

PAGES

MISSING

THE O. A. C. REVIEW

"THE PROFESSION WHICH I HAVE EMBRACED REQUIRES A KNOWLEDGE OF EVERYTHING."

VOL. XXX.

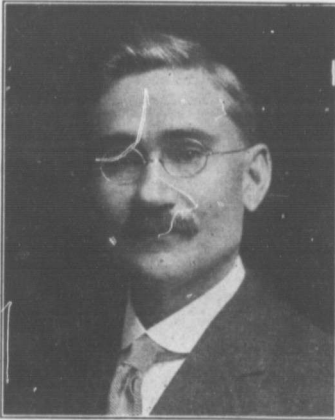
JULY, 1918

No. 11

Practical Work and a Liberal Education

By J. B. DANDENO, PH. D., (Harv.)

IF there is one idea more than another brought to the minds of those engaged in educational work at the present time it is the fact, that book education such as may be gained from a study of Latin, Greek and Ancient History, of Mediae-



J. B. DANDENO, PH. D., (HARV.)

val Art and Belles Lettres, has contributed but little to the advancement of the human race in proportion to the time spent upon these subjects. Our whole school system built upon the foundations laid in the middle ages, are still permeated with the subtle influences — largely hereditary—of those times. Whether we may be willing to recognize it or not, we have still with us a strong tendency to worship

at the shrine of the god of language, and we have still with us much superstition and mediaeval prejudice.

In the attempt to introduce agriculture into the schools of Ontario, as one of the regular subjects of the curriculum, a considerable amount of hereditary prejudice and superstition is met with and this notably among some of those engaged in College work. Whatever prejudice that may not be hereditary, can be readily ascribed to a lack of appreciation of what education really is, and of a failure to understand its processes. The monk in his cell was at one time considered a scholarly, if not an educated man, and yet he was in the true sense largely uneducated. The extent of a man's education may be measured by his appreciation of, and his acquaintanceship with, his environment.

To illustrate how warped our ideas are in regard to education let me give an instance: A man in a certain town in Ontario, thirty or forty years ago attended the Grammar School, and while there, memorized a few Latin sentences which he was not only able but very willing to quote in season and out of season. He was a very ignorant man, having acquired none of the Grammar School spirit, or the spirit of progress during the forty years after his attendance at this school. I think I never met a more useless type of man, unwilling to make his living and besotted besides, often asking the

wayfarer to lend a dime (to buy a drink). However, many of the older people of the place, had a profound admiration for the man, because he readily sputtered out a few Latin sentences. It is astonishing, almost unbelievable, yet such was the case. A person might have acquired talent to solve mathematical problems, or acquired a start in composition or literature, yet he would attract no special notice. But only patter out a few sentences in Latin

Note also the faculties brought into play—the sense of feel and touch in handling the apparatus and feeling the heat produced by the re-action of the acid, the sense of sight in noting the changes of color of the milk, from light to dark brown. Accurate seeing is demanded in making exact readings, and from these readings accurate calculations are necessary, and the necessity of accurate calculations are brought home to the students, because they see



Practical Dairy Tests in Schoolroom Laboratory.

and you excite the admiration of the crowd.

To illustrate more fully what I mean by *the practical* in education, let me refer to the accompanying illustration, which shows a class of girls carrying on the Babcock test for butter-fat in milk. They are using no books, they are dealing not with what some one said about things, but with the things themselves. As a means of education merely, that is for mental improvement only, this exercise can surely be at least equal to that provided by a lesson in grammar.

the importance of the result. I have known students give answers so immensely absurd, that one might wonder in regard to the sanity of the individual, if it were not for the fact that the student failed to grasp even the elements of the relationship. The thing had no meaning. In a fairly arranged problem regarding the value of the milk produced by a cow in the month of June, answers were received giving a sum as high as \$309,000.00. The pupil did not appreciate the problem. It had

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Bacteriology in Relation to Agriculture

BY PROF. D. H. JONES, B.S.A.

WHILST agriculture is the oldest of the practical sciences and has been practised for thousands of years in all countries, bacteriology is the youngest of the sciences, having developed in its entirety during the last fifty years. One well might wonder if there is any close relationship between the two.

Bacteriology has to do with the study of bacteria which are the smallest forms of life known. High power microscopes and considerable special apparatus are necessary for the pursuit of the study. Consequently the science itself will always be a specialist's work. Notwithstanding this, however, the science touches all phases of life and is most vitally connected with agriculture.

It has been found that the fertility of the soil, the infectious diseases of animals, some of the worst diseases of plants, many of the problems of the dairy, food preservation and danger from the water supply are all most intimately connected with the science of bacteriology as they all depend upon bacterial activities.

The action of the soil bacteria is one of the essential factors in the production of crops. If millions of certain species of bacteria were not present and active in every ounce of cultivated soil, the plant food there present in a crude form would not be available to the growing crops. That is, they could not make use of it even though it be

right at their roots. This crude plant food has to be digested before the plants can assimilate it. This digestion is brought about by the activities of certain species of soil bacteria. They act in somewhat the same way that the digestive juices in the mouth, stomach and intestines of man and animals act on the food that is ingested. If the digestive juices are not present in the alimentary canal, the food cannot be assimilated by the body. If the digestive groups of soil bacteria are not present in the soil and acting properly, then the plant food added to the soil in various ways cannot be used by the growing crops.

In addition to the varieties of digesting bacteria in the soil, there are other varieties present which have an entirely different function to perform. Instead of digesting or breaking down the complex organic substances in the soil, they combine the elements or simple compounds there found which are also unavailable to plants, into forms or in which they are available. Among the most important of these are the nitrifying and nitrogen-fixing varieties of bacteria, the action of which in the soil is to produce nitrates out of atmospheric nitrogen, ammonia and nitrates.

The science of bacteriology has to do with the study of these various types of bacteria, how to encourage their development and beneficial activities, so that their essential work in the soil



PROF. D. H. JONES, B.S.A.

can be insured with greatest success.

Live stock is subject to many diseases, and enormous financial losses to the breeder are the result of these diseases among his stock. Such diseases as anthrax, blackleg, tuberculosis, glanders, hog cholera, chicken cholera and many others are the result of the action of different species of bacteria. Each disease is caused by a different species of organism and when once the particular variety of organism responsible for a certain disease finds its way into a herd or flock, unless proper precautions are taken, the disease will usually spread until every individual becomes affected, and in many cases death is the result. The disastrous results of such diseases as anthrax, hog cholera and tuberculosis are proverbial, and it is only during the last thirty or forty years that the causes of these diseases have been ascertained and methods for their control and eradication instituted. This is the work of bacteriologists and such work is necessarily of tremendous importance to agriculture in that it tends to preserve our stock from the ravages of these fatal diseases.

Many destructive plant diseases as "fire blight" of apple and pear trees, bacterial wilt of cucurbits, black rot of cabbage, soft rot of vegetables, bacteriosis of beans, crown gall and hairy root of fruit trees, etc., are due to the activities of different species of bacteria. A knowledge of them and methods of controlling their ravages is

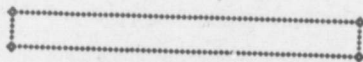
of considerable importance in agriculture and horticulture and this knowledge is obtained and supplied in connection with the science of bacteriology.

Dairying has to do with the handling of milk and its products, butter and cheese. It is well known that milk, one of the most essential of our food substances, is normally the most perishable of our foods.

This perishability is due entirely to the action of the bacteria which invariably get into it. The souring or curdling of milk is due to the action of acid-producing bacteria; the sliminess or ropiness of milk so troublesome in the summer time is due to slime producing bacteria, the putrefaction and gas-production in milk is due to putrefying and gas-producing bacteria. The good and bad flavors in butter and cheese, also their keeping qualities, depend largely on bacterial action.

The science of bacteriology determines the nature of these bacteria, how they get into these food materials, and how they can be controlled so as to get the best results from the production, handling and consumption of milk butter and cheese.

In many other ways that space will not permit us to dwell upon, bacteria are vitally linked up with agriculture. What has been stated above, however, is sufficient to indicate that though bacteriology is the youngest, and agriculture the oldest of the sciences, the two are inseparably connected.



Household Science in Rural Schools

BY ALBERT H. LEAKE

Inspector of Manual Training and Household Science

ONE of the most urgent problems in connection with education in the Province of Ontario is the condition of the rural schools. We share this problem with almost every other civilized country, and it is generally admitted that the children attending rural schools have not the same opportunities as those attending urban schools. Forty-five per cent of the school population of this Province is enrolled in the rural schools, and up to the present very few of the children attending these schools have been given the opportunity to become acquainted with the newer subjects of the curriculum, such as manual training and household science.

The future of this country will depend more in the future, even than it has in the past, on the conditions of the home, and the education received therein. Education for the home is then an important matter, and if nearly one-half of our population is not to be deprived of this education, it must be given in the rural schools. This has now been rendered possible by the removal of certain difficulties which have hitherto stood in the way. The money has been provided and suitable equipments have been designed. It was thought for a long time that in order to do anything worth while in this subject in the rural school it was necessary to duplicate the equipment provided for town and city schools, and as the cost of this was prohibitive, the subject remained outside the activities of the school. Now it is neither necessary nor desirable to attempt to duplicate town conditions in rural schools and in conformity with this idea, special

equipments have been designed for rural schools which will do the work in those schools much better than any equipment patterned after that found necessary in town schools. The accompanying illustration shows the space taken by such an equipment in a one-room school when not in use.

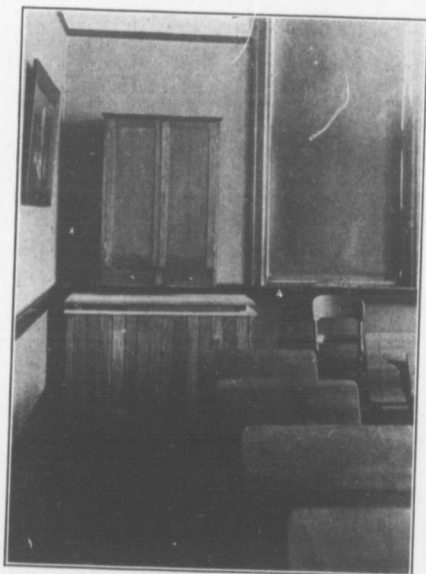
In order to assist school boards to purchase equipment, the Department of Education makes a grant of from \$40 to \$75 for the first year and from \$20 to \$30 thereafter, and annual grants to teachers of \$15 to \$50 to keep up the equipment and to assist in the purchase of supplies. The above grants to teachers are increased by \$10 in all those cases where one hot dish such as a bowl of soup, or a cup of cocoa is served to supplement the noon lunch brought from home.

In order to assist teachers to satisfactorily handle the subject several steps are being taken. The rural school applications of the subject are being stressed in the Normal Schools, and the Summer Schools this year are bending the greater part of their energies in the same direction, and under certain conditions the expenses of teachers attending these courses are paid. In addition, the Department is issuing next September, a manual on "Household Science for Rural Schools." This contains twenty lessons on "care of the home," twenty lessons on "sewing," twenty lessons on "cooking" and chapters on "equipment," the "noon lunch" and the "fireless cooker." It is well illustrated with actual photographs and working drawings by the aid of which the village carpenter can make the necessary equipments.

The best method of approach to rural school household science is through the medium of the school lunch. A large number of pupils are forced to take their lunch to school, and the meal, if it can be so-called, is generally of an unsatisfactory character, both as to composition and character. It has been found that the provision of at

in September next. Space will not allow of a description of the method of preparing and serving this lunch but it may be dealt with in a future article.

Some of the agricultural representatives in co-operation with the Public School Inspectors are promoting this work very successfully. Mr. J. W. Stark and Inspector Galbraith, of Peel



Equipment can be stored in corner of schoolroom when not in use.

least one hot dish to supplement the lunch brought from home is beneficial both to health and mental effort and that its serving is quite feasible. In Saskatchewan, there are 150 schools in which a hot dish is served at noon. The movement has just started in this Province with about twenty schools, but it is expected that a much larger number of schools will be engaged in this work on the opening of the schools

County, offer an example. At the forthcoming school fair, an oil stove for the use of the school and a collection of books on household science are among the prizes.

