land, which he has been working for three years.

B. Marcuse, '00-01, is at present living in Hanover, Germany, where he is a manager of a gramophone factory. If "Molecule" is as lively as he was three years ago, the 'phones will work overtime taking it all in.

D. J. Pope, '00-02, owns a ranch near Calgary, Alberta. "Sport" Clark and Jack Weir were both with him through the summer, but the former has left for the east, while Weir has gone to the Red Deer River.

Alex. Young writes that he is now raising pure bred Shorthorns, and intends to be an exhibitor at the Winter Fair. We sympathize with him in his domestic troubles, and hope that they are not quite as bad as he states.

H. R. Ross, B. S. A. '98, is business manager of the large Sussex Packing Co., and has, nearing completion, a large packing house and storage plant about a mile from Sussex. While managing this, he is still, of course, editor of *The Maritime Farmer*, to which he has given the high place it now holds among the agricultural journals of the day.

W. J. Palmer, 86-88, manager of the City Dairy Co., Toronto, has been appointed Director of Agriculture for the Orange River Colony, at a salary of \$6000 a year and perquisites. Mr. Palmer was one of the first to be sent out with the travelling dairy, and was a well known Institute worker.

T. A. F. Wiancko, Assoc. '98, has lately signed a contract which makes him manager of the Eden Bank Creamery, of Sardis, B. C., for a third year. He signed another contract in Vancouver on July 18, '03, when he took into partnership a manager for himself, Miss Alexina F. Murdock, of Elora, a former dairy student of '01. The Review wishes them a prosperous career.

At the Winnipeg Exhibition, this fall, a meeting of the ex-students of the O. A. C. was held in the *Farmers Advocate* tent, and an association was organized, known as the Western O. A. C. Union. Mr. Geo. Harcourt, B.S.A., is the President of this organization, and Mr. G. H. Greig, '77, is the Secretary. There is a membership of three hundred, or more, already.

Obituary.

Canada lost one of her best and most useful men, when on the 21st day of October, 1903, Mr. John T. Harcourt, father of Prof. Harcourt of the O. A. C., died in Guelph of typhoid fever. He was 62 years of age, and leaves a family of eight children, two of whom, Prof. Robert of the O. A. C., and Geo., of Regina, are graduates of the O. A. C. To the bereaved family the Review respectfully offers the most heartfelt sympathy on behalf of the students.

Book Review and Exchange Column.

With this issue we have the pleasure of presenting a new department to our readers. We have long felt the need of a book review, column which would bring before the students and ex-students short criticisms of any new books likely to prove useful to our subscribers. With this idea in view, we have begun this new branch of our work, in connection with our Exchange Column, and hope that it will "fill the bill."

THE REVIEW invites all publishers to send new books, likely to prove interesting to the students, to our department, and we will endeavor to show them the best attention.

CANADIAN DAIRYING, BY PROF. H. H. DEAN, OF THE ONTARIO AGRICULTURAL COLLEGE.

For many years the students of this and other agricultural colleges have been handicapped by the need of a practical text-book on this subject; and much more so has the Canadian farmer been hampered by the fact that no instructive and comprehensive book has been written on this important branch of his trade. This book, we think, satisfies the requirements of both students and dairymen. Practical and scientific, yet interesting and easily understood, it treats of farm dairying and co-operative dairying so thoroughly and briefly that no one who can keep a cow should be without it. Published by William Briggs, Toronto. Price, \$1.00.

"Farm Engines and How to Run Them," is the title of an excellent book received at THE REVIEW office. The work on the majority of our

large farms makes the employment of some form of power absolutely essential, for at least a part of the year, and a thorough knowledge of the working mechanism of that power becomes a very valuable form of information. This book is specially designed to meet the requirements along that line, and the work is taken up in a very practical manner. In simple and mechanical language it describes the working parts of the engine, passing by easy stages to the theory and management, and dwelling at some length upon the difficulties usually experienced by the young engineer. Every form of engine, including stationary and traction, gas and gasoline, is carefully discussed, and the book closes with a number of excellent recipes and a series of text questions covering every phase of the work. To all those interested in the management of an engine the book should prove invaluable. It is clearly printed and well bound, and can be secured direct from the publishers, F. J. Darke & Co., Chicago, Ill., for one dollar.

The Iowa Agriculturist, which is a recent addition to our exchange list, is a fairly large magazine, devoted to the interests of Agriculture and Domestic Science. It contains some good illustrations.

Acta Victoriana is to hand in a new dark blue cover. It is without a doubt the best college magazine of its kind that we know. Some high class articles of general interest are to be found within its pages, among which are: "The Canada-Alaska Boundary Dispute," and "The Transportation Problem." They are all well worth reading.

The Farmer's Advocate announces that, after Christmas, that paper will be issued weekly instead of fortnightly. Price \$1.50 per year. From now until January 1st, 1905, \$1.50.

NOTICE.—Students who wish to read the exchanges will find them on the reference shelves in the library in charge of Mr. Milligan.

Notice to Ex-students.—We wish to obtain two complete sets of back numbers of the Review. Those who have back volumes they do not wish to keep would greatly oblige by sending them to the Exchange Editor O. A. C. REVIEW, O. A. C., Guelph, Ont.

Provost Macklem had a college
And about a hundred men;
He marched his students up, and then
He marched them down again.
While the terms last they are up,
For vacations they are down,
But when they're forced to take a
"supp"
They're neither up nor down.
He brought on Federation
With Toronto Varsity,
We'll go up there for lectures,
And we'll sleep at Trinity.
And when we're up, we're up, we're up,
And when we're down, we're down,
But when we're riding on the car,
We'll be neither up nor down.
Air, "Mr. Dooley."

Trinity University Review.

Raisiug his hand, the minister said,
"I baptise thee John Henry."
"Thay," the child interrupted,
"hath thith water been boiled."

—S. A. Record.

St. Peter—"And who are you?"


Candidate—"I am a college man."

St. P.—"And did you take a college paper?"

Candidate—"Yes."

St. P.—"Did you pay for it?"

Candidate—"N-No."

St. Peter—

—McMaster University Monthly.

Q. When you examine a bulldog's lungs under the X-ray, what do you find?

A. The seat of his pants.

Q. But when you look in his mouth, what do you find?

A. The seat of somebody else's pants.

—S. A. Record.

In order that no misunderstandings may occur, we wish to state that when we say "we are enjoying unprecedented prosperity," "we" means the country at large; when we say "we have a very efficient staff of instructors," "we" means the College; when we say "we are getting out a large Christmas number," "we" means the board of editors; and when we say "we have hog cholera in our midst," we mean that the student who does not subscribe to the Review, but reads it over his room-mate's shoulder, has taken sick.

Acknowledgements: The Smith Academy Record, The College Paper, The Merchistonian, The Jayhawker, Up-to-Date Farming, Queen's University Journal, Trinity University Review, The Intercollegian, The Canadian Horticulturist, The Rocky Mountain Collegian, The Argosy, McMaster University Monthly, M. A. C. Record, The University of Ottawa Review.

College Reporter.

We have, at this College, a fairly good all-round library, which is gradually increasing the number and improving the quality of its books. Naturally, scientific works pertaining to agriculture are most prominent in its catalogue, but books of travel, fiction, poetry, etc., are present also. True, some of the classes of books are defective, notably economics and political science, which fault we should like to see remedied. But perfection is not accomplished in a day, and a few defects give no reason for condemning the whole. It is apparent that the books of our library may afford employment for a fair share of our time.

