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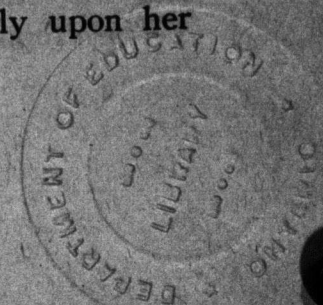
All teachers will be interested in the announcement on page 27 of the Interprovincial Institute which meets at Halifax in August.

The attention of New Brunswick teachers is directed to the important official notices in this issue.

June comes and brings the end of the school year, and with it, to many of us, along with the brightness of the summer, and the anticipation of rest, comes a deep sense of discouragement. We look back to last August, and realize how imperfectly our plans have worked out, how many of our hopes for the children are disappointed, in how many ways we have failed. This feeling of depression is partly, of course, the result of weariness. When we are physically and mentally tired we cannot see things in proportion. But it is also, perhaps, a proof that we have set our aims high, and that our standards have advanced during the year. Let us look farther back still, and see if we do not expect more of ourselves than we did two, three, five years ago. Should we be satisfied now with what contented us then?

Let us be sure that the sense of failure is safer than a self-complacent sense of success. For the self-satisfied there is no advance. But those who recognize their mistakes are half way toward correcting them, and to know our own ignorance or foolishness is a step towards wisdom. "There are those," says a famous preacher, "who want to get away from their past. But you must learn, you must let God teach you, that the only way to get away from your past is to get a future out of it." This year's mistakes and failures are part of the experience that fits us for next year's work. Let them give us hope and courage.

Not long ago we drew the attention of teachers to the complaints made by business men of lack of responsibility among boys and girls going into business. It is pleasant to hear another story. The manager of a large banking business, speaking to the writer about the bank stenographer, said, "She is a most satisfactory girl to work with. Whenever I have to make an extra call upon her, in any rush or emergency, Miss N. is always cheerful, interested and ready to do her part. We can always rely upon her



to play the game." It is this spirit of "playing the game" that we want to encourage in our young people. And is it as strong among teachers as it might be? We have often been struck by the whole hearted interest and unselfishness of our teachers. But surely the lack of such a spirit in some must go far to account for the persistent note in the reports of New Brunswick Inspectors, regret at the constant changing about of teachers in the country schools. "The too frequent changing of teachers still continues to be a serious drawback to efficient work." "The seemingly never-ending changes must retard seriously the work of the schools affected." Stop and think, then, country teacher, before you make your next change. Are you thinking of yourself as part of a whole, as one of a band of faithful men and women doing some of the most important hard work of the world? Or are you playing for your own hand only? No doubt the conditions under which you work are sometimes hampering and disagreeable. Salaries may be low, trustees unprogressive and unsympathetic, pupils unruly, the life lonely. But these are, for you, the rules of the game. It would be easier and pleasanter under other conditions. But would the winning of it be as great a triumph?

The Report of the Carnegie Foundation for the Advancement of Teaching has been received, and is most interesting reading. It is well known that the primary object of this foundation is to provide pensions for teachers who have done their work upon salaries too small to make provision for old age possible. In the year ending in September, 1913, over \$600,000 were distributed in retiring allowances and pensions, the average annual payment to one individual being \$1,703.

The most important event of the year in the history of the foundation is the establishment of a distinct department to be known as the Division of Educational Enquiry. This has been made possible by an extra grant for the purpose of \$1,250,000, made by Mr. Carnegie in January, 1913. Among other educational studies, this department is now making an elaborate enquiry into legal education in Canada and the United States.

The report includes among other matter,

studies of pension systems, and discussion of current educational problems. It commends the present tendency of college entrance requirements towards elevation and flexibility, but shows the need for further improvement. A very frank criticism of college catalogues is pertinent and timely.

NEW BRUNSWICK SCHOOL REPORT.