The connection between the rural home and the rural school needs to be strengthened for the sake of both, and there is no better means of doing this than by the co-operation of trustees,

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School Gardening

BY A. H. MACLENNAN, B.S.A.

THIS topic, as related to the teaching of agriculture in Ontario schools, should be divided into two parts, since it must deal with rural as well as urban schools. Rural schools require a more extensive type of gardening as they must include the field crops as well as the horticultural. While city schools may devote some time and space to field crops, the value of this would come largely from the acquainting of the urban scholars with rural problems, and not from any use they could make of them while in the city, where most of them will remain. They are most interested in small fruits and vegetables.

In all garden work, the most important aims should be to instil into the child a love for Mother Nature and a desire to study the problems which arise daily. We know but little at present about agricultural problems in comparison with what there is yet to solve, and the pupil should be taught early in life to grapple with these. Our gardens, then, should be so planned that the child will go home and put into practice on the larger scale, the results he has seen obtained at school. It should also be the meeting place of the parents, for through it, if it has been properly planned and handled, much of the prejudice which people, especially those of the rural districts, have against scientific agriculture can be overcome.

In planning all garden work, the teacher should remember that the child

must take definite ideas from the plan, and these should be as near the recognized commercial as possible. Much of the distrust of older people is caused by the teacher doing something in a way which cannot be used successfully at home by the parent. Plan your garden in a large area, to be cared for by a number of pupils, rather than giving each child a small plot. In this way the older pupils can help instruct the younger. If you must use single plots, have them so arranged that they will form long rows when the garden is

finished. This will overcome the difficulties of cultivation, especially during summer vacation and will give added appearance to your garden. The garden plan should be made to be applicable to the surrounding district. Each one of course, should contain a good vegetable garden and added to it should be a section wherein would be grown the crops most suitable to the district.

Here are a few rules that may aid in planning:

1. Know definitely the exact length and breadth of your plot. Make a plan of the garden during the winter months, giving a definite area to each crop.

2. Run your vegetable rows north and south—if possible—but have them always the long way of the garden. On a slope run them across rather than up and down.

3. Manure and plow your ground in the fall, leaving it rough—especially if

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A. H. MACLENNAN, B.S.A.

O. A. C. Summer School

By A. J. MADILL, B. A.

DO you wish a pleasant and profitable holiday? If so, by all means spend a month at the Ontario Agricultural College Summer School for teachers. Many who have attended, corroborate this. The work is varied, the change from teaching marked, the surroundings pleasant, the companionship of the teachers and others congenial. These



A. J. MADILL, B.A.

combined make the stay at Guelph a real vacation from the ordinary humdrum of the school-room.

During the courses in Field Husbandry, Entomology, School Gardening, Live Stock, Poultry, Apiculture, etc., much practical, useful and educational knowledge is gained. The subjects are presented in a practical and interesting manner, so that the teacher is enabled to return to his or her school with an enlarged vision, a wider outlook on at least some of the

live rural problems, and prepared to be a more helpful and sympathetic leader of the people who are doing their part to make Ontario a banner agricultural province. The teacher enjoys school life more and is a more efficient educator both in the class-room and among those with whom he labors from day to day.

It is not all work at the O. A. C. If you don't get away from it almost daily, Mr. Maclaren will get you, if you don't watch out. You have to play—play at something. If you don't like lawn-bowling, tennis, volley-ball, baseball, or some such game, you are likely to find yourself lined up for some group game, swimming, or other recreation. If the evening is dull or rainy you will find yourself in the Y. M. C. A. parlor enjoying an evening of vocal discords, an hour or so of informal story-telling, or anything that gives mutual entertainment. Again you may be in the gymnasium participating in, or watching, some of the groups games or plays, or, perhaps, in Massey Hall listening to some instructive and entertaining lecture.

Field day, challenge games, occasional excursions, the annual at home, and numerous other events grease the track of the hours all too quickly.

And so the month is profitable, both from the standpoint of knowledge assimilated and that of health, an excellent friend—True you may pass an opinion on the bountiful supply of oatmeal and rhubarb, yet the food is ample and good; and the fresh air and exercise is such that the hundreds who attend are kept in the best of health.

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The School Teacher-Beekeeper

BY W. A. WEIR, ASSISTANT APIARIST

THE combination of school-teaching with beekeeping has attracted many of America's school-teachers to try it out and the practical results which have been obtained have placed it beyond doubt that the teacher who is willing to employ and study Apiculture to help her, can derive assistance both in her work at school, in her efforts to swell

the lesson. The scientific fact that the majority of people are more ready to receive impressions through the medium of their eyes than through any of the other senses, and the fact, that in the honey bee we have a living creature which can be brought into close range is the basis upon which my confident assertion rests. The location of the teacher's school is no hindrance to using the honey bee as an illustrating medium and the range of subjects which can be illustrated are adapted to the twelve year old child and the college graduate. The installation of an observation hive right in the class room can be carried out quite successfully and direct illustrations in Nature Study, Entomology, Biology, Co-operation and Sociology can be suggested without much effort.

It is a sure rule that we cannot express ideas until we have acquired them, and even in this sphere a good teacher with disposition for close observation and research work can receive a stimulus from the study of Apicultural Science. There are many branches of beekeeping, which are only partially known, and the study of bee behaviour and colony life can be conducted in the crowded urban centres as well as in the rural sections. The relationship of the honey bee to the rest of agriculture; its reaction to the different environments in which it is placed; its highly specialized nature and the scope of its instinct are all avenues of thought which refresh the mind and offer an incentive to get out into the big out-of-doors and investigate more thoroughly the wonders of Nature. These new ideas can be used to put life into the lessons of the class room.



W. A. WEIR, '18

the bank account and in her efforts to keep fit for her arduous duties.

The leading theme in a teacher's work is to convey ideas and facts in an impressionable manner. Her Apicultural studies assist to some degree in her efforts. Every teacher realizes that the keynote to success in teaching is to awaken a lively interest in the subject at hand. It is only when the interest is fully awakened, that the scholar is prepared to concentrate his mind sufficiently to receive a permanent impres-

There is more than ideas in beekeeping. There is HEALTH. The efforts of the class room are taxing to a much larger degree than the layman realizes. A change of thought plus light exercise is necessary for relaxation. The care of a small apiary is quite readily managed in the time at a teacher's disposal, and the physical effort called for is just sufficient to keep fit. The period of time afforded between the closing of school and the evening meal enables a beginner to handle from eight to twelve colonies conveniently and, as experience teaches the cycle of the year and the behaviour of the bees, about four times that number can be handled successfully. The apiary requires the most attention during the two months of July and August, the school-teacher's vacation period, and a proper application of methods can throw practically all of the heavy work into these two months.

Health rhymes nicely with wealth, and beekeeper-school-teacher can often turn a sparse allowance into a competence. She may then afford a Ford. Any teacher will not object to addi-

tional income and there are very few branches of Rural Science which can be coupled with the profession of school-teaching causing as little interference with the duties of teaching as beekeeping. A thorough study of the subject; a natural liking for the work and systematic habits will make the side-line profitable from a financial view-point. An additional income varying from \$5.00 to \$10.00 per colony is reasonably certain in such circumstances.

Space will not permit of more than this somewhat general outline of the School-teacher-Beekeeper, but in conclusion, I would like to remark that such a combination of occupations is really more feasible than that of the Farmer-Beekeeper. In the former case the occupations dovetail conveniently into one another; in the latter case the rush of haying, cutting grain, etc. clash with the duties of the beekeeper. Sugar is needed for the Allies—for humanity; and the tons of nectar going to waste in the fields of Ontario unquestionably beckon to the school-teacher to come out and reap Nature's bounty for the good of herself and all.



"View from the Dairy Corner."

Grade Your Potatoes

BY C. F. PATTERSON, B. S. A.

AT a recent session of the House of Commons, legislation was passed demanding that all potatoes offered for sale be graded. The bill reads as follows:

(1) No person shall sell or offer for sale any potatoes represented to be of,—

(a) Number one quality unless such potatoes consist of specimens which are sound, of similar varietal characteristics, which are practically free from dirt, or other foreign matter, frost injury, sunburn, second growth, cuts, scab, blight, dry rot and damage caused by disease, insects, or mechanical means. The minimum diameter of potatoes of the round varieties shall be one and seven-eighths inches, and of potatoes of the long varieties, one and three-fourths inches. In order to allow for variations, incident to commercial grading and handling, five per centum by weight of any lot may be under the prescribed size and, in addition, three per centum by weight of any such lot may be below the remaining requirements of this grade.

(b) Number two quality unless such potatoes consist of specimens which are sound and practically free from dirt or other foreign matter, frost injury, sunburn, second growth, cuts, scab, blight, dry rot and damage caused by disease, insects, or mechanical means. The minimum diameter of potatoes of the round varieties shall be one and seven-eighths inches, and of potatoes of the long varieties—one and three-fourths inches. In order to allow for variations incident to commercial grading and handling, five per centum by weight of

any lot may be under the prescribed size and, in addition, three per centum by weight of any such lot may be below the remaining requirements of this grade.

(2) This section shall not apply to seed potatoes.

(3) "Practically free" means that the appearance shall not be injured to any extent readily apparent upon casual examination, and that any damage from the causes aforesaid can be removed by the ordinary processes of paring without appreciable increase in waste over that which would occur if the potato were perfect. Loss of the outer skin (epidermis) only shall be considered as an injury to the appearance.

"Diameter" means the greatest dimension at right angles to the longitudinal axis.

(4) Every person who, by himself or through the agency of any other person, violates any of the provisions of this section shall be liable, upon summary conviction for the first offence, to a fine not exceeding twenty-five dollars and not less than ten dollars; for the second offence, to a fine not exceeding fifty dollars, and not less than twenty-five dollars; and for the third and each subsequent offence, to a fine not exceeding two hundred dollars and not less than fifty dollars, together, in all cases, with the costs of prosecution; and in default of payment of such fine and costs shall be liable to imprisonment for any term not exceeding one month, unless such fine and costs, and the costs of enforcing them, are sooner paid.

QUERY

FARM ENGINEERING

QUERY:

"Kindly tell me how to make a concrete underground cistern for the catching of rain water off a building. Also please describe how to arrange for the water to run into the cistern, and how to arrange for pumping the water into the kitchen. Would the rain water that would come off the roof be clean? Which would be the best place to put the cistern, in the cellar or outside, or would it cause dampness in the cellar? Would it be all right to put a concrete foundation under a building that at present has a stone foundation? Would concrete be any better than stone? Could the cement be put on top of the stones? Would a cellar be frost-proof with a 12 inch concrete wall without having it banked in the fall?"

Mrs. H. J. T. O'L.

ANSWER:

1. **Re cistern for house.** There are two possible locations for the cistern, one in the cellar, the other outside beneath the ground level. The question as to which is the better location is largely a matter of circumstances and individual preference. In farm houses the cistern is usually found located in the cellars, as there is usually plenty of room in them, and I have never heard of any complaints about this location, provided that the cistern was properly built. It may be different for town and city homes where there is not so much room available in the cellars, where we find the cistern sometimes outside. There should be no trouble

with moisture from cistern inside if cellar be properly ventilated.

The best construction for the cistern is concrete, whether built inside or outside the cellar. The capacity, of course, varies with the size of the family and the number of uses to which the cistern water is put, but it is always advisable to build it big enough, probably a size 6 to 8 ft. square and 5 or 6 ft. deep would be ample for most homes. The wall should be 8" thick, and some form of reinforcement like heavy wire should be used every 2 ft. along the depth of the wall, and the whole wall and floor should be built at the same time, so as to insure a good bond throughout the wall. Use clean, sharp gravel and Portland cement in the proportions of 6 to 1. Mix the ingredients thoroughly while dry and again after wetting. Put concrete into the wall in a medium wet condition, tamp it well, and keep all large stones away from the edges of wall. The forms should be tight and rigid and strongly tied together. After the forms have been removed give both inside and outside of cistern two coats of neat cement (1 part cement to 1 part fine sand), in order to make the tank water-proof and finished in appearance. In one side of the wall near the top put a 3 or 4 inch over-flow pipe and carry it down to a good drain. If the cistern be in the cellar it may be practicable to put in the bottom of the wall a 2 or 3 inch pipe and connect it to the overflow drain for the purpose of emptying the cistern easily when it is necessary to clean it.