Journals, newspapers and magazines of the best class are as important to our education as are books. Many of the periodicals in our Reading-room are worthy of the careful perusal of every student, while others are most useful to those interested in special departments of activity. The quality of our periodicals is, as a rule, good and there is no excuse for any student not keeping informed of current events.

But the question will be raised; how are we to avail ourselves of these literary resources. Our course is overcrowded, practically the whole of each day being occupied by lectures and laboratory work, and the little leisure time is required for physical exercise. It is deplorable that this contention is true, that not enough time is allowed for the general reading, necessary to develop a broad, resourceful mind.

However, we must view matters as they are, and set ourselves to solve the difficulty.

Now, in the first place, if we wish to get the maximum benefit from our College course, we must not waste any time. I do not consider that innocent recreation is a waste of time. He, who continually applies himself to the attainment of one object, becomes dull and narrow. Recreation is necessary, so let us take what we require, not making it an end but rather a means to an end.

Now, the true type of recreation does not admit of lounging in rooms, halls or other places, nor of idle conversation too often connected therewith. It is found in physical exercise, good social intercourse and strong companionships. Discard the former and adopt the latter type of relaxation, which will not only develop a more symmetrical character, but will also give more time for the main pursuits of life.

Next in importance to the taking of proper recreation, is the systematic arrangement of work. We should have a system suited to our requirements, and work in harmony with it. To accomplish the best work, avoid procrastination, and always attack the hard tasks first.

Now, if no time is wasted, the regular strides of the course may be mastered, and outside reading done as well. But, rather than neglect the opportunities afforded by the library, spend less time on those subjects which least affect the future sphere of action.

Naturally, we look for tangible results from the extended reading of books and periodicals. The most general, as well as the most important result is the addition to the general fund of knowledge, all of which will be invaluable sooner or later.

The reading of scientific works and periodicals related to our profession, has a very practical bearing on our education, as it tends to supplement and broaden the course prescribed.

The study of the best writers of prose and poetry, refines and elevates the thought and gives facility, force and beauty of expression. It also has a deeper and truer object, that of developing character.

Economics and political science have a very important bearing on the education of every true patriot. It behooves us, as citizens who shall be, to have a very strong grasp of economic and political problems that we may, in after life, do the best work for our country and for humanity.

In general, the careful perusal of newspapers and periodicals tends to keep one abreast the times. It is quite unnecessary to dilate upon the extreme importance of keeping in touch with events which are constantly transpiring. The advantages of broad reading, in the sense here outlined, are obvious. In order to perfect oneself in a particular branch, it is necessary that several circumstances be united to accomplish this one object. To become a truly educated and resourceful man, it is necessary to have a fund of general as well as of specific knowledge, and this general knowledge is best obtained by wide and careful reading.

Probably an important factor in the education of the students of this college, and their development into true manhood, will be the completion of the Macdonald Institute, and the presence of its students in our midst.

Living, as we have done, outside the influence of the gentler sex, we have forgotten to show that deference and respect, which we have learned to bestow on our mothers, sisters and others, in and about the home. Too often the rude stare or the whispered remark has been the only indication that we were in the presence of a lady, and too often we have neglected to act the part of the gentleman and the man. This has been the natural result of our conditions. Wherever man is thrown much into the society of a man, he loses that finer courtesy which distinguishes the gentleman. And there is good reason for this. In such conditions that courtesy is not expected of him, and so the finer part of his nature remains undeveloped through disuse.

These conditions are now changed, and we face new conditions. We should strive to make it pleasant and agreeable for our new fellow-students, by acting the part of gentlemen in every circumstance. Should our actions toward these, our fellow-students, prove ungentlemanly, we shall make their college experience unpleasant, and also retard the work of the Institute. On the other hand, if we are courteous and gentlemanly, we shall win their respect, and, at the same time, help to smooth some of the rough places, which must necessarily be passed over by those taking the initiative in such an undertaking.

The annual auction sale of stock from the College Farm was held on Thursday, October 21st. It was fairly well attended by stockmen from the vicinity, although there were present a few men from a distance.

The prices received were, as a rule, rather low, considering the quality of the animals. The Shorthorns brought fair prices, but the Holsteins went very cheaply. A number of the swine were sold at a low figure, as were also some of the sheep.

Could the sale have been held later it is possible that the buyers would have been more numerous, and the prices correspondingly higher.

The first union meeting of the College Literary Society was held on Saturday evening, October 24th. It is pleasant to note the good attendance of students, as it indicates the interest felt by them in things Literary. We hope the interest may continue to grow, so that, in the near future, it will take the form of intercollegiate debating.

The programme in general was bright and good, though the debate, around which the interest centred, was not contested closely enough. The music was supplied by our own students. Prof. Lohead gave an excellent and timely address on the "Literary Society," and Prof. Day criticised the various numbers in his usual able manner.

The Literary Society extends a very cordial invitation to our fellow-students of Macdonald Institute, and also to outsiders, to attend these monthly meetings.

The second Union meeting of the College Literary Society was held on Saturday evening, November 14th. Massey Hall was filled with an appreciative audience, and the general character of the programme did credit to our Literary Executive.

Of the staff Dr. Reed gave a very acceptable address, Mr. W. H. Day pleased the audience with his reciting, and Prof. Reynolds presented the criticisms in his usual able manner. Mr. Cutting's solos and Mr. Peltzer's instrumentals were well received, as were also Mr. Barber's gramophone selections.

The debate was: "Resolved, that the Chinese should be excluded from Canada." The affirmative was presented by J. Kennedy and J. M. Green-shields, the negative by C. C. Thom and C. W. Esmond. The judges decided in favor of the affirmative.

PANTON CLUB.

The first meeting of the Panton Club for this term was held in the Biological Class-room on Monday evening, Oct. 19th. This meeting was wholly devoted to Plant Breeding, a subject engaging the minds of many prominent biologists and horticulturists of the present day. Professor Hutt gave a short and sympathetic study of the life and works of Prof. L. H. Bailey, of Cornell University. H. S. Peart spoke on "Some Well-known Plant Breeders," B. S. Pickett on "Mendels Law," and A. B. Cutting on "Some Practical Work in Plant Breeding done at the O. A. C." All these talks were interesting and instructive and well delivered.

The second fortnightly meeting of this Club was held in the Biological

Class-room, on Monday evening, Nov. 2nd. Interest was shown by the good attendance and the large proportion of ladies was an especially pleasing feature. Dr. Muldrew, the speaker of the evening, dealt with the subject of Child Study. He first presented the subject historically; showed the absence of any attempt to study the child mind in earlier times, and then outlined the rapid development of this

important study in the last century. In presenting the main body of his subject the doctor made some comparisons which heightened the interest of the Biologists present. He also made a number of practical suggestions for the education of children, and succeeded in giving interest to a subject, which, by us, has hitherto been passed unnoticed.

Macdonald Girls' Notes.

"Uniformity in head-gear, please!"

Miss —, looking carefully under the table, "Is Miss — in the room?"

Envious Jr. Normal—"I wish I had a cousin here, too!"

Writing notes in class—

"What comes after aprons?" Girl in the rear, "Fourth Year!"

The Dean—"Kindly express that in psychological language!" Utter collapse of the class.

A new thing in introductions—"These are the girls who are learning to make soup."

A problem in political economy:—"Is not much money lost to the country through the W. F. M. S?"

Why is it that the Chemistry Class find their aprons so enlarged? Possibly the Fourth Year could explain!!

Those wishing to visit the Guelph market had better engage a guide in future, as some of the girls had trouble in finding it.

Chemistry lecture—"You might possibly understand if you listened; I have not noticed any too much knowledge shown."