The report of Dr. Carter, Chief Superintendent of New Brunswick schools, shows that during the year ending June 30th, 1913, there were very nearly 70,000 different pupils attending school. The percentage of attendance for the term ending December 31, 1912, was 71.09. The number of teachers at work during the same term was 2,020, 194 of whom were men and 1,826 women, or in the proportion of 1 to 9. The number of pupils in High Schools was 1,975, an increase of 110 over the figures of 1912.

Salaries are being slowly forced upward, but are not yet high enough to command efficient teachers in all parts of the province. The demand for teachers has exceeded the supply. Dr. Carter gives as reasons for this:—The increasing number of young men studying agriculture; the many more business posts open to women; and the migration from the province of many of our best teachers. Two causes tending to keep down salaries are the employment of third class teachers in the richer districts, and teachers engaging in their home districts at a lower salary than an outsider could accept. The Superintendent says "when the salary question is righted there will be no question of a sufficient supply of teachers."

Among matters of congratulation Dr. Carter mentions the increased attendance and interest at the County Institutes, and especially commends the practice of having a special section for the meeting of trustees and ratepayers.

The report on the whole is encouraging, showing as it does, increase in schools in operation, teachers, and percentage of attendance. The introduction of agricultural education, made possible by the grants from the Dominion Government, marks a distinct advance, and further progress in the line of vocational instruction is looked for. The report of the Director of Manual Training is interesting reading. Mr. Peacock urges the adoption of a definite plan

of Elementary Handwork in the primary schools, and the establishment of technical classes in the centres. The Inspectors' reports are in most cases full and definite and offer many suggestions for thought. There is very general approval of the increasing attention given to nature study and school gardening and the consequent interest in rural life given to the children. Nearly all deplore the constant changing about of teachers in the country schools.

Included in the volume are the reports of the school for the Blind, and the schools for the Deaf, and the report of the Chancellor of the University of New Brunswick.

NOVA SCOTIA SCHOOLS.

Superintendent A. H. MacKay in his annual report says that the year's work has been the most progressive in the educational history of the Province. The total enrolment of pupils in the schools has increased by over 1,200 since last year. The quarterly percentage of attendance has risen to 71.7 per cent in all the schools, and in the County Academies to 83.7 per cent. The number of schools in session show an increase of thirty in one year. There were only 85 vacant schools, nearly one-half of which have now no school population, or are served by schools of adjoining sections. There has been an increase in the number of teachers, especially of the higher class, and, we are glad to note, a general increase in the salary of every class of teacher, both men and women.

The Superintendent quotes as evidence of an improvement in educational conditions, that the number of men teachers of all the higher classes has begun to increase. A generous response has been made to the appeal for higher salaries, but further efforts in this direction are needed. It is strongly recommended that the Municipal Fund (which has not been increased in proportion to the increases made in the Sectional and Provincial contributions) should be raised from 35 cents to 50 cents per unit of population. This increase has already been made in Cumberland and Victoria Counties, and it is hoped will become general.

H. R. H. the Duke of Connaught will visit different points in Newfoundland during the second week in July.

WOODLAND FERNS.

J. VROOM.

Including the Flowering Ferns and the Moonworts, which are generally called ferns, about forty different species of ferns have been reported as growing in the Atlantic Provinces of Canada. If we count out the three species of the Flowering Fern or Osmunda group, the Royal Fern, the Cinnamon Fern and the Interrupted Fern, not now recognized as true ferns, and also the five Moonworts, which are in a class by themselves, we have a little more than thirty left to make up the list. Some of these are extremely rare; some, perhaps, of doubtful occurrence. Possibly not more than fifteen or twenty species can be found within the borders of any one county in the three provinces. Dry hillsides, moist cliffs, rich woods, and wet meadows, each have their own group of attractive ferns. We will confine our attention for the present to those which we might expect to find in a day's tramp through the woods.

To know a fern when we see it, and be able to distinguish between ferns and flowering plants, is not a very useful accomplishment; to be able to see the beauty of a fern is an acquisition of much greater value. The bright colours of our field and garden flowers appeal to young children, and the quieter colours and markings of woodland blossoms to the older ones, without much training; but the beauty of ferns is chiefly in their lines of growth, a beauty discernible only to the trained eye, for the appreciation and love of the beauty of pure form is almost wholly a matter of training.