The water is conveyed to the cistern in any case by the galvanized pipe from the eavetroughs entering the cistern through the top or wall near the top. If the eavetroughs be cleaned out occasionally the water from the roof should be reasonably clean unless the house is located close to factories that give off large quantities of soot and smoke. However, if any particular trouble in this respect should be experienced it is possible to overcome it by installing a rainwater separator, an automatic device, on the inlet pipe of the cistern, for discharging the first washings from the roof out upon the ground. The cistern should be cleaned once or twice a year.

2. **Cistern Pump Installation.** If the cistern water is used only in the kitchen, the pumping installation consists of some good type of open top kitchen pump placed in the kitchen close to the sink. The pump may be fastened to the top of the sink platform or to the wall. The pump is connected to the cistern by a $1\frac{1}{4}$ inch pipe. If, however, the water is required for bath, closet, etc., then a force pump must be used for lifting the water to an elevated tank. It is impossible to deal with this problem satisfactorily unless it is known what uses are to be made of the cistern water.

3. **The Cellar Wall.** If the stone wall is in good condition there can be no objection to putting concrete wall on top of it, but I would advise you to have a local mason look over the wall carefully before you decide on any plan. Concrete, if well constructed, make a stronger wall than stone and mortar. The usual thickness for concrete walls for cellars is 12 inches, and though this thickness is not absolutely frost-proof it is found quite satisfactory in most cases without special banking in the winter time. A little frost would

not be a serious objection except in the fruit and vegetable apartment, and this could be sheeted with tongued and grooved lumber, leaving an inch air space, if the frost was severe enough to damage the storage products.

R. R. G.

FIELD HUSBANDRY

Peas and Oats

QUESTION:

When is the best time to cut peas and oats for green fodder?

ANSWER:

This mixture has the highest feeding value as green fodder and makes the best hay when the pea pods are about one-half grown.

W. J. S.

Winter Rye

QUESTION:

Would you advise sowing Winter Rye?

ANSWER:

Winter Rye is a large yielder of grain and green fodder. When grown for green fodder it should be cut in the milk stage, at which period it will produce early in the season, a large quantity per acre. Mammoth White Winter Rye and Petkus are two of the best varieties. Winter Rye should be sown at the same time as Winter Wheat, and at the rate of from one and one-half to two bushels per acre.

W. J. S.

Alfalfa Yellowing

QUESTION:

My second growth of Alfalfa is not showing bloom and is starting to yellow quite badly. What should I do with it?

ANSWER:

Your best plan would be to cut it for hay at once. The third crop will then not likely show yellowing or summer blight.

W. J. S.

Sowing Winter Wheat

QUESTION:

When is the best time to sow Winter Wheat?

ANSWER:

In experiments at Guelph, Winter Wheat has given its maximum yield of grain per acre when sown between the dates of August 25th and September 9th.

W. J. S.

Variety And Amount to Sow

QUESTION:

What varieties and how much per acre would you sow of Winter Wheat?

ANSWER:

The O. A. C. No. 104 and the Dawson's Golden Chaff are two of the best varieties of Winter Wheat. On good soil and a well prepared seed-bed one and one-half bushels per acre would be sufficient seed to sow.

W. J. S.

Cutting Alsike Clover

QUESTION:

What is the best indication as to the time of cutting Alsike Clover?

ANSWER:

Alsike Clover should be cut when the heads have turned brown and shell easily in the hand. When ripe, the seed shells easily and to prevent loss the plants should be cut in the early morning when they are still wet with dew.

W. J. S.

Sowing Clover Seed in Fall

QUESTION:

Where I farmed on the other side of

the line we sowed our clover seed in the fall of the year. Would this practice work out in Ontario?

ANSWER:

Clover seed sown in the fall of the year in Ontario usually badly winter kills. It would be much safer to sow in the spring with a nurse crop of barley or spring wheat.

W. J. S.

BACTERIOLOGY**Blackleg Vaccination**

QUESTION:

Dear Sir—Last fall we had a bad scare of Black Quarter in cattle. On Muncey Reserve about 100 head of cattle died with the disease.

We are vaccinating all our cattle before we turn them out to grass. Will this be sufficient until fall or will it have to be done again through the summer?

ANSWER:

Calves under six months are not fully protected by one vaccination; they should be re-vaccinated after three months from time of first vaccination. For young stock between six months and four years of age one vaccination is sufficient for a season.

Stock over four years are not very subject to the disease.

We have at present no printed matter dealing with this disease, but you can obtain a bulletin from the Veterinary Director General at Ottawa.

D. H. J.



THE OAC REVIEW

REVIEW STAFF

J. B. MUNRO, '19, *Editor-in-Chief*

G. B. HOOD, '20, *Associate Editor*

R. W. MAXWELL, '18, *Agriculture* A. H. MUSGRAVE, '19, *Athletics*

F. L. FERGUSON, '18, *Experimental* A. B. JACKSON, '19, *College Life*

C. F. PATTERSON, '18, *Horticulture* WALLACE MURDOCH, '20, *Locals*

G. R. WILSON, '18, *Poultry* G. H. SCOTT, '20, *Artist*

R. ALEX. BRINK, '19, *Query* OLIVE LAWSON, '18, *Macdonald*

A. M. STEWART, '19, *Alumni* M. BARBARA SMITH, '19, *Mac.*

EDITORIAL

The Review extends a hearty welcome to the Summer School class of 1918. The teachers are here again stronger in numbers than ever. From the activities on the campus, we believe that they will be stronger physically than they were on arrival. Mr. MacLaren has already initiated them into the joy of class play and out-door sport and keen enjoyment is being taken in every branch of the summer course.

The summer course for teachers was begun ten years ago and has steadily gained in popularity and prominence. The 1908 class of 49 students was a fair beginning, but looks diminutive when viewed from the 1918 perspective. We have enrolled at the college this year 365 teachers and 100 school inspectors, who are studying agriculture in the various departments. This year's class practically reaches the maximum possible, owing to the inadequate housing accom-

modations in the Residence and Macdonald Hall. There are no men in residence this year, all having to board in town on account of the superior force of ladies taking the course.

The lectures in all subjects pertaining to practical agriculture are given by professors and lecturers of the regular staff. Laboratory work and work in the gardens and on the farm forms a large part of the prescribed course and is under the supervision of the regular instructors here. The executive part and all arrangements for the course, however, is in charge of Dr. J. B. Dandeno of the Education Department, Toronto. He it is who directs the whole "corps" and has the place of authority with the teacher-students.

THE ALUMNI PROBLEM

During the summer the Alumni Editor is having his difficulties trying

to secure the items that are of interest to all of our students, especially the boys overseas. There are few sources of information now available to him, consequently we are short of **real news**. We are always glad to get letters from our readers telling of the whereabouts and the activities of our boys. Our only regret is that so few letters come to us. Do not wait to be coaxed, but send in whatever interesting item you have. "No news," never appeals to the Alumni Editor as good news. Address any items to A. W. Mead, '20, who is taking charge of the Alumni Department, since Mr. Stewart's departure.

WHAT'S IN A NAME?

Visitors to the College this year are able to learn the names of trees and shrubs growing on the campus with much less difficulty than formerly. The Horticultural Department have had the name of each shrub or tree attached to various specimens around the grounds. This is a decided improvement and will be of considerable educational value to visitors and students who use their observing faculties. By this means we are able at a glance to observe the various shades in the foliage of different varieties, and also the effect of location and soil conditions on shrubs of the same species. There are many benefits to be derived from this new departure at the O. A. C., and many visitors are expressing their appreciation of the action the Department has taken.

We might suggest that the names of many of the flowers might be made a little more conspicuous. This would enable us to become familiar with the flowers, and also to recognize them by their proper names rather than by the many local names that are given them in various localities.

When the O. A. C. Review staff was re-organized in September last year, it was found to be wanting a senior representative for Macdonald Hall. The Editor was rather perplexed as to what steps to take in selecting **the best** from the many capable girls in the senior year. Finally, the matter was referred to Dr. O. J. Stevenson. The Doctor hesitated just long enough to mentally consider the individual abilities of each of the girls in his class and then with assurance he recommended Miss Olive Lawson. The Editor has since realized how good was the Doctor's choice.



MISS OLIVE G. LAWSON, '18.

Miss Lawson has taken a very active part in the publishing of the Review, and has maintained the record for promptness which she established early in her journalistic career. The Macdonald department of the paper has never lagged nor have there been any complaints from our representative. All has gone well and the Editor and staff feel that in Miss Lawson they have had a representative that was all that

Dr. Stevenson prophesied and more than we expected.

Miss Lawson has left us to take up her duties at Vermillion, Alberta. She

has our heartiest wishes for success in her work, and we predict a bright future for her.

The College Departments

We print the following information, submitted by the heads of the various departments at the College, believing that it will be of interest and use to the teachers attending the Summer Courses and also to our regular readers. Even our graduates who are familiar with the College 'doings' will appreciate these remarks which will remind them of their college days and their class-room work.

HORTICULTURAL DEPARTMENT

"TO make more beautiful and more fruitful the land in which we live," and thereby, "to minister to the aesthetic and physical needs of mankind," is the aim of our department. We strive to attain this ideal by teaching, demonstrating, experimenting and investigating.

Our work is varied and comprehensive and includes within its scope problems relating to Fruit Growing, Vegetable Gardening, Plant Breeding, Landscape Gardening, Floriculture and Forestry. Instruction is given to regular and short course students in the principles and practices involved in the prosecution of the various lines of work and as far as possible, information is given to the public by correspondence.

The Rural Beautification Work of the Landscape Gardening Division will be made a special feature by the department. This much needed work and the other activities noted previously are practical methods of demonstrating some of the principles for which the department stands.

THE DEPARTMENT OF MANUAL TRAINING

THE Department of Manual Training offers three distinct courses:

1. A Course in Woodwork, Metalwork and in Farm Mechanics for first and second year students in Agriculture.
2. A Normal Course for the training of instructors in Manual Training.
3. Optional Courses in Woodwork and in Color and Design for students attending Macdonald Institute.

The Course for first and second year students in Agriculture embraces the fundamental principles involved in Carpentry, Gasoline Engine, Ropework and Mechanical Drawing.

The Normal Course affords a comprehensive, theoretical and practical study in Woodworking; Forestry and Lumber—structure, growth and defects of timber; Finishing, Constructive Design; Mechanical Drawing; Machine Shop Practice and Art Metalwork; Forging; Tools and Materials; Theory of Manual Training; Organization and Control; Planning and Equipping of Buildings; Lighting and Ventilation; School Management.

The Course in Color and Design deals with the theory of color, their combination and areas, hue, value and intensity, harmony, contrast, arrangement and proportion as applied in dress and decoration.

THE DEPARTMENT OF PHYSICS

THE Department of Physics endeavors first to give the students a knowledge of General Physics. Mechanics and Hydrostatics are studied in the first year, Electricity in the second, Heat in the third, and Light in the fourth. Then come those branches of farm activity in which the above subjects find practical application; e. g., Soil Physics in the first year, Drainage, Farm Power and Farm Water Supply and Sewage in the second, Meteorology and Cold Storage in the third, and Climatology and Soil Management in the fourth.

The outside work of the department has, up to the present, been directed chiefly along two lines, first emphasizing the value of drainage and making drainage surveys for farmers, together with some investigational work along this line. In this campaign we have laid out drains on 130,000 acres since the inception of the work in the Autumn of 1905. At the present the department is devoting considerable time to the subject of Farm Power; also to investigation of Spontaneous Combustion in Barns, and the effects of Drainage on the Properties of the Soil.