Miss —, seeing the usual group of co-Eds. and would-be farmers waiting for the car, "Don't you think they need a chaperone?"

A new insect has lately been discovered by one of the MacDonald girls. It is a most remarkable one, having legs attached to its head, and wings to the abdomen!

The Fourth Year were seen recently arrayed in long blue aprons. It is supposed that in the kindness of their hearts they were taking practice lessons, with the view of helping the Matron in her branch of Domestic Science.

AGRICULTURAL COURTSHIP.

A potato went out on a mash,
 And sought an onion bed;
 "That's pie for me," observed the
 squash,
 And all the beets turned red.
 "Go away," the onion weeping cried,
 "Your love I cannot be;
 The pumpkin be your lawful bride,
 You cantaloupe with me!"
 But onward still the tuber came
 And laid down at her feet;
 "You cauliflower by any name,
 And it will swell as wheat;
 And I, too, am an early rose,
 And you I've come to see,
 So don't turn up your lovely nose,
 But spinachat with me!"

"I do not carrot all to wed,
 So go, sir, if you please,"
 The modest onion meekly said,
 "And lettuce, pray, have peas,
 Go, think that you have never seen
 Or smelled my sigh
 Too long a maiden I have been
 For favors in your rye!"
 "Ah, spare a cuss, the tuber prayed,
 My cherrished bride you'll be;
 You are the only weeping maid
 That's currant now with me!"
 And as the wily tuber spoke
 He caught her by surprise,
 And giving her an artichoke
 Devoured her with his eyes.

 Athletics.

FOOT BALL.

O. R. F. U. JUNIOR SERIES.

*O.A.C. vs. Hamilton II, at Hamilton,
 October 24th.*

Having been so far successful in the Junior Series of the O. R. F. U. in having defeated Galt, the O. A. C. were "up against" Hamilton in the next round, and travelled to the "Ambitious City" on Saturday, October 24th to measure their strength with the Junior Tigers. In the game that ensued, the cubs had rather the best of the argument, the score at the end of time being Hamilton II, 37—O. A. C. 16. This score meant that, to be successful in the round, the College must lead by at least 22 points in the game with Hamilton, to be played the following Saturday at the O. A. C.

Hamilton exhibited excellent combination among the halves, while their forward line was strong. The College wing line followed up hard, the splendid punting of the halves, on all occasions.

The College won the toss and elected to kick with the wind. Hamilton kicked off, Bracken carrying the ball well back toward the half way mark. The College kicked and again got possession of the ball on the Hamilton 25 yard line, owing to a fumble by the full-back. Dewar* followed down hard on Bracken's kick and forced Evel to rouge.

The College secured a down at half-way; kicked; and again got the ball off a fumble, this time Fansher going over the line for a try, which was not converted:—Score, Hamilton 0; O.A. C. 5.

After the Hamilton kick-off, O. A. C. again rushed things and Warner added two points to the score by a tackle-in-goal.

Baker returned the Tigers' quarter-way kick-off, Hamilton again muffed and Warner secured a try, which Bracker converted.

The College, by kicking, gradually forced the ball towards their opponents' goal, and Dewar added another two points to the O. A. C. tally by tackling-in-goal. Score: Hamilton 0; O. A. C. 15.

Hamilton followed down fast on their kick-off, blocked the College return, and secured a down in the O. A. C. quarter. A moment later the College was forced to rouse.

A few minutes later the College again roused the ball, giving their opponents another point, while a rouse by Hamilton, shortly afterwards, gave the College their last point in the game and ended the score in this half. Score at half time: Hamilton 2; O. A. C. 16.

Bracken kicked off in the second half and Hamilton ran the kick well back to the half-way line. Here they secured a down, and by fast work on the part of their forward line, scored a touch down off a fumble. The goal was not converted.

Good kicking and hard following down by the Tigers gave them two more touch-downs in rapid succession, neither of which was converted. Score: Hamilton 14; O. A. C. 16.

The Tigers continued their kicking game, and O. A. C. were at last forced to rouse.

Owing to the heavy wind blowing against them, the College could not make much headway from their goal, and six rouses followed in the next ten minutes of play. Score: Hamilton 21; O. A. C. 16.

From a quarter-way kick Hamilton got the ball and carried it to within a few yards of the College goal line. On their third attempt the Tigers got over the line for a try, which was not converted. Score: Hamilton 25; O. A. C. 16.

After kick-off the Tigers again gained ground on their punting, and the College was finally forced to rouse.

In the next ten minutes five more rouses added four points to the Tigers' score, making a total of 31, as against 16 points for the College.

A few minutes later Evel secured another touch-down for Hamilton, which Tope converted, and this ended the scoring. Time was up, the score being Hamilton 37; O. A. C. 16.

The teams lined up as follows:

O. A. C.		HAMILTON II.	
Murray.....	Full Back	Kaufmann	
Baker.....	} HalvesRansay	
Bracker.....	Tope	
Cartmann.....	Evel	
	Quarter.....	Whiteside	
Elderkin.....	Centre.....	Allen	
Dewar.....	} WingsFletcher	
Cooper.....	Haines	
McKillican.....	Murphy	
Carpenter.....	Murray	
Warner.....	Morrison	
	Isbister	

O. A. C. VS. HAMILTON II.—OCT. 31ST.

The return match with Hamilton was played the following Saturday on the College Campus, and resulted in a tie,—(22-22)—thus deciding the round in favor of the Tigers. The game was witnessed by a large num-

ber of people from town, a contingent of Hamilton "rooters" and the whole staff and student body. From the kick-off to the close of time the play was open and fast, those on the touch-lines being treated to a splendid exhibition of football, played under the Burnside rules. Pretty and effective combination was evident among the Hamilton halves, while their forward line was fast, and followed up well. The College back division, strengthened by Squirrel at right half, distinguished themselves by splendid punting and running, Bracken playing his usual star game; while good, hard tackling abounded on the wing line. The refereeing of Hewitt and the umpiring of C. Good were entirely satisfactory.

Hamilton kicked off against the wind, and, in the first five minutes of play, started a dribble from a fumble in the centre of the field, Fletcher securing the ball and going over the O. A. C. line for a try, which was converted by Tope. Score: Hamilton 6; O. A. C. 0.

At the end of the next three minutes the college reversed the previous play, this time Dewar getting possession of the ball and scoring; while Bracken converted the goal. Score: Hamilton 6; O. A. C. 6.

Hamilton's kick-off was returned well down the field by Baker, which, coupled with a good tackle by McFayden, forced the Tigers to hold the ball on their thirty-five yard line. Having made no gain at their third attempt to break through the College line, the Tigers lost the pigskin to the O. A. C., and by the fast following down of the wings on Squirrel's kick,

Hamilton was forced to rouge. Score: Hamilton 6; O. A. C. 7.

The Tigers held the ball on their twenty-five yard line from the return of their drop-kick, and were forced to kick, having gained no ground on two downs. Bracken returned the ball, which went into touch-off one of the Tigers, a few yards from their goal line. In the College down, which ensued, Bracken went over the line in a mass play for a touch-down, which was not converted. Score: Hamilton 6; O. A. C. 11.

On the return of the Hamilton kick-off, Evel, in a splendid run, got into O. A. C. territory before he was downed. The Tigers, however, lost the ball by unsuccessful bucking; and Warner held it in the centre of the field on the return of Bracken's kick. Hamilton played off-side and O. A. C. gained ten yards. Isbister caught the ball off Squirrel's kick and by a beautiful run, relieved his goal, transferring the play to the centre of the field. The Tigers again assumed the aggressive, and, by quick following-up, started a dribble from a fumble off their kick; but Bracken succeeded in falling on the ball, thus saving a touch-down. Score: Hamilton 7; O. A. C. 11.