The delicate texture, the variety of forms, the graceful sweep and firm outline of the fronds in some species, in some the inimitable disposition of the fruit dots, like a rich embroidery of needlework, together with the knowledge that they are so different from other plants as to seem almost like the products of another world, account for our love of ferns. Only mosses can equal them in beauty of form; and only the mosses seem so much to belong to the localities in which they are found. Ferns and mosses alike are an inseparable part of the beauty of the spot. Their charm can be destroyed by the devastating hand of the collector, but cannot be carried away.

To pull up and carry off a wild plant that

does not belong to one by any other right than the right of seizure, or even thus to rifle the woods and fields with the full consent of the lawful owner, is a distinct injury, not trifling in its extent when we come to consider the total of such depredations all over the country. Yet those who love our native ferns because they are native, and wish to make a collection of their fronds for that reason, need not hesitate to do so, provided they do not uproot the plants. To gather fronds that are matured and would soon perish naturally is no more robbery than to gather the fruit of a tree.

The classification of ferns is governed chiefly by the shape, position and covering of the fruit dots on the back of the fronds. In all true ferns the young fronds are coiled, and gradually unroll as they grow. By this feature we may distinguish ferns from most other plants with a fern-like leaf. If the young leaf is not coiled at the tip, most certainly the plant is not a fern.

In searching for any particular fern, we should know the time of its fruiting; but most ferns in our region mature their fruit in July and August, the time when most of us have our summer vacation. So the time of our trip is midsummer, and the place is wherever we may happen to be.

By the roadside, as we approach the woods, we shall probably find the Lady Fern. Its fronds are bipinnate; that is, each of the primary divisions is again divided. They are from one to three feet long, and rather delicate when young. The fruit dots are curved, sometimes horseshoe-shaped; and at maturity are so crowded as to give a dark brown colour to the lower side of the frond.

If we have to cross a dry pasture, we may see the Common Brake, the large coarse fern so abundant in dry places. Its fronds rise singly from a root stock many feet in length, and its fruit is in a continuous line under the recurved margin of the frond.

Here, too, may we find the Mountain Fern, also called the Hayscented or Sweet-Grass Fern. It grows in thick clusters. Its fronds are bipinnate, slender, tapering, yellowish green and somewhat hairy; and when stirred by a light breeze give out a very pleasant odor. The fruit dots are small, each on a recurved tooth

on the margin of the frond. There is no fern in the whole list that would be so much missed from the landscape if it should disappear, for its dense patches give a pleasing touch of colour to the hills.

Where the woods are dry and rocky, we may look for the Marginal Shield Fern, otherwise known as the Evergreen Wood Fern. It is easily determined. The thick fronds are from six to thirty inches long, and bipinnate. The large round fruit dots are borne close to the margin of the frond. The stout rootstock is chaffy with dark brown scales. If we find a perfect specimen with a mossy rock for a background, we shall be glad that we have brought a camera.

We shall find use for the camera again when we come upon a boulder capped with a mat of Polypody, or Rock Fern. Though not very plentiful with us, it may be found throughout our district. Its fronds are from three to ten inches long, evergreen, simple, and rather variable in shape; and its large, round, naked fruit dots are in rows on the back of the frond, about midway between the midrib and the margin. While it likes a dry situation, it is usually found in places that are more or less shaded.

Deeper in the wood, where there is more moisture in the air, we may find another evergreen species, the Christmas Fern. This is, perhaps, quite too well known; for it is becoming scarce in places because thoughtless persons tear it up and carry it home with them for a parlor ornament. It is very attractive late in the season, its bright green showing in marked contrast with the drifting autumn leaves. Its fertile fronds have contracted tips, bearing thickly set fruit dots which soon cover the whole lower surface.

If we are very fortunate, we may find the Male Fern, a rare and stately fern which has been found at several points in Cape Breton and in central New Brunswick. It resembles the Marginal Shield Fern, but is larger and more erect, and its fruit dots are not marginal.