WORK OF THE BACTERIOLOGICAL DEPARTMENT

THE Bacteriological Department endeavors to demonstrate the important role that micro-organisms, more particularly the bacteria, play in the economics of life. The bacteriologist must necessarily be a specialist, as his work requires special equipment and training. Everybody, however, but more particularly the farmer, has constantly to do with bacteria, either consciously or unconsciously. Therefore, by lectures, demonstrations and the agency of the press we endeavor to bring before the notice of the community, more particularly the agricultural community, the essential truths regarding micro-organisms that are discovered only by the specialist's research work in the laboratory. Investigational work is constantly being conducted in connection with bacteria and the soil, bacteria and the water supply, bacteria and milk, bacteria and animal diseases, and bacteria and plant diseases. This work includes free bacterial examination of samples of water, milk, dead or diseased poultry, animals and plants which are being constantly sent in by the farmers of the Province. Furthermore, the preparations of beneficial bacteria such as compose the nitrocultures for legume inoculation, and the lactic cultures for dairymen are prepared by the thousand and sold at cost to those applying for them.

DEPARTMENT OF ENGLISH

TO enable the student to enter into the spirit of the literature which he studies; to develop a taste for good books; to lead him also to see in music and art the expression of his own emotions and aspirations in common with those of the race. These are some of the aims we are trying to realize through the regular work of the class-room aided by pictures, lantern slides and phonograph. But there is another side to the study of English. No graduate can do his most effective work unless he is able to express his thoughts in clear and forcible language. To awaken in the student a desire to improve his daily speech, and to develop the power to write and speak effectively—these are aims which we are striving to attain through classes in Composition, Journalism and Public Speaking, and through Individual Conferences with the student. In the study of good models and in the power of self-criticism the hope of improvement in English Composition mainly lies.

THE DEPARTMENT OF ENTOMOLOGY AND ZOOLOGY

THE Department of Entomology and Zoology finds its first duty in carrying out the requirements of the College curriculum in all the four years, the greatest amount of time and the largest number of lectures being devoted to the students taking the Biological Option. During July and part of August Dr. Bethune and Mr. Baker are fully occupied with the instructions given to the large Summer School of Ontario Teachers, with the result that they have little leisure for research work. Mr. Baker, however, continues his experiments for the control of flies and other insects affecting domestic animals. Professor Caesar, in his capacity as Provincial Entomologist, is busily engaged all summer long in outdoor investigations and experimental work in the Niagara fruit district and in the supervision of nursery inspection. During 1917 he prepared Bulletin 250 on "Insects Attacking Fruit Trees" and shared with Professor Howitt the authorship of Bulletin 257 on "The More Important Fruit-tree Diseases of Ontario." He also contributed many articles to the agricultural journals and has given a large number of addresses at conventions and meetings of fruit-growers and others. Dr. Bethune prepared for publication Bulletin 251 on "Insects Affecting Vegetables," being a revised edition of his former work on the same subject. All three members of the staff have a large correspondence with enquirers for information on a great variety of subjects.

DEPARTMENT OF CHEMISTRY

AT this College the Department of Chemistry is equipped with facilities for training its students in the principles of Chemistry which underly the main efforts in the modern practice of Agriculture; and is also provided with equipment for the analysis of samples submitted by farmers, such as feeds, soils, fertilizers, water and other things in which they are specially interested; and for the answer of enquiries and other extension work. Also privileges are possessed to some extent for the prosecution of research work of vital chemical interest but, as is usual in the English-speaking way of doing things, this phase of the work, although the most important because fundamental, is greatly neglected. However, some headway is being made, principally in connection with cultural work upon our different soil types and a charting of the different soil types of the Province. What is needed badly is more aid financially and in man-power, and it is to be hoped that the present awakening will throw off the lethargy that has lain upon the people in regard to the indispensibility of Science and its applications, and that this arising from slumber will affect specially the Science of Chemistry in Agriculture.

THE DAIRY DEPARTMENT

THE work of the Dairy Department is broadly divided into two parts—teaching and investigational. The teaching branch aims to cover the theory and practice of Dairying in all its branches so far as time and equipment will permit. The lines emphasized are: milk production, handling milk and cream, manufacture of cheese, butter and ice cream, the testing of milk for fat and total solids, and the testing of cream and dairy by-products for fat.

The investigational work during the year 1917 related to: causes of difficulties in farm churning, causes of variation in the percentage of fat in cream from

farm and factory cream separators; the pasteurization of cream for creamery butter manufacture; the variation in weight of farm and creamery print butter; loss in weight of butter held in cold storage for one, two and three months; comparison of home-made rennet and pepsin with commercial rennet as coagulants in the manufacture of cheddar cheese, saving in weight of cheese by paraffining when cheese are one week old.

In addition, the Dairy Department tested a great many samples of milk and cream for fat; and samples of butter for moisture and salt, which were sent in by farmers and creamerymen.

ANIMAL HUSBANDRY DEPARTMENT

THE Animal Husbandry Department is maintained primarily for instructional purposes along lines of the breeding, selection and managing of the different classes of farm live-stock. For this purpose, there are maintained four Dairy breeds and three Beef breeds of Cattle, three breeds of Sheep and two breeds of Swine. Experimentation in the feeding, care and management of live-stock is a secondary purpose in the maintenance of this department.

Under the control and supervision of the Farm Department, there has been within the past year inaugurated an intimate investigation into the actual business conditions of a large number of farms throughout the Province with the purpose of discovering those factors in the organization of actual farms that have the greatest influence in raising or lowering the net income of the average farm under actual running conditions. This method of collecting information of agricultural value makes of each and every farm studied an experimental farm.

DEPARTMENT OF FIELD HUSBANDRY

A PRACTICAL department of an Agricultural College is decidedly different from any department of any ordinary College or University.

The Field Husbandry Department of the Ontario Agricultural College has class-rooms and laboratories, offices and museum, vaults and seed-rooms, typewriters and cameras, threshing machines and fanning mills, horses and implements, and it conducts experiments with soils and with crops on seventy-five acres of land divided into two thousand five hundred plots.

Lectures are given at the College to the students in the degree course, to those taking the short winter courses, to public and high school teachers, to members of conferences on rural leadership, on field crop judging, etc.

Within the past year co-operative experiments with field crops were conducted on about four thousand, three hundred farms throughout Ontario. A survey was made of potato-growing in the northern part of the Province, numerous agricultural conventions were addressed, newspaper articles were written, and a heavy correspondence was conducted.

Varieties of grain which have been originated in the department recently are O. A. C. No. 21 barley, O. A. C. No. 72 oats, O. A. C. No. 3 oats, O. A. C. No. 61 spring rye and O. A. C. No. 104 winter wheat, etc.

Since the beginning of 1918, bulletins have been prepared as follows: No. 260 "Results of Co-operative Experiments with Farm Crops," "Sources of Seed and Production of Food Materials," and No. 261 "Wheat and Rye."

POULTRY DEPARTMENT

FOR some years the Poultry Department has been trying to breed more productive hens. An analysis of the results has suggested that egg production is influenced by many factors besides the one of breeding. As a result of the breeding operations, and no doubt some influence by the times, it has been found advantageous to study the business purely from the economic standpoint. That is a comparison of the profit or loss among hens where the conditions are as near alike as it is within our power to get them, but the birds are dissimilar in parentage or breeding; where the birds are similar in parentage but are not alike as to time of hatching, methods of feeding, housing, and particularly where the personal factor influence the result. Associated with the above are the questions of taking care of the product when produced, and methods of marketing. There is always in one's mind the question of how to tell the profitable producers without the use of trap-nests.

BOTANICAL DEPARTMENT

LECTURES and laboratory work are given the students of all years. In all courses an endeavor is made to emphasize the economic and practical side of Botany without neglecting the necessary scientific principles which are the foundation of such a study. The instruction work of the department is by no means restricted to the regular courses. Lectures and demonstrations are given in January and February to the Short Courses in Seed and Stock Judging, Horticulture and Apiculture, and during July much time is devoted to giving the Ontario teachers in Elementary Agriculture some knowledge of flowers, weeds, trees, fungus diseases and the impurities in clover and grass seed.

The experimental work of the department consists of co-operative experiments in weed eradication, spraying with Bordeaux mixture and sulfocide to prevent celery blight, tests with formalin solution for the prevention of grain smuts, investigations of the cause and means of control of a peculiar disease of winter tomatoes, experiments in spraying to destroy dandelions, investigations to determine to what extent the fungus which causes Late Blight of Celery is carried over on the seed and studies of the life history of the fungus causing White Pine Blister Rust. Much new investigational work is planned for the coming season.

In order to aid the farmers and fruit-growers of the Province the following bulletins have been prepared: Bulletin 188, "Weeds of Ontario" by J. E. Howitt; Bulletin 229, "Smuts and Rusts of Grain Crops" by J. E. Howitt and R. E. Stone. Bulletin 257, "The More Important Fruit Tree Diseases of Ontario" by J. E. Howitt and L. Caesar. Bulletin 258, "The More Important Fungus and Bacterial Diseases of Vegetables in Ontario" by J. E. Howitt and D. H. Jones.

THE APICULTURE DEPARTMENT

THE regular college course provides for the teaching of Apiculture to first year students. Short courses are also conducted in January and June for those who desire to get a thorough knowledge in the theory and practice of bee-keeping. The apiary which contains about seventy-five colonies of Italian bees, is maintained for the purpose of experiment and class-demonstrations. In Macdonald Institute the office and laboratories are located. Here, the records of the Ontario Beekeepers' Association are kept, and all executive work in connection with

Inspection for Foul Brood is directed by this office. The laboratories are equipped with all modern appliances used in handling bees, and many specimens of antique appliances are on exhibition.

Since November 1917 this department has been supervised by P. W. Hodgetts, Director of the Fruit Branch, Toronto.

From the Butterfly's Standpoint

From "The School"

SUBMITTED BY A. J. MADILL, B.A.

Once upon an evening, dearie,
While I flitted bright and cheery,
Over dear familiar milkweeds,
Where I'd often flit before,
While I contemplated camping,
Suddenly there came a tramping
As of some one roughly stamping,
Stamping on a hardwood floor;—
"Tis a Hereford cow," I muttered,
Stamping on the stable floor,—
Only this and nothing more.

Ah, distinctly I remember,
'Twas two months before September,
And the country was affected,
For within two miles or more
By a parasitic creature,
Monster-limbed and coarse of feature,
They were humans and would meet you,
If you dared outside your door;
And I trembled lest the tramping,
Shouldn't merely be the stamping
Of the Hereford on the floor.

Then I heard a little flitter,
'Tis the hens there in the litter,
Wyandottes with chickens scraping,
Just outside the hen-house door.
This I said, but ere I said it,

I was gently covered o'er,
And I cried, "It is the monster!
Let me out, I do implore;
Please to show me to the door."

Then methought the air grew denser,
And the monster seemed immenser,
As the bottle's mouth he quickly
covered o'er,
"Wretch," I cried, "uncork the bottle,
Pull the cork out, I implore!"
But he paid me no attention.
To his friend I heard him mention,
Very coolly, "That's one more."
And his friend cried, "Twenty-
four."

And my body never flitting,
Still is sitting, still is sitting,
On the pin just where she put me,
Right behind the moth before.
I am "Monarch" by my label,
But I'd sooner far be able
Just to flit and glide and flutter,
In the milkweeds I adore,
Flit and flutter evermore.

M. F.

McKeough School.
Chatham, Ont.



The following letter from E. W. Calvert was received by J. W. Noble and contains considerable information of interest to students of Biology. Calvert was a member of year '13 and was well known to both the students and faculty at the College. We are glad to hear from him.

France, May 6th, 1918.

JOHN W. NOBLE, B.S.A.,
Essex County, Ontario.

Dear John,

I was very glad to receive your letter of March 24th, please excuse the delay in answering it. It seems a good while since we have conducted a regular correspondence. I regret that we are unable to discuss all topics with equal freedom out here but things biological have no restrictions, so we may carry on in that regard.

Things are looking fine in this country now. It promises to be a good crop year from what I can judge. Grain crops are the chief here. Roots are also grown largely. Alfalfa seems to be a favorite hay crop. A crop we never see in Canada is the horse bean. They have a coarse woody stem, don't know what the foliage is used for. It makes very poor "straw," being much coarser than buckwheat. The turnip most commonly grown, is neither a Swede nor like our white. It has white flesh, is of better flavor than the Swede,

being not so strong, but having a good solid flesh, not punky like our white ones. Sugar beets and parsnips are important commercial crops in many parts. Don't know what the parsnips are used for as they appear to be too large and coarse for human consumption.