The return of the O. A. C. kick-off was blocked by McKillican, and the Tigers lost the ball in the centre of the field, owing to off-side play in their first down. The playing now became very open, Bracken exchanging punts with Isbister, and Squirrel with Evel in rapid succession; Murray and Baker also returned the Tigers' kicks with slight gains before the ball was finally held by Hamilton on their

thirty-five yard line. The Tigers kicked after their first down, and, by good work on the part of their forwards, secured the ball in the mix-up, being prevented from scoring, only through a plucky tackle by Murray at full back. Hamilton were now in possession of the ball within a few yards of the College goal line, and, having twice unsuccessfully attempted to break through, finally kicked over the dead-ball line for one point.

The College secured a down in the centre of the field and kicked. The Tigers held on their 25-yard line, and, by two pretty combination plays in succession among the halves, carried the ball into College territory: but fumbled the return of their kick and Warner took the leather to the half-way mark. Hamilton again muffed Squirrel's kick and Dewar held the ball within a few yards of the goal line. Bracken broke through and went over the line for a try, which he converted. Half time was called, the score standing: Hamilton 8; O. A. C. 17.

In the second half Bracken kicked off across the field, Warner securing the ball for a gain of ten yards. The College tried the bucking game but were forced to kick on the third down. Dewar got the return; Hamilton played off-side; and the College were in possession on the Tigers' 25-yard line, from where Bracken kicked a touch-in-goal. Score: Hamilton 8; O. A. C. 18.

Hamilton's kick-off was returned, the pigskin being held by them in their territory. Elderkin blocked their kick and secured the ball. The College kick was returned; and

Squirrel got yards. The Tigers now kicked at every opportunity, and, aided by the wind, at last forced O. A. C. to rouge. Score: Hamilton 9; O. A. C. 18.

The College secured a down in the centre of the field off a fumble, but were unable to keep possession of the ball. Hamilton gained on a run around the end; and in their next down, Evel got away for a long run, ending in a touch-down, which was not converted. Score: Hamilton 13; O. A. C. 18.

Shortly after the College kick-off, the Tigers commenced to dribble, and were only stopped from making a big gain, by Squirrel, who succeeded in heading the ball to the touch-line. Hamilton by a series of runs carried the leather into College territory; gained ten yards on an O. A. C. off-side and finally, by bucking, secured a touch-down, which was not converted. Score: Hamilton 17; O. A. C. 18.

The Tigers returned the College kick-off into touch at the centre of the field. Squirrel ran around the end, gaining twenty yards. The Tigers then got the ball rolling on the ground again, Ramsay breaking loose and securing a try, which was not converted. Score: Hamilton 21; O. A. C. 18.

The College rouged a few moments later, which ended the scoring of their opponents.

A good run by Bracken; the muffing of Baker's kick by Hamilton; a dribble; and quick work on the part of Carpenter gave the College their last touch-down, which was not converted. Time was called a minute later with the ball in the centre of the

field, the score being : Hamilton 22 ;
O. A. C. 22.

The teams lined up as follows :—

O. A. C.		HAMILTON II.	
Murray	Back.....	Kaufinan	
Baker	Halves {	Isbister	
Bracken		Tope	
Squirrel		Evel	
Fansher	Quarter.....	Whiteside	
Elderkin	Centre.....	Allen	
Warner	Wings {	Halcrow	
Carpenter		Murphy	
McKillican		Murray	
McFayden		Fletcher	
Cooper		Hayne	
Dewar		Ramsay	

O. A. C. VS. VICTORIA UNIVERSITY.

The football team of Victoria University journeyed to Guelph on Saturday, November 7th, and in an exhibition game were defeated by the O. A. C. to the tune of 14 points to 1. The game, which was played on the Exhibition grounds, was witnessed by a fairly large number of town people and students.

Victoria had a very heavy team, which, however, was inclined to be slow. The College, doubtless, won the game on the merits of their superior tackling, kicking and following-up.

The Victoria men endeavored to make use of their weight by repeatedly bucking the line, but in this they were by no means always successful.

Victoria kicked off with the wind. O. A. C. returned well, and a series of downs took place in the centre of the field, Victoria being partially successful in gaining ground by running around the end. An offside play gave the Vics. the ball on the College twenty-five yard line, from where it was kicked over the dead-ball line by the former for 1 point, this being their only score throughout the game.

The College boys now braced up, and, finding their opponents a heavy line-up to break through, played the kicking game very successfully. The O. A. C. back division was ably assisted by the wings, who followed up hard and fast at all times, and it was not long before Dewar got possession of the ball off a fumble by a Vic. half-back, and went over the line for a try, which Bracken converted. Score: Victoria 1; O. A. C. 6.

From then till the end of the first half the ball was kept, for the most part, in the centre of the field, neither side being able to score.

The College kicked off in the second half. Victoria held the ball on their 25-yard line, and by the bucking of their heavy half-backs, succeeded in keeping possession for a time. They were checked, however, before the centre of the field was reached, and were forced to rouge, off Bracken's kick.

The College got the ball from the kick-off, and gained on the exchange of punts. Victoria got a down on their 35-yard line, but were unable to gain ground and kicked. Baker returned, and Middleton fell on the ball, which was muffed by the full-back, and secured a touch-down, which was converted. Score: Victoria 1; O. A. C. 13.

The playing now centered about the half-way mark for some time, the Victorias endeavoring to keep possession of the ball by running and bucking. At last O. A. C. got hold of the pigskin, and gained on their kick, which was returned. On the next kick Victoria was forced to rouge, which ended the scoring in the game. Time was

up a few minutes later, the tally standing: Victoria 1; O. A. C. 14.

The O. A. C. is now entered in the Mulock Cup series. The team will go to Toronto on Saturday, November 21st, to play its first game of the series. We have a good strong team, that we may justly look to with pride, and we confidently expect great things from it in the coming contest.

INTER-YEAR GAMES

Two of the three inter-year games have already been played, with the result that the Sophomores and Juniors will be pitted against one another for the championship this year. The final game will probably be played towards the end of the month, and promises to be close and exciting. The first game in the inter-year series was played on the Campus on Monday, Nov. 9th, between the First and Third year teams, and resulted in a victory for the latter by a score of 25 to 0. The game was not so one-sided as the score would seem to indicate, and the Juniors, although having an advantage in combination, found the unorganized and unpractised Freshmen hard and stubborn tacklers. Owing to darkness the game was called off within a few minutes of time, both sides deciding that further play was unnecessary. For the Juniors McFayden, McKillican and Prittee, on the back division, and Warner, on the wing line, played well; while Greenshields, Twigg and Miller distinguished themselves on the Freshman team. J. Bracken acted as referee, and R. G. Baker as umpire.

The First Year kicked off against the wind and rushed things for a few

minutes, but were soon put on the defensive, and Warner got through their line-up and secured a try, which McFayden converted.

Shortly after the kick-off the Third Year started a dribble from the Freshmen's 25-yard line, but Clowes saved a touch-down by falling on the ball, giving the Juniors 1 point.

The Juniors now played the kicking game, gradually gaining ground until Clowes was again forced to rouge.

The play was confined for a few minutes to the centre of the field, with the first year in possession of the ball, but making no gains on bucking, they were forced to kick, the return going into touch on their 35-yard line. An off-side play gave the ball to the Third Year, and Prittie kicked a touch-in-goal.

Again the play was in the Freshmen's territory, and Greenshields made a safety touch from a down a few yards from his goal-line.