Still more rare is Goldie's Fern, which has also been found in New Brunswick. It is the largest of our wood ferns; and is not easily distinguished from the Male Fern, except by the broader fronds, which are usually ten or twelve inches in width. The fruit dots are very near

the midrib. The tallest fronds are about four feet in height.

Braun's Shield Fern may possibly be found. It is a strikingly beautiful fern, about two feet high, known at a few widely distant stations in New Brunswick and Nova Scotia, where it reaches its southern limit at sea level. Its glossy fronds, beset with soft hairs, are chaffy on the under side, and taper downward from the middle to a very short stalk. They rise in a close crown, edge to edge, like the circle of plumes in an Indian's feather bonnet. The best frond we could choose as a specimen would be less satisfactory than a blank in our collection, with a photograph or a mental picture of the unbroken circle.

While we are looking for these rare ferns, we are very sure of finding another shield fern which is not rare. It is called the Spinulose Wood Fern, because the lobe of its segments are tipped with small sharp spines. In one or more of its well marked varieties, it may be found in all our wooded districts. It is tripinnate, or nearly so, in the forms most common with us; and its fronds are more or less inclined to remain green through the winter, lying flat upon the ground. It is a beautiful feathery fern, with fronds from one to two and a half feet long. The fruit dots are round and small.

In moist rocky places through the woods we shall find beds of the Beech Fern and the Oak Fern, together or apart. The fronds of the former are from six to ten inches long, triangular in outline, rather longer than broad, and twice divided, the lower pair of pinnae usually bending forward. The fruit dots of both are small and naked, and are borne near the margin. The frond of the Oak Fern is in three divisions, widely spreading; is lighter in colour than that of the Beech Fern; and has a polished dark brown stalk.

A wetter spot may lead us to look for the Silvery Spleenwort, though this fern is by no means common with us. Like all the spleenworts, it has its fruit dots elongated, and protected when young by a covering which is attached by one edge. The covering in this species is light coloured and somewhat shining, hence the name. It differs from the Lady Fern in being pinnate, not bipinnate; and in the fruit dots being less curved. The fronds are

from one to three feet long, and are narrowed towards the base, so that they closely resemble those of the New York Shield Fern. The latter, however, grows usually in lower ground; and can be distinguished from the spleenwort by its fruit.

Leaving the woods and following the stream, we might find the New York Fern and others of interest, including the Ostrich Fern, which sometimes rises to a height of seven feet; but perhaps that trip, and a visit to the waterfall, where the more delicate ferns are found, should be left for another day.

The fronds that we have gathered as specimens must be carefully dried, if they are to be worth keeping. The photographs we have made will be much easier to preserve, and easier of reference. But the collection, whether of photographs or of broken pieces of the plants, has not been the chief object of the journey. We will not class ourselves among those who go to the woods for what they can get in their hands, leaving a trail of desolation in their course. The true lover of ferns is not the one who collects them, living or dead; but the one who likes to see them in their native wilderness, and never misses an opportunity to enjoy them where they grow.

(This paper will be continued in the August number, under the title of "Cliff Brakes and Lowland Ferns".)

SINGING SCHOOL FOR THRUSHES.

Find a family of thrushes and carefully note what takes place. The old male thrush will sing the sweet song in loud, clear, flutelike notes once, and then stop to listen while the young birds try to imitate the song. Some will utter one note, some two. Some will utter a coarse note, others a sharp note. After a while they seem to forget their lesson and drop out one by one. When all are silent the old thrush tunes up again, and the young thrushes repeat their efforts and so it goes on for hours. The young birds do not acquire the full song the first year, so the lessons are repeated the following spring. I take many visitors into the woods to enjoy the thrushes' singing school, and all are convinced that the song of the wood thrush is a matter of education pure and simple.—*Forest and Stream.*

According to this advertisement in a Connecticut country paper, there is a cow in New England which is possessed of rare accomplishments: "Wanted—A steady, respectable young man to look after a garden and care for a cow who has a good voice and is accustomed to sing in the choir."