You might be interested in some of the biology of northern Europe. The prominent spring flowers of the woods in order of blooming, are somewhat as follows:—Snowdrop, a white flower with green center, resembling the crocus, Coltsfoot (like a yellow daisy), Primrose, (yellow); Sweet Violet (blue); Periwinkle, (blue); Greater Gletdwort, (white); Cowslips, (like a small primula) yellow; Lesser Celandine, (ranunculus); yellow; Wood Anemone; Bluebell (hyacinthus); Broom, Barren Strawberry; Wood Sponge; Wild Strawberry, Woodruff, (rubiaceal), white; Golden Saxifrage, Herb Robert, (geraniaceal); Orchis maculata, (purple); Wood Sorrel, (white); Forget-me-not, (bryosotis); Paris Quadrifolia, (trilleacead); Arcum Maculatum, (wake robin); Lily-of-the-valley. The Lacosh Marigold and Herb Robert are identical to ours. Ranunculus Acris and Pulbosus, Sceleratus and Aquatilis are identical or nearly so. The White and Yellow Pond Lilies, the Blue Violets, Agrimony, Wild Strawberry, Raspberry, Blackberry, Sweet

Briar, Yellow Aveus, Willow-herb, (great); Solomous Seal, Water Parsnips, Poison Hemlock, Evening Primrose; Golden Ragwort, Cypripedium (lady slipper); Water Plantain, Arrowroot, Bulrush, Horsetail, Bracken Maiden-hair, (adicatum); Polypody and Cystopleois, (bladder fern); are very similar to or identical to ours at home. Conspicuous plants of the open, not familiar in America are, Lady's Smock, (a pale bluish crucifoid); Milkwort, (a tiny blue flower); Fumitory, (related to corydalis); Bittersweet, Black Nightshade and numerous others.

The birds are in full song now. Nightingales are here in full force and sing continuously day and night until June. The Blackcap and Whitethroat are also songsters of some repute, but the songs are of less compass. The Nightingale is very full-voiced and the notes very clear and finished in quality, being entirely free from harshness. The bird is just a trifle duller in hue than the Brown Thrasher. The bird is no larger than a Song Sparrow. The Blackcap and Whitethroat are warblers (sylvidae), and are about the size of our warblers. Two other warblers are the Chiffchaff and Willow Warblers, which are dulled, and have insignificant songs. They are both birds of the woodland, the other two are of the garden and thicket. Thickets are the favorite haunts of the Nightingale also. The Corn Swallow here is very similar to ours, but lacks the white webs to the tail feathers, is slightly smaller and has a blue throat. The notes and habits are identical. The House Martin builds a nest like the Cliff Swallow, but is more like the Tree Swallow in color. The Sand Martin is identical to ours. The Turtle Dove is similar to our Morning Dove, but has not so long a tail, and the latter does not taper. The Wren is almost identical to our

winter wren. The song is also identical. The bird is found about dwellings and also in woodland. The Meadow Pipit is quite similar to our species. It is a resident, but not very common in winter.

Of Mammals I do not see a great many. There is a very tiny reddish-brown mouse known as the harvest mouse. He climbs to a head of wheat and helps himself to the kernels. The Pigmy Shrew is of about the same size. The Water Shrew is a large dark species. The Doremouse has a hairy tail and climbs trees after the fashion of squirrels. Have not seen the squirrel here to date. The water Vole is a very large species with habits similar to those of the muskrat. It is about squirrel size and dark brown in color with field Vole proportions. The Mole is one of the commonest animals. The holes, or more properly molehills are everywhere in evidence. The Hedgehog is an animal, the size of two fists and has quills like the porcupine.

Am glad to know that you see a number of the old class fellows occasionally. You might give my regards to Harry. Have seen Scotty Brown over here. He is a sergeant-major in the 10th Field Art. here. I think I mentioned having seen Lew Henry last summer. He was in the next brigade to ours.

Was glad to get the photograph. Please remember me to Mrs. Noble and other acquaintances.

Sincerely your friend,
E. W. CALVERT.

The following letter is from C. C. Main M 2-15276 Motor Ambulance, 21st Army Corps, Palestine, E. E. F.

It is interesting in that it shows us some of the difficulties the boys are facing in Palestine.

Somewhere in Palestine, 16-4-18.

Dear Father and Mother:

Quite two months ago I first visited Jerusalem, and since then I have been there on many occasions. Approaching the Holy City from Satron or Jaffa, or from the Mediterranean Sea it is quite repulsive in appearance, being nothing more or less than large masses of broken rocks, heaped here and there without the slightest attempt at uniformity, beauty, picturesqueness, or any of those qualities which assist in presenting a pleasing appearance to the eye. But first of all, let me give you a description of the road from Satron, a distance of 17 miles to Jerusalem. For the first five miles the road is excellent and almost on the level. Around about, the country is very rolling, yet very fertile, and comparatively speaking, in Palestine one would say it was a rolling, level country. By that, I mean that each succeeding hill is no higher than the one you have just motored over, yet the hills may be as high as the Dundas Mountain. Then all at once you hit the foot of the Judean Mountains, and from there on to the City it is uphill all the way. The road is cut out of the rock, and is built on the ledge of rocks. On one side to your left, you have huge masses of rocks almost overhanging the road, and the crest of the mountains, which you can scarcely see, and on the other side to your right, an abrupt precipice with a drop of 500 to 1,000 feet to the "wady" beneath. The road is very winding as well, so much so that they call the turnings in the road hair-pin bends, which accurately describes them, for each turning is just as sharp as that of a hair-pin. As you approach these very dangerous corners, you can see nothing but about 1,000 feet of just clear space, and there is only one foot of road clearance to run a margin on, and that is all that keeps you from taking the high

dive. In certain places on the road it is impossible for cars to pass, so you'll know how narrow it must be. You'll be motoring along nicely around these hair-pin bends, when all at once you'll strike a dip of 90 degrees straight for about 20 feet. Gee whizz! it makes one feel windy, and you can almost feel your heart coming up. It makes the coolest of drivers rather shaky motoring over these death-courting roads, and if your brakes should go whilst taking a bend, well, they'll want a new outfit, complete, driver and all. And I might add that some have gone over, but of course have never driven again. I certainly wouldn't care to take Mother for a tour from Satron to Jerusalem. In one place you go up seven miles on low speed with a tin lizzie. All along the road, one sees hundreds, yes thousands, of natives breaking stones, building and improving the roads, and you would be surprised to hear that almost one-half of them are women. All of them carry the stones, or a basketful of small broken stone on their heads, and it is marvellous the work they can do in one day. When dinner time comes, they sit down on the rocks, right in the hot sun and eat whatever they may be lucky enough to have. Generally the meal consists of hard biscuits and water. Now and then they may get some bully beef, and you can't understand just how scarce food is out here. Around all the army camps you'll find fairly well dressed respectable native citizens begging for the scraps which the soldiers have left, and they are willing to do almost any job you ask them to even your washing, for just a little bit to eat. The restaurants are open, but they have only imaginary tea and an egg, for which they ask thirty cents, so that will give you an idea of how much the people are getting to eat. As I

said, the first aspect of Jerusalem from the South or West is very disappointing, and there is nothing in the view itself to excite your feelings, because the walls and distinguishing points, all in some degree partake of that featureless character which belongs to the Hills of Judea. One day not long ago I had occasion to go about twenty-five miles out North from Jerusalem, and as luck would have it I was returning to the City just as the sun was setting. The Nablus road is away up above the city, and I will never forget the beautiful panoramic view I beheld whilst looking upon the city from its most favorable aspect, under ideal conditions. No doubt you know that most of the houses are built of stone and have red tile roofs. These buildings are beautiful in themselves, but are rendered all the more so when set amongst green verdure under the reddening glow of a perfect sun. The picture which one's eyes behold is identical with that shown in the book of views I mailed you not long ago. Just now I am roughing it in a "wady" between two rough rocky hills, not over fifteen minutes walk from the Jacks. We get plenty of B.B. and A. B. (Bully Beef and Army Biscuits) to eat with H. E's. (High Explosives) whizz-bangs and shrapnel for dessert and amusement. The life I am living, is not anything to write home about, but still I suppose someone has to do it, and the officers undergo the same hardships as the men. Hoping this finds you both well and with best regards to all,

I remain, as ever,
CLEVE.

The following letter from V. C. Lowell, '19, received by C. F. Patterson '18, will be of interest to all members of '18 and '19. Lowell took his first two years with '18 and his third with '19.

Aldershot, England, May 27th, 1918
Cecil Patterson, B.S.A.,
O. A. C., Guelph.

Hello Pat!

I am running short of paper that's one reason for beginning so near the top. The other reason is, that I may get more on a page, seeing that the Government is reducing the amount of white space on their letter paper also, why not I?

I presume this date of writing finds you all finished with your college work, with a B. S. A. tacked on to your name, a parchment with a whole lot of Latin words printed thereon, including your own name as Julius Caesar's butler would have announced your visit at his imperial palace on the Tiber (or wherever it was), and that after the excitement of the chase for knowledge and the official acknowledgment of said knowledge at Torontonensis (?) you have come back to earth again somewhere in Western Ontario, and by the time this missive reaches you, you will be studying the immediate needs of a large farm-yard and inhabitants, and the wide fields adjoining. Well, I can just envy you, there is nothing I should care more to be doing than to be right along beside you, and working away to make things grow, and to watch them grow, and anticipate, and later enjoy the fruits of said pleasurable toil. Fortunately, I am not homesick, and have not been disappointed in what we have experienced, simply because from the start I did not base in the imaginary sun of military glory. So far, I am glad to say, almost everything has been even better than one might anticipate—the worst is yet to come! But we don't think of these things over here, it's interesting what you don't think about, and vice versa, when you are in a crowd. The life isn't too bad, and one could stand anything when it means doing a

bit for the biggest thing in the world. We had a splendid trip overseas, smooth going almost every day, and at worst never rough enough to more than dash a little spray over the forward decks—enough to dash many dinners over into the waves though. But there were few of us land lubbers who would have boasted of being sailors. I had very little trouble, though the sense of dizziness was present much of the time. There was no excitement either though, while in the danger zone we had a sense of security, well warranted no doubt, but it might easily have been otherwise. Our trip by train through England to camp was interesting, as all the usual car window sights were replaced by what was more like a great continuous park, every bit of land, hill and wood gave the appearance of having been carefully groomed. It was like a great colored painting in motion, in which every detail had been carefully worked out, a vast amount of detail crowded into small space. We in America deal in broad wide effects, consume a vast deal of space to produce a simple scene—here the same space will make many scenes. Town and country are crowded shoulder to shoulder and cities merge into one another. In moving along the country roads, hedged in on either side with holly or hawthorn, interspersed with great elms or ivy-covered oaks, you might easily imagine yourself miles from habitation. A few rods farther and you are passing through the streets of a quaint village, or entering a town or passing the pretentious and well ordered entrances to some great estate. One feels when tramping along on a route march, as if he were a giant in seven leagued boots.

Segregation has held us in bounds ever since we reached this "blessed isle". For three weeks I dwelt in tents, Scottie McLean, being one of the seven

other fellows in our tent, our mattress was the floor, other furnishings, the tent pole! We landed in rain, which, continuing through the next day (a Sunday!) left us pretty well dampened down by night. English dampness too is the nearest thing to a real bath you could obtain! And we did seem half starved those first days too—rationing being a very unusual thing for us as you know! But aside from this early "reception" from which none really suffered in the end we fared fairly well, for soldiers. The past three weeks 'yours truly,' has been in a hospital with mumps—very mild—captured from the Nova Scotians on the boat. Have had really comfortable quarters in a real house, with a real bed (that's about all), and am really sorry to leave as I do to-morrow. But away I shall flit back to camp to begin, a day or two later, the work of real training. Most of our boys at this hospital are Canadians, though the place is British, so I haven't been free yet to make a real survey of what things are like here. I hope to do that later. The present "vacation" has been very useful though, in enabling me to get "settled down" to an appreciation of what we are about. Have done a bit of reading, writing (letters) and thinking. Now for work! Hoping this finds you well, and may I hear from you.