The Third Year carried the ball from the quarter-way kick-off well into their opponents' territory, and Esmond punted over the dead-ball line for 1 point.

Open play continued, the Juniors gaining on the kicking, and Warner finally secured another try by falling on the ball in a mix-up behind the Freshmen's goalline. McFayden converted. Halt time was called with the score: Juniors 18; Freshmen 0.

In the second half, with the wind in their favor, the Freshmen did better in the punting line, but owing to lack of practice, were slow in stopping their opponents' runs. About five minutes after the beginning of play

Warner, by fast work, got the ball off a fumble and scored, adding another 4 points to the tally. The Freshmen braced up after their kick-off, and for a short time assumed the aggressive, but McKillican carried the ball out of danger to the centre of the field, and Cooper secured the leather off McFayden's kick, and scored a try, which was converted. This ended the scoring the total at the end of time being: Third Year 25; First Year 0.

The teams lined up as follows:

Clowes.....	Full Back.....	Bartman
Broderick....	Halves	{...McKillican
Greenshields.}		{...McFayden
Twigg.....	Quarter.....	{...Cooper
Morse.....		{...Prittie
Montgomery..	Centre.....	Esmond
McVicar.....	Wings	{...Warner
Miller.....		{...Bower
Ballantyne..		{...Lennox
Higginson...		{...Wade
Baker.....		{...Granel

FOURTH YEAR VS. SECOND YEAR.

The game between the Sophomores and Seniors was played on Wednesday, Nov. 11th, and resulted in favor of the Sophs. by a score of 9-3. It proved a-most exciting game and was well contested throughout. For the Seniors Baker, Dewar and Carpenter played well, while Bracken, Middleton and Mackenzie played aggressive games on the Sophomore team. W. C. McKillican acted as referee, while Mr. W. Milligan umpired the game.

The Fourth Year kicked off against a strong wind, their kick was returned into touch, and a series of downs took place in the centre of the field, with very little gain. Open play by the Second Year forced the ball towards their opponents' goal, the latter being finally forced to rouge.

After the kick-off the Sophs held the ball on the Fourth Year 35-yard line,

owing to a good run by Bracken, and the Seniors were forced to rouge again off Hutcheson's kick.

Again Bracken ran the ball up after the Fourth Year kick-off, and another rouge was shortly afterwards added to the Second Year tally.

An off-side was given to the Second Year on the Seniors' 25-yard line, owing to one of the latter being ahead of the ball on the kick-off. Another rouge by the Fourth Year was the result of the down that followed.

From a Fourth Year down in their own territory, Baker got away for a run, and passed the half-way mark before being downed. The Seniors now worked hard and succeeded in making about 25 yards before losing the ball. Open play followed, and from a fumble, the Sophomores got a down near the Fourth Year goal. A kick over the dead ball line added another point to the Second Year score.

Again the Seniors rushed things, and once more they were put on the defensive. With the ball a few yards from the Fourth Year goal line, the Sophomores were unsuccessful in getting across the intervening space, and the Fourth Year got the ball within a few feet of the line, but were forced to make a safety touch.

Another rouge for the Second Year ended the scoring in this half. Score: Seniors 0; Sophomores 8.

In the second half the Sophs. followed up their kick-off fast and got possession of the ball in the Seniors' quarter. Here Bracken kicked, the ball being rouged by the Fourth Year.

The play for a time centred about the half-way mark, both sides in-

dulging in open play to a great extent. Finally the Seniors secured the ball in their opponents' territory, from where Baker kicked over the dead ball line for 1 point. Score: Second Year 9; Fourth Year 1.

The play now went again to the centre of the field, the Sophomores keeping possession for some time by bucking. Their opponents, however, having secured the ball, kicked, gained ground on a muff, and a moment later forced the Sophs. to rouge.

Towards the end of time the Sophs. were again put on the defensive, with the Fourth Year in possession, a few yards from their goal. Carpenter got around the end; but was tackled on the line, and Middleton fell on the escaping ball, thus saving a touch-down. This ended the scoring; time being up a moment later; the tally showing: Fourth Year 3; Second Year 9.

The teams lined up as follows:—

SECOND YEAR.		FOURTH YEAR.	
MacMillan.....	Full Back.....	Fansher	
Ransome.....	Halves	Carpenter	
Bracken.....		Baker	
Logsdail.....		Cleal	
Hutcheson.....	Quarter.....	Dewar	
Scott.....	Centre.....	Readey	
Middleton.....	Wings	Johnston	
Munroe.....		Buchanan	
McKenzie.....		Hamilton	
Bailey.....		Rothwell	
Nancekivell..		Thom	
Stayner.....		Pickett	

THE ANNUAL CROSS-COUNTRY RACE

The handsome cup, presented by Messrs. W. Dryden and M. W. Doherty, was this year won by W. J. Lennox, who finished first in the Cross-Country Race, which was run on the afternoon of Saturday, Nov. 7th. The winner is a thorough athlete and is particularly brilliant in

the long runs. He has trained systematically all along, having captured second place in the Championship of the College on Sports Day. F. H. Reed, A. Smith, C. I. Bray and H. Lund finished in the order named.

The cup and badges were presented by Professor Gamble, in the absence of Professor Doherty, at the Union Meeting of the Literary Society, on the evening of Saturday, Nov. 14th.



Liquid Air boiling on a block of ice.

LIQUID AIR

Liquid Air is so cold that everything else is hot by comparison—so hot that everything that touches it boils it and evaporates it. It will fly, steaming, from ice, as will water from a red-hot stove. It is 344 degrees colder than ice. You can dip your hand into it, but if held in it for two minutes your fingers could be broken off like icicles. Liquid Air freezes iron so that it is as brittle as glass, but in a moment can be made to burn steel, and that in a tumbler of ice. These and many other strange, unusual, and incomprehensible feats will be performed by Prof. Patty. The Liquid Air, its snowy vapor, and all of the remarkable experiments can be seen from all parts of the opera house.



Burning Steel and Freezing Strawberries in an Ice Tumbler containing Liquid Air.

WIRELESS TELEGRAPHY

Contracts have been closed and Guelph will have a Marconi-gram station installed and in operation. Prof. Patty is to bring an elaborate outfit and set it up at the Royal opera house on the evening of the Liquid Air Entertainment. The Professor may not succeed in getting into communication with King Edward or President Roosevelt, or even "agitate the ether" to the distance of Galt, but he will send wireless messages across the opera house, he will ring bells, start and stop a motor, turn on or off electric lights, and perform many interesting and instructive feats, besides fully explaining this up-to-date subject which is attracting attention the world over, and already doing much of practical worth.

OUR COLLEGE THEATRE NIGHT SCIENTIFIC MAGIC

On Monday evening, Nov. 30th, a Liquid Air and Wireless Telegraph Entertainment will be given in the Royal Opera House, Guelph, under the auspices of the O. A. C. Athletic

Association. Prof. Patty of Chicago will bring a complete apparatus for illustrating these up-to-date miracles of science. Dozens of marvelous experiments will be performed—as instructive as they are wonderful and entertaining. An interesting lecture will be given presenting the truth about Liquid Air and Wireless Telegraphy as understood by the foremost scientists—facts, not fallacies—the language and illustrations so clear that a child can understand.

Every student should take advantage of this rare opportunity to spend an evening of fun and instruction in the fairyland of science. Tickets may be procured from any member of the athletic committee. Prices 25c., 50c. and 75c.