Your Friend,
V. C. LOWELL '19.

W. R. Bishop '02 has deserted professional work in London, and is now farming near Komoka in Middlesex Co.

C. A. Tregillis '14, who was formerly doing district representative work in Ontario, is in hospital in England, badly wounded.

"Geordie" Jackson, '16, has accepted the position of sales manager with the Canadian Ingot Iron Co., with headquarters in Guelph.

Capt. J. E. Latimer, '14, was in Guelph for a few days last week.

Bill Gardiner, '17, was in town last week. He has joined the staff of the Field Husbandry Department, and will be located in Northern Ontario.

"Chirpy" Weld, '17, of the Farmer's Advocate was a visitor here two weeks ago. He is still wearing the same old smile.

Jesse Francis, '15, has enlisted in the Western Artillery.

Professor A. M. Shaw, '10 of the Agricultural College, Saskatoon, was a visitor here last month.

A. J. Mann, '18, has gone overseas with the Canadian Engineers.

F. K. Merkley, '17 who has been in the States for some time has returned to Williamsburg to manage the home.

J. J. Callister, '11, who went overseas in April, 1917, and has been at the front since September, 1917, is in hospital in England suffering from severe gas poisoning in the arm.

Cameron Currie and wife, visited college friends last week.

A. W. Guild, '17, is a student minister in the Methodist Church, and will be located about eight miles from Guelph. He has been in Bruce County, and expects to go to Victoria, B. C., next year.

T. M. Flatt, '19, who was invalidated home with trench fever after spending eight months at the front, has returned to Canada, and is now farming near Hamilton.

W. J. Tawse, '16, returned from overseas, has been appointed to a position in the Ontario Bureau of Motion Pictures.

We deeply regret to report that Capt. E. Z. Agar, '16, who was one of the greatest athletes the College has ever known, is believed to have died at the front.

"Daddy" McLymont, '16, enlisted with the 1st Battalion at Valcartier, and went overseas with the 1st contingent. After serving in succession as Quartermaster-Sergeant, Captain, Quartermaster and Paymaster in his battalion he has returned to Canada. He was in Guelph last week, and is leaving shortly for a vacation in the States, after which he intends to resume his studies here.

H. G. Crawford, '16, is taking post-graduate work in the United States.

S. A. Bergey, '12, enlisted in the Tank Battalion in Toronto, and is now overseas.

Lieut.-Col. W. J. Brown, who is now at the head of No. 1. Military District, is a graduate of the College.

"Prof" Sproule, '17, who is now in the Flying Corps and in training in Toronto, was in town a few days ago.

E. W. Weston, '18, who has been doing post-graduate work in the Manual Training Department, is now gaining further experience in the Taylor-Forbes Factory here.

Congratulations to W. H. Scott, '16, on the arrival of a little daughter—Margaret Gordon Roseveare.

Norman R. Martin, '16, who has been for some time Agricultural Instructor under the Invalid Soldiers' Commission, stationed at the Military hospital here, was on June 4th, presented with a daughter—Our hearty congratulations.

MARRIAGES.

The number of Alumni who have embarked on the great adventure, shows no sign of diminishing. We offer our hearty congratulations and best wishes for the future to the following.

GOLDING—HILL.

Capt. M. S. Golding of the Sanitary Corps, London, England, to Miss May Hill.

BLAND—WALKER.

On May 11th, 1918, at Maxwelton, the home of Mr. and Mrs. George Warren Walker, their daughter, Grace Muriel was united in marriage to Capt. Alan Bland, C.F.A., son of Mr. and Mrs. George Bland, London, England.

Capt. Bland has served for some time overseas, and is now Military Instructor at Yale University. They will reside at New Haven.

JOHNSON—CAMPBELL.

A quiet wedding was solemnized at the home of Mr. and Mrs. Chas. E. Doyle of Dutton, Ontario, when their niece, Mary Campbell, was united in marriage to John T. Johnson, '16, of the C. F. A. The ceremony was performed by Rev. R. Stewart, of Dutton. The bride was attended by Miss Jessie McKillop, while Chas W. Buchanan supported the groom. Mr. and Mrs. Johnson are spending a short time in Ottawa prior to his return for overseas' service.

J. T. Johnson is a graduate of O. A. C. with class '16. He enlisted immediately after his graduation and went overseas on September, 1916. After continued service at the front he was granted ten weeks' leave, which he has spent in Canada. We will be glad to see him again and all join in wishing him success in his fighting career and happiness for years to come.

KNAPP—JAKES.

At the home of the bride's parents, near Merrickville, Laura A. Jakes was married to Clifford Knapp, on Wednesday, May 15th. After a trip to Brantford, Guelph and other points in Western Ontario, they will reside near Merrickville on Mr. Knapp's farm. Mrs. Knapp was a sister of C. W. Jakes of '17, who is at present in the air force at Toronto. Mr. Knapp took his Associate course with year '16.

DES BRISAY—LINEHAM.

From the Vancouver Daily Sun of June 8th, 1918.

The wedding took place on Thursday, at St John's Church by Rev. Dr. W. H. Smith of Miss Elvira Martin Lineham, daughter of the late Mr. John Lineham, of Calgary, to Mr. Allan Davidson Des Brisay, 1101 Nicola Street, Vancouver.

Those who were here in 1915-16 will remember Miss Lineham as a most popular member of the Homemaker Class of '16.

Corp. Fred C. Odell No. 2765861, left for overseas with the First Canadian Tank Battalion, on June 3rd.

Fred is one of the boys, whose work the Review cannot fail to recognise or appreciate. In his sophomore year he was Review Artist, and to him belongs the credit for the designing of the "Heads" for the various departments

of our magazine. The QUERY, EDITORIAL, ALUMNI, COLLEGE LIFE, ATHLETICS, MACDONALD and LOCALS, all owe their attractive appearance to his artistic taste and skill.

Not only is the Review indebted to Fred for his designs and lettering, but to every society in the College he has given his time and talent when occasion required—which was frequent indeed.

On completing his third year at College, Fred enlisted with the Tank Battalion at Ottawa, and he is proving as popular among his comrades overseas, as he was with his mates on the Campus. His two brothers have seen active service for some time, one being an officer in the British Navy, and the other a soldier in France.

Fred's Address is:

No. 2765861, Corp. Fred C. Odell,
Canadian Tank Battalion,
Army P.O., London, Eng.

It is with the deepest regret that we report the death, on June 1st, of Robert J. Graham, son of Professor and Mrs. W. R. Graham, College Heights, after a long illness. "Bobbie" Graham attended the Guelph Collegiate Institute until last winter. He was a sterling student and an excellent rugby player, and was universally popular on the Heights and in town. The Review offers to the bereaved parents, its most sincere and heartfelt sympathy.

Norman McLeod, '18, is in the Western Ontario Regiment, London.

E. G. Minielly, No. 3133658, was a holiday visitor at the Cosmo Club, Guelph.

J. W. Wadsworth, '19, who has been acting as district representative in Algoma District, is now in the R. A. F., Jesse Ketchum School, Toronto.



F. C. ODELL, '19

W. H. Sproule, Lecturer in Dairying at O. A. C., is now at Longbranch training camp with the R. A. F.

R. C. Elder, '18, H. L. Davis, '18, F. M. Karn, '19, D. Hart, '19, Singer, '18, G. R. Libbick, '19 and J. Arnold, '18, are in training at London, Ont.

E. C. Stillwell, '19, is in the 72nd Kingston Battery, at Petawawa Camp.

G. H. Scott, '20, is with the Canadian Engineers, at St John's, Quebec.

R. J. Griffin, '16, has gone overseas with the 1st Canadian Tank Battalion. His address is:

R. J. Griffin, No. 3134001
Section 12, C. Coy
1st Canadian Tank Battalion
C/o. Army Post Office, London, Eng.



OUR HOUSE-PRESIDENT.

We are glad indeed, this month, to be able to publish the picture of our House-President—Miss E. M. Bott. No one can fully appreciate just what it has meant to the residents of Mac Hall to have such a splendid person in this position of responsibility and authority, except the girls themselves, and



MISS A. M. BOTT, '18

they in all sincerity, join in the time-honored refrain "loved by all and dear to me." No further proof of their regard is necessary than to let you, gentle reader, take a peep at the little note which was attached to the club-bag left in Miss Bott's room, the morning before her departure from the Hall. Here it is,—

"Dear Bottle,

This is just a very small way of trying to express the love and appreciation of the whole school for what you have done for us as our House-President for this year.

You have been faithful and self-sacrificing, so just and tactful in your dealings with every one, that your example has been an inspiration to us all.

Our very best wishes go with you in your future work, and we know that you will make a success of whatever you undertake.

THE GIRLS OF MAC HALL.

PRESENTATION TO MISS JOB

The Senior Normal Class, at the end of their course at Macdonald, felt that in some small manner they would like to show their appreciation to their instructor of normal methods, Miss Job.

Where would the presentation be held? What place could mean more to the normal class than the Practice Kitchen! Any one who has passed through the varied experiences which that place offers, can fully appreciate the associations connected with that spot. And thus it happened that when the class were all assembled to have a farewell parting with the soiled pots and pans, than a long thin parcel was hurriedly forced into the hands of the astonished Miss Job. It turned out to be an umbrella, offered as a very slight token of appreciation of the services given by Miss Job in her conscientious endeavors to help each and

every member of the class. Such an event taking place after spending a whole year in the close relationship which exists between a critic teacher and her normal class, is sufficient in itself to demonstrate the esteem held for Miss Job by the class.

The following note was found attached to a very pretty photo frame, in one of the girl's rooms at Mac, the morning before we left. It will explain itself.

A DEDICATION TO MISS NIXON!

We've thought and pondered till our brains,

Refused to act or think,

Any 'membrance from the dotting class,
Of Home-makers—June '18.

But finally are all agreed

That perhaps this tribute might
Remind you oft of stalwarts brave,
If kept within your sight!

His 'measurements' we understand
Are strictly 7x10,

This one we fear is short an inch,

But still he'll never ken.

Our motive p'raps was selfish,

In choosing you a frame,

But when you greet 'him' day by day,

Do think of us by name.

With loads of love and all best wishes,

May your joys be as numberless as
eggs of the fishes! !

HOME-MAKER CLASS, June '18.

PROSPECTS

Graduated? What then? This was the question that confronted the members of the '18 Class of Macdonald for the past few months. The idea of 'doing some things,' seemed to be the prevailing spirit, thus practically all the class are either hard at work or have positions in view, except where circumstances will not allow.

How fully each has appreciated the demand for workers, how eager all are

to help in their chosen calling, and how quickly all have responded, is surely a proof of the true spirit found in the hearts of all of the class. Would it not be gratifying to our readers to learn what each is doing?

Pupil-dietitian work, which is a three months' course preparatory to taking the responsibilities of dietitian work in a hospital or institution, has claimed a large percentage of the girls.

Eloie Casselman has gone to Royal Victoria Hospital at Montreal, Annie Gow to Grace Hospital, Detroit; Marine Case to Western Hospital, Toronto, Edna Nelson to Wellsley, Toronto, Adalene Staples to Vancouver General Hospital, and Eileen Hodgins to Sick Children's Hospital, Toronto. These girls all started their course July 1st, thus losing no time for holidays.

The following members of the class have accepted pupil-dietitian work to commence in August or some time in the fall. Marion Kerr, at Sick Children's Hospital, Toronto, Marie Beatty, Mary McIntosh and Marybelle McWilliams at Bellevue Hospital, New York, Edith Wark at Toronto General, Alice Jackson at Johns Hopkins, Baltimore, Olive Moffatt at Royal Victoria, Montreal, Ella Aitken at Hamilton General, Irene Graham at Presbyterian Hospital, Philadelphia, Dorothy Day at Jeffery Hospital, Philadelphia, Helen Soule at General Hospital, Ottawa, Marion MacBride at Halifax General, and Ella Young at Brooklyn Hospital New York.