What an Excursionist Saw on June 24 on the Farm,

Last June I paid a visit to that far famed spot, Ontario's experimental farm. 'Twas on a day when farmers thickly came, to view the lion of agricultural realm and brought their wives and sweethearts to scan nature developed by the thought of man.

O'er head the lowering clouds shut out the dome of blue spreading o'er that beauteous scene, a veil of murky hue and sending a chill through the enjoyment of the grangers' outing. But the independent farmer was out for the day and intent on having a time.

Mid shaded grove, and scented flower-bed,
there walked
Sweetheart and swain, who amoured, as
they talked

Of those sweet scenes. Oh! 'twas a day of
love,
Though murky clouds looked lowering from
above.

Here eager matrons, babble-tongued and
keen,
Skurried impetuous o'er the sparkling
green,

With drabbed skirts held ankle high they
 pass,
 Oblivious to the sign, "Keep off the grass."
 And there were bright-eyed, comely, spright-
 ly lads,
 Clung to the coat tails of their wise old dads,
 Harking to questions deep Dad asked the
 men,
 Who stood attendance at the cattle pen.

HOW THE EXCURSIONIST MET
 THE GOD OF CLAY.

Now, as I passed a stately colonade,
 I spied a labourer delving with a spade
 Into the bosom of our mother earth,
 As though he'd been a delver from his birth.
 Upon his head there towered a Derby hat.
 'Tis some poor dago, quoth I, or a Pat
 Down on his luck, and here has struck a
 job
 To earn a meal for wife and little Bob.
 His crimson sweater had abundant tail,
 which beat the zephyr like a backed top-sail.
 And wound about the handle of the spade
 So tightly often that the work was stayed.
 With heart of pity, I approached the man,
 A shining dime held lightly in my hand.
 I meant to give it to the poor old coon,
 Perhaps 'twould aid him with his lush at
 noon.
 Why dig'st thou here, quoth I, among the
 clay?
 You surely must have known a better day;
 The spade dropped from his horny hand
 away,
 His jaw dropped limply as he sneered out,
 c-l-a-y—
 Great Scott and hornets, was this man in-
 sane?
 That there was something wrong was very
 plain.
 He choked and gurgled till I thought he'd
 fall,
 His face looked like a vacant lot, in Mon-
 treat.
 I stood and watched him till the fit passed
 by,
 Then, turned to leave him with an anxious
 sigh.
 But ere I passed from him two steps away
 He howled out fiercely, call it earth, not
 c-l-a-y.

I paused and looked upon him as he stood,
 Like Grecian god, but not a god of good.
 His Derby hat had taken a backward tilt,
 His long-tailed sweater cracked a dismal lilt.
 Who art thou, man, said I, and why so
 cross?

I meant not to offend thee so, old hoss;
 I'm very sorry that I passed this way,
 And beg your mercy, mighty god of clay.
 This seemed to please him much and quell
 his bile,

And o'er his visage beamed a sunny smile.
 It pleased me much to see his face so lit,
 For previously I'd thought me of the pit,
 Then spake the god—for such I thought him
 then—

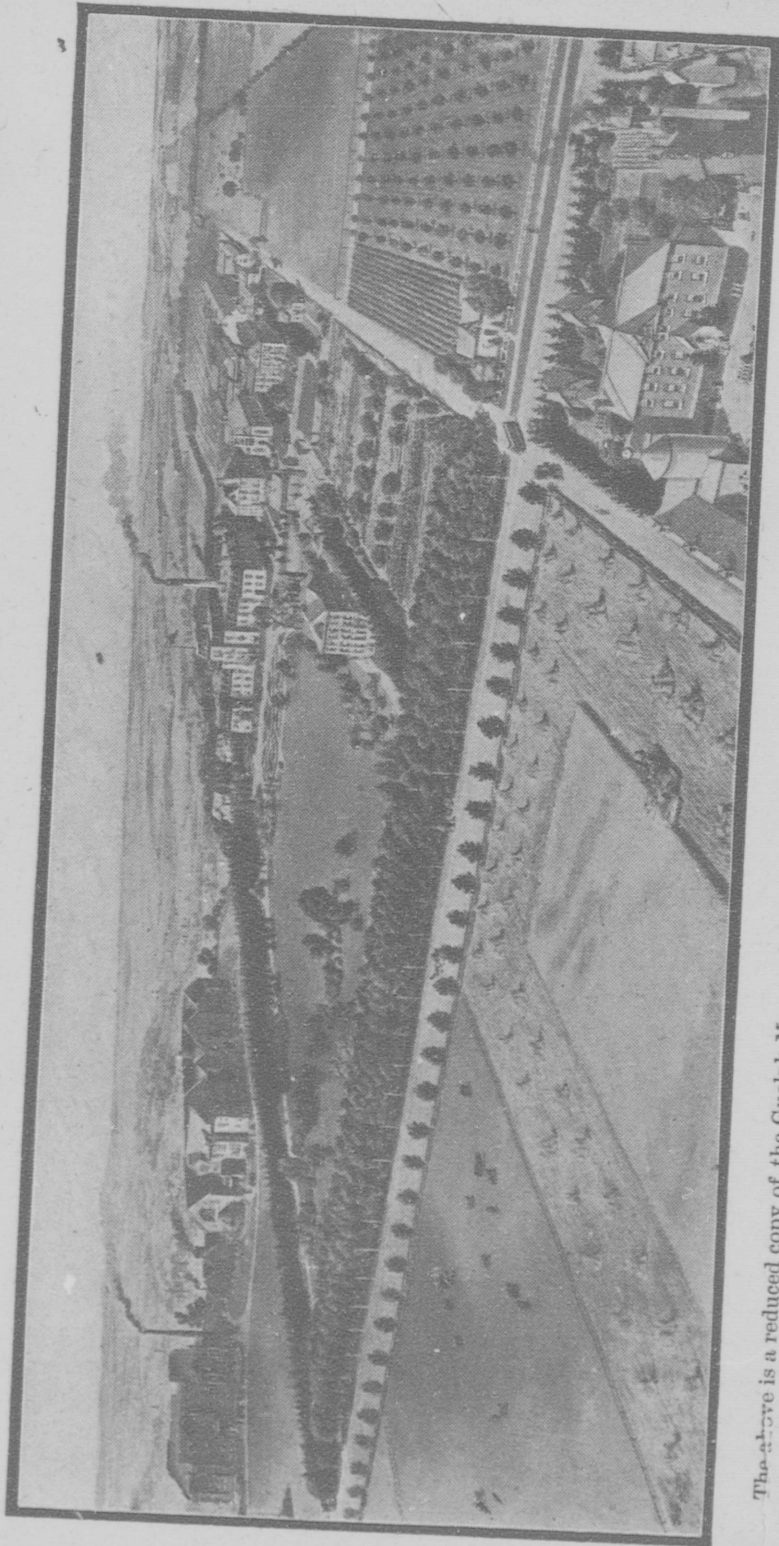
And aired his wisdom ere I counted ten.
 He told me all he knew and plenty more,
 Till my pained ignorance almost made me
 roar.

I envied much his knowledge, not his job,
 I grudged him not the visage on his knob,
 But I confess my ignorance since the day
 I heard the spouting of this God of Clay.

— — —
 "The difference between theory and
 practice has kept many a man from
 succeeding in life."

— — —
 It is with books as with men; a
 very small number play a great part;
 the rest are confounded with the mul-
 titude.—*Voltaire.*

— — —
 "For too many of us it has come to
 be well-nigh impossible to sit down
 by ourselves without turning around
 instinctively for a book or a news-
 paper. The habit may indicate a
 vacancy of mind and a morbid intel-
 lectual restlessness. Books are an in-
 estimable boon; let me never be with-
 out the best of them, both old and
 new. Still one would fain have an
 occasional thought of one's own, even
 though, as is the common saying, it is
 nothing to speak of. Meditation is
 an old-fashioned exercise."