Eva Wade and Olive Lawson have secured positions as Instructors of household science in an agricultural college at Olds and Vermilion, Alberta, respectively. Jean Garson is also taking a domestic science teaching position out west.

Verna Fleming, Olla Tinney, Janet McLaren, Edith Zavitz for a time at

least, have all gone to farms to have a share in the cause of greater production. Helen Robertson is now Dietitian in Kingston General Hospital.

Mrs. Stone is in Sherbourne Club House, Toronto, as Dietitian, substituting for three months.

Miss Bott has charge of the Junior Havergal Boarding School, Toronto, as Dietitian and House-mother, and Mrs. Davis has a similar position at the Y. W. C. A. at Kitchener.

BRAIN OR BEEHIVE?

The following extract from an article entitled "Science in the Humanities" by Ellwood Hendrick, appearing in the "Atlantic" for May, should interest Macdonald students—and others.

"Now whatever the substance of education may be, we know that it is not promiscuous memorizing. Dr. Martin Rosanoff, when assistant to Professor Friedel, in Paris, once asked his master a question in organic chemistry.

"Sais pas," answered the professor; "look it up in Beilstein."

"A few days later he asked another question and received the same response: 'Sais pas, look it up.' Finally, the assistant said 'the world knows you to be one of the greatest authorities on this subject; yet, whenever I ask you, you tell me to look up answers to questions that surely are familiar to you. Is this because you do not remember, or because you want to train me in habits of research?'

"The old man took him by the arm and led him into the library.

"Voilà!" he exclaimed, "there is all I know. Do you expect me to make a beehive of my mind, storing fragments of information into every little compartment, to the exclusion of all the good things of life? No, indeed!" he continued, "books are useful instru-

ments and we should use them. But the *general principals*—these I must ever keep alive in my mind?"

"Now, that seems to me to be the essence of education."

SOME RECENT LECTURES

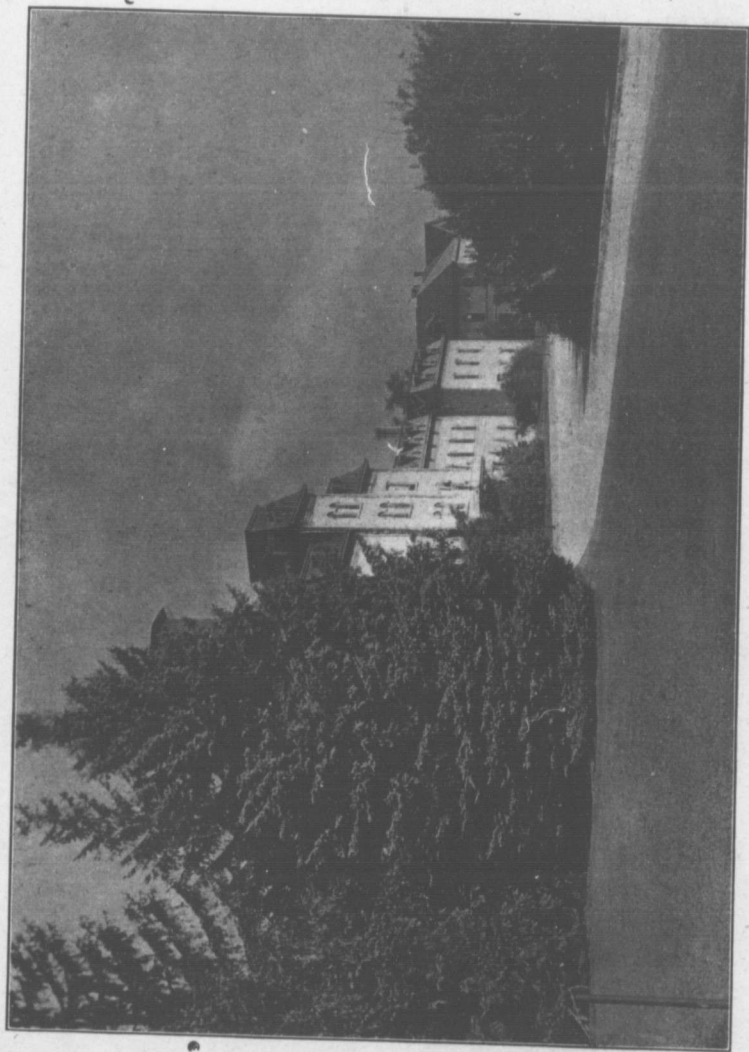
Some very valuable lectures have been given during the past term to some of the Macdonald students by members of the College Faculty. It is possible that outsiders do not realize the extent of the privileges which the students enjoy in receiving instruction from these specialists, who are recognised throughout the Dominion and beyond it, as final authorities on their own subjects.

Professor Harcourt, who has been advising the Government on the flour question, and touring Canada on business connected with it, has not only condescended to teach elementary chemistry to juniors, but informed them of the latest legislative details, bearing on the milling and baking industries.

Professor Dean, whose book, "Canadian Dairying," is the best known work on that subject, gave a very enlightening discourse on the value of dairy products in the diet, and the best methods of obtaining and keeping them in good condition.

Professor Graham's lecture on eggs and poultry contained much that was new to the hearers, and triumphantly vindicated the cold storage system which has had so many sins laid at its door. Professor Brow advised the housekeeper upon the selection of fruits and vegetables, and Professor Jones explained the tricks and manners of the wily bacillus and the precautions which should be taken in order to circumvent them.

These lectures were all highly appreciated by those who had the advantage of hearing them, and no doubt the in-



"VIEW OF THE COLLEGE"

formation given will be passed on to others and will have a far-reaching and influential effect.

In addition to these specialists who are connected with the O. A. C., Mr. Hart, the Director of the Co-operative and Markets Branch of the Department of Agriculture, came from Toronto to deliver an address on the complex question of the high cost of living, and possible solutions of the problem. Mr. Hart explained very clearly the functions of the middleman, that much maligned person, and showed that he could not be spirited away so easily as some people imagine.

He pointed out the advantage of co-operative buying, and advised his hearers to begin in a small way in the home districts in any department of supply that seemed to be needed, emphasizing the importance of a sound business basis and good management in order to obtain satisfactory results.

MEAT CUTTING DEMONSTRATIONS

Two highly instructive meat cutting demonstrations were given during the past term in Macdonald Institute by Mr. Hales of Guelph.

A side of beef divided into fore and hind quarters was laid upon the table of Miss Roddick's kitchen, and Mr. Hales rapidly and dexterously converted it into joints and steaks which he spread out in a tempting array. He explained the difference between cod fat and kidney fat, skirt steak and flank steak, long loin, short loin, tender loin and sirloin.

The audience learned that excellent roasts can be found in the fore-quarters, that "H" bone is not the same thing as "T" bone, that meat has a better

flavour if it is cooked with the bone in it, and that beef without fat is not at all desirable. Mr. Hales named the price and approximate weight of each piece as he cut it, and the most suitable method of cooking it.

He showed good reason for what housekeepers sometimes call the obstinacy of the butcher, and justified his fellow craftsmen in refusing to gratify all the whims of their customers, but was perfectly fair to both sides and gave several valuable hints which would enable the purchaser to get the best value for her money.

MARRIAGES

SHELL-LAMMIMAN

A very quiet wedding was solemnized on June 6th, when Gladys Lammiman, of Woodstock, was united in marriage to Hubert Schell, also of Woodstock.

The bride who was given away by her father looked charming in a gown of Duchesse satin with court train and veil caught with orange blossoms.

The attendants were Miss Laura Nixon, of Toronto, and Mr. Edward Francis, also of Toronto. Mr. and Mrs. Schell are motoring to points east.

TUNKS—CORNELL

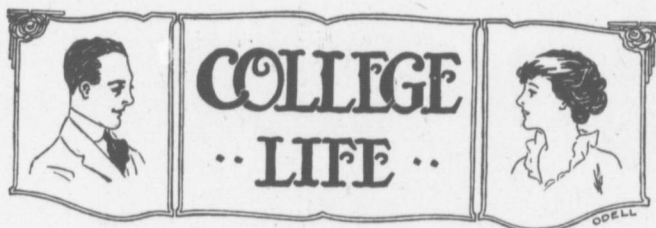
On May 22nd, 1918, Owen Tunks was united in marriage to Ada Cornell, both of Port Stanley, Ont.

COATSWORTH—ROUND

On June 22nd 1918, E. Coatsworth, son of Judge Coatsworth, Toronto, to Amy Round of the Homemaker Class, '18.

GRAHAM—HOBBS

June 19th, 1918, Rev. W. Graham of Wallaceburg, to Bessie Hobbs, Short Course Student of '17.



MACDONALD

THE GOVERNOR GENERAL'S VISIT

On June 14th, their Excellencies the Governor General and the Duchess of Devonshire, with their three daughters, visited the Ontario Agricultural College, and were entertained to luncheon in Macdonald Hall.

Two functions were combined on this occasion and the junior students of Macdonald prepared and served the luncheon, not only to the Ducal party and the senior members of the O. A. C. Faculty with their wives, but, in accordance with annual custom, to Dr. and Mrs. Creelman, the Macdonald staff and the graduating students. The Homemakers' and short course classes were also present.

The scheme of decoration in the dining hall was delightfully fresh and simple. Pink paeonies of moderate size in large bowls, stood in the centres of the tables, and small vases of clear glass holding field daisies completed the arrangement. The sideboard was adorned with masses of daisies. The waitresses clad in white fitted admirably into the picture.

After luncheon the junior students joined the assembly, the King's health was given, and all sang the National Anthem.

Dr. Creelman then welcomed their Excellencies and remarked that the Duke of Devonshire was a farmer, as

his father had been before him, and was therefore genuinely interested in the work of the College, while the dietic training of the girls would doubtless appeal to the Duchess. He set forth the aims of the O. A. C. and Macdonald Institute which, in brief, were to make of Canada's sons and daughters, efficient farmers and housekeepers. He said, that students came not from the Dominion only, but from all parts of the world, conspicuously from South Africa. He also alluded to the large number of O. A. C. students who had early volunteered for service overseas, many of whom would return no more. He concluded by proposing a toast to the health of their Excellencies, which was received with hearty applause.

His Excellency the Governor General, in replying, expressed the pleasure that he and his family experienced in visiting the institution, and very graciously praised the entertainment which had been offered to them.

Dr. Creelman then invited the students to proceed with the traditional exchange of neckties, and the juniors gladly relinquished their white ties, and assumed the honourable badge of seniority. Cheers for seniors and juniors followed, and then the latter lined up to form an avenue to the door, waitresses in white on one side and cooks in blue on the other, and all the company sang "O Canada!" The guests then passed through this guard of

honour, followed by the graduating students.

In the drawing-room all were presented to their Excellencies by Miss Watson, assisted by Dr. Ross, and then the students passed out to the lawn to wave farewells to them as they departed shortly afterwards.

The menu of the luncheon was as follows.

Fillets of Halibut	Egg Sauce
Scalloped potatoes	Tomato salad
	Rye Bread
Grapejuice Ice	Maple Sponge-cake
	Coffee

No meat, wheat or sugar were used in the preparation of the dishes.

Miss Muriel Brown was chosen by Miss Watson to be Steward on this occasion, and carried out her arduous duties with marked ability. Miss Muriel Watts as head waitress, superintended the arrangement and decoration of the tables, while Miss Ellie Todd, as service room chief, grappled successfully with a heavy task, and all worked cheerfully and harmoniously to produce an eminently satisfactory result. It is hardly necessary to add that to Miss Watson and Miss Roddick must be attributed all the credit for the initiation and carrying through of the undertaking and that Macdonald Hall was made even more attractive than usual by Mrs. Fuller's careful preparations for the comfort and pleasure of the guests, while Miss Boughner did everything in her power to smooth the way for the amateur entertainers.

THE AUCTION SALE

A number of junior students drifted along the trunk-encumbered corridors, to the third floor well and grouped themselves around it, standing with linked arms, or sitting on chairs or articles of baggage.

Slim and alert, the auctioneer stood on a box, hammer in hand. In the room behind her was a heterogeneous collection of discarded possessions which had served their turn as accessories of of Mac life to departing students, and were ready to be knocked down to the highest bidder.

A bamboo book shelf was handed up from the repository in the back ground. "Here's a book-shelf, an elegant book-shelf, to hold all your books and tea-cups and anything else you like. How much for this book-shelf?"

"Ten cents," was the first offer.

"Only ten cents, bid for this beautiful book-shelf? Why, it's as good as the day it was bought?"

"Fifteen cents," from the other side of the well.

"Look at it!" cried the auctioneer, "You don't realise the value of it! It's an ornament for any room! Only fifteen cents for this book-shelf? Come, give me a better bid!"

"Twenty cents!"

"Twenty cents! Only twenty cents? Anyone might be proud to own this bookshelf! You can put a curtain on it and hide your teacups when you haven't time to wash them! Only twenty cents? going at twenty cents—

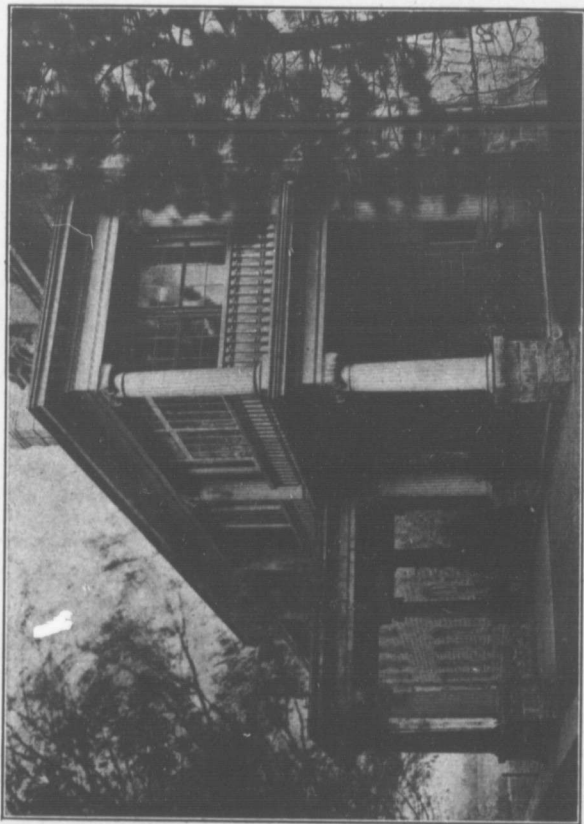
"Twenty-five!"

"Twenty-five cents? Thank you! Twenty-five cents! Will nobody give more than twenty-five cents for this highly desirable book-shelf? Twenty-five, going at twenty-five."

"Thirty," and the book-shelf went.

A strip of carpet was next handed up.

"Now, here's a rug, a rug fit for any room! Everybody needs a rug in her room! You can put it beside the bed or in front of the dresser, or *on* the bed or *in* the bed or any place at all. It will cover any part of the floor, or almost reach right across the floor if it's a single room. If it's not swept you



"PRESIDENT'S RESIDENCE"

can push it under the bed and no-one will know it's there! Just the colour of the floor!" And so on until a fitting price was reached.

A small oval picture was next exhibited, having the appearance of polished wood and the assembly sat up. Bidding was brisk until someone discovered that it was painted tin, when a chorus of disappointed "O-ohs," caused the auctioneer to hand it back.

"Now, here's a pillow, a feather pillow; you must have pillows in your rooms; the more pillows you have, the nicer they look!"

"Does it leak?" asked a wary one.

"No," from the owner, "it does not leak."

The pillow ran up to a respectable sum, and encouraged by success, the assistants passed up a second, stuffed into an embroidered blue linen laundry bag.

"Does the bag go with it?"

"No; the case, but not the bag."

"Does *that* one leak? "No!"

"Well, why is it in a bag if it doesn't leak? "Take it out and let us see!"

A portion of the pillow was dragged out, but the onlookers were suspicious, and it did not realize so much as the former one.

A white flower vase with splodges of colour on it was offered next, but it failed to appeal to the aesthetic taste of the company and no bid was made.

"Now, here's a pair of green silk stockings, real silk, just the thing for 'St Patrick's Day! What offer for 'this pair of silk stockings?"

"Any holes in them?"

The question was referred back to the owner.

"One hole in the toe! Only one hole in the toe! Give me a bid for these 'green silk stockings!" The auctioneer waved them proudly like a banner.

"There's a hole in the leg too!" said someone with abnormally sharp eyes.

"Where?" "Right there in the middle of the leg!" The fact could not be denied and the green silk stockings were contemptuously turned back again.

Cretonne and muslin curtains, table-covers, bedspreads, more rugs, cushions, waste-paper baskets,—an endless variety!

Even a fly swatter appeared, but was howled down decisively.

"We don't mind the flies!"

"The mice trouble us more!"

"Haven't you got a mouse-trap?"

Such bargains!

What a pity one has so little money left at the end of the term!

"Never the time and the place and the loved one all together!" So sang Robert Browning. And when one has the money, one can't see just what one wants! And when one has just thirty five cents left after buying one's ticket, all these desirable objects are being well nigh given away!

FACULTY LUNCHEON

Another annual event which was of particular interest to the senior class was the luncheon given by Miss Watson to the Macdonald Faculty and the wives of the O. A. C. Faculty. This luncheon was prepared and served entirely by the graduating class under the capable direction of the Steward, Miss Eva Wade, who was chosen from the class, by Miss Watson, to manage the arrangements for the luncheon.

Again Room 47, Macdonald Institute was brought to life and made radiant with the perfume of lilac branches, artistically arranged to take the place of window draperies. Added to this decoration was a profusion of yellow buttercups, violets and iris, all combining to produce the desired color scheme of mauve and yellow. The

centers of the tables were bowls of yellow buttercups, and individual vases of purple violets entirely made up for the absence of the customary candles, thus serving to demonstrate the central idea of the luncheon which was "Conservatism."

The menu was truly war-time.

Lentil Soup	Rye Croutons
Filletts of Fish with Parsley Sauce	
Duchess Potato	Cucumbers,
Scone Loaf	
Tomato Cress	
Salad	Barley Sticks
Frozen Cream	
of Rice	Corn Cookies
Coffee	Peanuts

The skill and art necessary to effect the preparation of such a menu, which was meatless, wheatless, butterless and sugarless, reflects great credit on those who had this in charge.

A PORCH PICNIC

Among the many pleasant picnics organized during the past term, not the least enjoyable was the one planned by the junior housekeepers for the entertainment of the senior housekeepers. When the preparations were completed, a fine rain rendered an expedition to the woods out of the question, so the first floor verandah was quickly furnished with couches, chairs, cushions, tables

and plants, and an ideal supper room was soon ready for the guests. The party enjoyed the advantages of an open-air picnic without any of its drawbacks, the meal was served in comfort, and songs and games wound up a delightful time.

O.A.C. SUMMER SCHOOL

(Continued from page 488)

Perhaps not the least favorable point is the financial; if you teach agriculture the following year, you have your railway fare paid, you receive your board and lodging free and you receive a government grant. It is pleasant, pleasant because of the pleasant environments, the cheerful companions, the relaxation from responsibility and freedom from school-room cares; and so while there one cannot help but adopt the sentiments of the song—as advised, by ex-President Dr. Mills—"Pack up your troubles in the old kit-bag and smile, smile, smile."

HOUSEHOLD SCIENCE IN RURAL SCHOOLS

(Continued from page 486)

teachers, pupils, inspectors, parents and agricultural representatives in the promotion of the school lunch and the rational practical teaching of household science to both girls and boys.



AGRONOMY BUILDING



Who says jokes are scarce this month? Why! the College is full of them.

Two of our intelligent and attractive young teachers, at present, gulping agriculture at the O. A. C., were riding down town one afternoon last week. Being natural girls, they were engaged in an animated discussion. In the seat behind them sat a good-natured, fatherly looking Irishman enjoying a nap. Finally, one m'am enquired of the other.

"How many children have you?"

"Twenty-two," she replied. "And how many have you?"

"Oh, I have only nineteen," replied the first.

At this point, the Irishman, now wide awake with astonishment, leaned forward in his seat and, without any formality, inquired in a loud voice:

"What part of Ireland, did youse come from?"

Sandy Maclaren to D—R—"Say, you didn't come out to our little gathering last night. How was that?"

D—R—"Please Mr. Maclaren I had a little gathering of my own, and I couldn't possibly attend."

Sandy—"Oh—yes—I know now—you're up to your old tricks again. Please tell me where you had that little gathering of yours."

D—R—"On the back of my neck."

At one end of a bench at the tennis court sat Miss M— and Lucky. On the other end posed Miss Br—.

two were discussing the merits of their motor cars.

"What color is your body?" asked Lucky, meaning of course the body of her motor.

"Oh, mine is pink. What is yours?"

"Oh, mine. Say, it is some body! Mostly black with a few light spots here and there, where Hugo Clarke took the notion to wash it."

Miss Br— tilted her nose, rose, and right-wheeled.

She (?) used to sit upon his lap, As happy as could be,

But now it makes her sea-sick— He has water on the knee.

Teddie Webb—"Why does Crawford wear those short puttees, and carry that hatchet, while out snaring insects with the teachers?"

Tom Stewart—"Oh, you know these bug artists, are liable to do anything—probably so he can creep up on stray bugs."

The fraction leaned over, and touched the whole number on its digit, "Say," she whispered, "is my numerator on straight?"

Jean H— to Mr. Marcellus—"How do you tell bad eggs?"

Mr. Marcellus—"I never told any, but if I did have anything to tell a bad egg, I'd break it gently."

One day, last June, Bertha C— called one of the boys up on the mat. The

bright little chap had just finished decorating the back of another pupil's head with gum.

"Reginald," she snapped out hydrophobically: "A man buys an article for \$12.10 and sells it for \$9.95; does he gain or lose on the transaction?"

After pondering over the problem, in the manner in which Miss C— had previously taught the class, Reggie stammered out: "W-w—ell, he gains on the cents, b-but loses on the dollats."

"What is Jim Robinson doing, these days?" questioned the man home from the west.

"Oh, he's working his son's way through college," returned the other.

Miss Susie S—"Professor Barber, what caused all these holes in this cabbage leaf."

Professor Barber (embryo lecturer)—examines leaf—"A—hum"—pulls out a microscope and examines the edge of the perforation—"The animal had biting mouth parts. Let's see," scratches his head, "must have been a grasshopper."

Superstition has not totally disappeared. A black cat crossed the path of two local Aggies one Saturday evening last week. Immediately they said, "luck's coming." So it did later, yes, quite later, in the shape of three fair wielders of the hickory.

Blanche C, hovering over a poor, diminutive creature, just learning the a, b, c of arithmetic.

"Now, Johnny, look. Never mind the floor. Look at me."

"Oh, I can't, teachuh, I can'th."

"Why,—you stupid thing—why can't you?"

"Becauth — pleath, teachuh — i—it m—maketh me th—the—e—thick."

Poor Flora, she was so fussed. The same old tale of innocence, but, it was surely a concealed treasure. Flora, having entered the fair metropolis of Guelph, was seeking her way to the O. A. College. After mounting a rather crowded street car, she was obliged to sit next to an old gentleman—not mentioning any names—Not being accustomed to P. A. Y. E. cars, the conductor was forced to come to her for her fare.

"Oh! I have been robbed!—I have nothing in my pocket but—a piece of string, s-s—Mercy! some tobacco, an old knife and some matches."

"Madam," said the old gentleman, in a deep, husky voice, "would you please take your hand out of my pocket."

"Oh, girls!" sopranoed Marjorie, as she frantically entered room 64, "I've just read about a terrible accident on the Guelph Radial."

"How did it occur?" asked a timid visitor.

"Well," replied the would-be agriculturist, "Miss Atchison had her eye on a seat and Jack Neale sat on it."

Mary M., at the ball game—"Did you ever see anybody so dreadfully slow as D—ies."

Elva M.—Oh, I don't know. They say he plays a pretty fast game of chess.

A popular lecturer, who orates in College Heights, once delivered an address, upon the interesting subject of "Fools." The house was full, the rush for seats not being at all diminished by the form in which the admission tickets were printed. The inscription ran: "Lecture on Fools. Admit one."