The above is a reduced copy of the Guelph Mercury's handsome Premium Picture of the Ontario Agricultural College. This picture has been copyrighted by the Guelph Weekly Mercury Publishers, and can only be obtained by subscribing for that paper for a year and paying the \$1.00 subscription price in advance. The Weekly Mercury is a splendid paper, and has all the Agricultural College and Winter Fair News. The Picture is 11 x 23½ inches in size, suitable for framing, and is beautifully worked in three colors. Every farmer should have a copy for his home, and especially those who are interested in this institution.

Locals.



A month to-day
We sketched Biology,
Now I may say
We outline Pathology.

In class, good sense
Is branded gaiety ;
At all events
Among the laity.

But 'tis so hard
Awake to keep,
The dog mounts guard
While the students sleep.

Assoc. Prof. of Horticulture—"The peach was first introduced to America about the year 1680 ; at the time of the Norman Conquest."

Middleton on Physics—"Regarding the Gas-pipe Levelling Instrument, do you look over the top of the glass tubes or along the top of the water levels?"

(During the same lecture) Mr. Jones—"Is the Gas-pipe Levelling Instrument placed on the ditch bottom before it is dug?"

Bell on Entomology—"The upper side of a leaf is usually up."

"Bill Bailey" claims that the number of sq. feet in an acre depends upon the physical condition of the soil at the time of survey.

Prof. Lochhead—One need never be troubled with the Pea Weevil in the garden, as garden peas are generally picked when tender and young, and the Weevil is then only in the larval stage.

Does our worthy Professor imply that the pest is more palatable at this stage ? If so, we all sincerely hope that this hint in domestic economy will not reach the ears of the lady instructors.

Prof.—"Where is Mr. McKay. His seat has been vacant for some time?"

The '06 class give numerous reasons to account for his absence. A few minutes afterwards Mr. McKay is discovered in a back seat, awe struck with the originality of the excuses offered, trying to remember, when he went home, when he was ill, when his father came here to see him.

A College camera fiend to a Macdonald girl: "Shall I take you, Miss—?"
McDonald Girl: "Oh, you original man, how sudden!"

"Take no heed of the morrow, but take heed of the night," quoth the Soph, as he quickly pocketed all the Freshman's matches.

Jasper J. reflectively—"No, I don't think that "one" is quite as big as "two."

MacRae at Sorby's—"Now Doc, what do you think of the hind hocks of this horse?"

It is rumored that A. B. C. intends taking a course in Domestic Science. We wonder why?

Prof. Day's profound knowledge of youthful human nature was forcibly shown by his casual remark at the end of a Literary Meeting, that his audience would make a note of something on returning to their rooms, to which he was sure they were going immediately.

It may be remarked in connection with the above that several of the boys were present, not unaccompanied.

Was the editor of the Guelph Herald or the "Devil" responsible for the following ignorance with regard to his Majesty's title?: "Monday is the sixty-second anniversary of the birth of His Royal Highness, King Edward."

Which finger do you use to cover a pipette?

Ballantyne—The thumb.

By won't you come home — — : Has the Buffalo Free Jumper Sucking wing parts?

Scene I.—The still small voice of Bond at 4.30 a. m. : "What do you feed Day's horse on?"

McKenzie—Oh, darn you, go and ask Ranse.

Scene II—I say Ranse, what do you feed Day's horse on?

Ransome—D—n, who's there? Go off to Reed and shut up.

Scene III—In the stable. Reed, old man, do you mind telling me what to give Day's horse?

Scene IV—Exit Bond followed by Reed's boot.



Our late and dear friend, Mr. Pohnl
Is not dead nor gone home ill,
But to the City of New York
Has gone to study U. S. Pork.
And other things. * * * * *

Wanted—The address of one Thomas Baker, last heard of as attending the O. A. C. under the name of T. B. Rivett.—Hespeler-Beacon.

What does this mean Rusty?

Some squibs on the Seniors—

1 French translation—He took his walk, driving.

2 French Lecturer—What tense is Causait?

Student—Present imperfect.

Mr. Fist, at the table—That's absurd.

Lennox—Well, better be absurd than Ab Hand.

The editors were spending a few days at a local watering place, and as the rules of the hotel were both unique and constitutionally alarming, we here reproduce them.

RULES

- I. Board 50 cents per square foot. Meals extra.
- II. Breakfast at 5, Dinner at 6, Supper at 7.
- III. Guests are requested not to speak to the dumb waiter.
- IV. Guests wishing to get up without being called can have self-raising flour biscuits for supper.
- V. Guests wishing to do a little driving can find a hammer on the stand.
- VI. Not responsible for diamonds, bicycles, or other valuables kept under pillows. They should be deposited in the safe.

SUGGESTIONS AND ADVICE

- I. If the room gets too warm open the window and see the fire escape.
- II. If you're fond of athletics and like good jumping, lift the mattress and see the bed spring.
- III. Baseballists desiring a little practise can find a pitcher on the stand.

- IV. If the lamp goes out, take a feather out of the pillow, that's light enough for any room.
- V. Don't worry about paying your bill; the house is supported by its foundations.



Why Mac. did not win the Cross-Country Run.

New Books for November.

- (1) "How to borrow wheels without permission."—by —?
- (2) "The most effectual way of disturbing slumberers."—by McKenny.
- (3) "Tapping Simplified."—by Raymond.
- (4) "The Burnside rules and how to play them."—by Captain Butler.
- (5) "A honey-moon and how to enjoy it."—by A. L. Sumner.

We have received of late, several communications with reference to the Saturday night rule. We select the following as typical :—

O. A. C. Guelph.

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

DEAR SIR.—If a lovely young maiden graciously attends one of our Literary Society meetings unaccompanied, is it necessary that she return alone?

If she attend accompanied, is it necessary that she be denied an escort on her return, when one is most needed.

Yours,

ONE DEEPLY INTERESTED.

October 24th, 1903.

In answer to the above we would refer our correspondent to Mr. Chamberlain's great Glasgow speech.*

In discussing the fiscal question he said that the policies of Cobden and Bright were suitable for the conditions existing at their time, but things were now changed and the policies would have to change with the times.

*As this reasoning applies aptly to the question in hand, we advise a campaign along similar lines.

Greenshields to Prof. Day—"If a cow does not pay, would you not sell him?"

Have you paid your subscription to The Review? If you haven't you won't enjoy our Xmas Number. Because you won't get it. It's up to you.

Hutcheson on Debate: "What do city dudes know of judging live-stock—like myself for instance?"

The following anonymous contribution was sent to the Local Editor, bearing the Stratford post-mark :—

"Tramp! Tramp! Tramp! the girls are marching,

Cheer up boys the grub will come,
Aren't we looking very fine

As we march along the line
Singing Macdonald to the rescue
And Grub! Grub! Grub!"

—
A College boy's dream of what the curriculum of the McDonald Institute consists:—

There's where you learn

To milk, and churn,

And keep a kitchen tidy;

To cook and bake

And make a cake

And boil a fish on Friday.

Oh, may it come true!

—
The Weary Business Manager—"I don't know what we are going to do about this advertising page immediately before the reading matter. Everybody wants it." The Has-been Jokesmith—"I think we ought to have two or three pages facing the reading matter."

—
Collapse of Business Manager.

Notes on trip to Alma:

Henderson, after the third meal, as he gets into the cariole. "Say, boys, I think we ought to get a hammer and some tacks, and tack our sides on."

—
A student whose name has appeared somewhat often of late on the bulletin-board, must be heartily congratulated—for what we do not at the present know, but will know soon.

A father, having the interests of his son at heart, wrote thus to him. "My boy, how is it that you spend so much money, I also hear that you are noisy in residence, and that you diligently break all rules that admit of being broken?"

Son—"You told me to take the entire academic course." Collapse of father.

ALMOST A TRAGEDY.

Not half an hour had elapsed since the clock struck twelve. I sat as one in a trance, and gazed with fascination mixed with amazement at the human being before me. Cold chills chased one another up and down my back, diverging oft to meet with cyclonic force over my palpitating heart. Slowly the giant raised his head and transfixed me with a glassy stare from his blood-shot eyes. His jaws worked convulsively. Once, twice, thrice, it seemed that he essayed to rise from his chair, to sink back again with a hollow groan. His hands were clenched, the perspiration stood like beads upon his forehead, his muscles were hard and tense as steel cables. He seemed to me like some unhappy wretch of Grecian myth, condemned by Jupiter to execute some impossible task under pain of death.

I shrank back appalled.

Gradually an awful change overspread his features, a purplish hue overcame his ghastly pallor, his eyeballs bulged from their sockets, and his curly locks slowly straightened out and stood on end. He leaned back, a terrible choking sound was heard, and then—he straightened up, the tortured look was rapidly changed

for one of maniac ferocity. I covered in my shoes, the strain was so intense that the milk was actually strained, a thing to be wondered at. His right hand grasped a knife, and brandished it on high. I tried to shout, but my burnt tongue clove to my false teeth. It was too late, with terrific force the knife descended and drove with a sickening thud—almost through the piece of well-known steak which lay on the plate before him, a portion of which he had vainly tried to masticate, and at last had swallowed whole.

Notes on the has-been jokesmith's Forestry lecture.

"Those arranging trees around a house according to Prof. Green's plan, should be careful that the back of the house is not made visible from the front windows."

"Mr. Readey: What would you look for after you had selected a site for a house? Collapse of John, who has a big idea of what he will look for."

Mr. Cutting—"What kind of trees would you plant near a house?"
A. B. C.—"Apple trees."

"With heart and soul I love but you"—Who? Ask Recorder Weir.

The holy Peter sat at the golden gates. He was troubled. He had reason to be. "Here be three college men, forsooth, but to only two of them may the doors swing open. The other—and he sighed—but I have forgotten which is the other one. I must question them." He stepped to meet them. "And who are you?" he

asked of the first. "I am the man who went down town six nights a week, and asked for more time off." St. Peter frowned. "And you?" The second man trembled. "I am the man who subscribed for the Review—and then asked for my money back." "H'm, matters become more complicated," said the great door keeper. "And who are you?" The third man (?) was a watery-eyed yahoo with washed-out flaxen hair, an expression on his face that would have done credit to a last year's bird's nest, and a gait like a pair of bars. "I—I am the one," answered the third in a squeaking treble, "who used to start the yell of 'Ha-a-air cut,' 'Ha-a-air cut,' in the College dining hall." The holy Peter had no further doubts. The next moment the sulphur-coated elevator, with one occupant, went down to the place where they simmer hair off without cutting."

Misses F—and R— of the Macdonald Institute, went to the city one Saturday morning recently to see the Guelph market, of which they had heard a good deal. After wandering about for some time they turned away disgusted, seeing only an auction sale of second-hand furniture. They could not find the market, though only the wall of the Winter Fair building separated them from an unusually fine display. Fortunate no one depended on them that day for dinner.

Now, really, as a matter of business, you owe The Review fifty cents. So cough it up and get a load off your conscience. (pocket.)

Prof. Hutt—"The variety of apple that we are studying is self-colored."

Rivett—Evidently its name, "Maiden's Blush," is derived from that fact.

Prof. of English—If one cannot love, he cannot grieve! Grief is bereaved love! Do you understand that, Mr. Panelo?

Don Julio—Yes, sir, from experience.

Macdonald Girl—What is the symbol for water? W?

Lost—A razor. Kindly return to Miss—, of the MacDonald Institute.

We hear that Avila and Busty, Jr., are taking private lessons in stenography! At present, honors are about even.

Granel says that he never thought so much of Stratford as he does now.

It is recommended that students of the O. A. C., who so kindly volunteer to carry highly colored text books, should wear gloves of Brown, or some neutral tint until the laundries of the Macdonald Institute are working.

May we meet in the library?

Don Julis (on the car): Miss— why you laugh at my moustache? Does it tickle you?

Miss C: No, it makes me sick!

Watch out for good plays at the Opera House next month. Make the best of your opportunities at college and take in a few of the best entertainments.

The event of the month: Dr. Muldrew had a hair-cut.

How strange that every day the following outline of the lesson in sewing should appear on the blackboard of the Macdonald Institute?

A —

B —

Cutting—a pattern (?)!

Is it because he actually is a model young man?

Some things we ought to have:

- (1) Some form of student's musical organization.
- (2) A Macdonald Literary Society.
- (3) A residence for our Third and Fourth year students.
- (4) A covered skating rink.
- (5) A large attendance of ex-students at the Experimental Union.
- (6) Cash from a few who have not yet paid their subscriptions to THE REVIEW.

Our advertising columns are carefully edited, and we believe our advertisers are of patronage. If we did not think so, no amount of money would purchase space from us. We commend them to you for fair dealing and generous treatment.

To-day is not yesterday; we ourselves change; how can our Works and Thoughts, if they are always to be the fittest, continue always the same? Change, indeed, is painful; yet ever needful; and if Memory have its force and worth, so also has Hope.
—*Carlyle*.

Football will go.—When? When the college goes. When physical development is no longer necessary. When prompt and decisive action is no longer needed to prepare men for crises. When the steady eye, the active brain, the perfect form and rugged health are no longer necessary in the battles of life. Then we believe it will go and not till then.—*Ex.*

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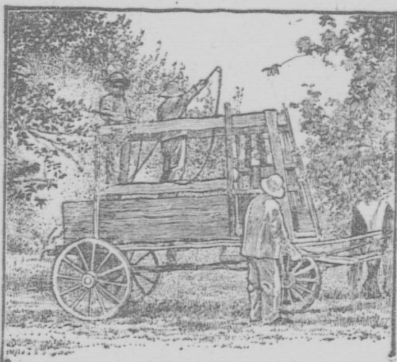
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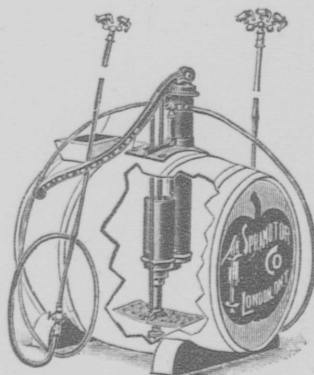
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R.A. LISTER & CO. LTD. 579 & 581 ST PAUL ST
MONTREAL

A decorative border with a repeating floral pattern of leaves and flowers, enclosed in a double-line rectangular frame.

Pneumatic Strawcutters

Three sizes—four, six and ten horse power.

Our largest size straw cutter handles all the straw you can get to it easily with a ten-horse power engine.

✻

Hand and Power Straw Cutters,

All sizes.

Root Pulpers,

Four and six knife, side wheel, plain and reversible.

PROMPT SHIPMENT
AND ABSOLUTELY THE BEST OF
THEIR KIND.

The Wilkinson Plough Co'y.

LIMITED, TORONTO.