CENTENNIAL ANNIVERSARIES OF THE
WAR OF 1812.

J. VROOM.

XXIII.—*The Loss of Fort Erie—The Battle of Chippewa—The Occupation of Moose Island—The Capture of Prairie du Chien—The Burning of St. David's—The Battle of Lundy's Lane.*

July 3.—Fort Erie, at the outlet of Lake Erie, stood on the west bank of the Niagara River, nearly opposite Buffalo. At the opening of the campaign in the last year of the war, it was a weak position occupied by a garrison of about a hundred and fifty men. General Brown, who had succeeded to the command of the United States forces, had at Buffalo an army of four thousand or more, ready for another invasion. Early in the morning of the third of July, he sent one brigade across the river below the fort; while another, which he commanded in person, landed above it. A combined attack was made, and after a very brief resistance the fort surrendered. It was an easy victory for the invaders, who strengthened the fort without delay and made it the centre of their military operations. They abandoned it four months later, when the war was practically over.

July 5.—General Brown planned to move northward from Fort Erie, clearing the Canadian bank of the Niagara as he went; and finally to dislodge the British from their two strongholds at the mouth of the river—Fort George, on the Canadian side, and Fort Niagara, on the New York side. His advance brought on the battle of Chippewa.

The Chippewa or Chippaway Stream, now called Welland River, enters the Niagara about two miles above the falls. Here, on the fifth of July, General Riall, who commanded the British in the absence of General Drummond, advanced with less than two thousand men to meet the invaders. The field was stubbornly contested; but Riall's command, largely outnumbered, was defeated with heavy loss—if, indeed, it may be called a defeat when it checked the onward march of the invaders for two days, thus giving time for Riall's reinforcements to arrive, and leaving the issue to be decided three weeks later by the battle of Lundy's Lane.

July 11.—Up to this time, hostilities along

the coasts of Maine, New Brunswick and Nova Scotia had been confined to petty privateering and the occasional capture of a merchant ship with a valuable cargo. Suddenly, on the afternoon of the eleventh of July, a British fleet under the command of Sir Thomas Hardy appeared at Eastport, and occupied that place without resistance. The British, however, did not take Eastport; they took Moose Island. Eastport was a Massachusetts town in the District of Maine; Moose Island, according to the British contention, was a part of the Parish of West Isles in the Province of New Brunswick. Moose Island was in Eastport; or a part of Eastport was on Moose Island. If the inhabitants did not wish to remain there, they might move off. Many chose to move to the mainland portion of their township, now the town of Lubec; but others remained and became for a time good British subjects.

The British occupation continued until 1818, when the troops were recalled to Halifax, a boundary commission having decided in 1817 that the island rightfully belonged to Massachusetts.

July 19.—While, nominally, the occupation of Moose Island was not an aggression, but merely a reoccupation of British territory, there was at the same time an aggressive movement in the west, where the British force that had taken possession of Michilimackinac at the beginning of the war still held that post. Like the taking of Moose Island, it was a small matter compared with what was going on at Niagara; yet it should not be overlooked, as it shows the extent of the war.

And of all the marvellous doings in that strange border war, surely one of the most remarkable was the courageous weakening of the little garrison at Michilimackinac, which was in constant danger of attack, to send out an expedition for the reduction of Prairie du Chien, five hundred miles away, at the junction of the Wisconsin River with the Mississippi, where nothing was at stake but the interest of their Indian allies. To them, nevertheless, the interest of the Indians was an imperative demand; and therefore before the end of June the detachment was on its way, accompanied by five hundred Indian warriors.

That such an expedition, taking with it only

one small cannon, should have reached its destination, found there a fort mounting six guns supported by a gunboat or floating battery of fourteen guns, and should have driven off the gunboat and compelled the fort to surrender, would have been a story quite incredible were it not confirmed by the official reports. By following the route of the first French explorers, up the Fox River and down the Wisconsin, the party reached Prairie du Chien on the seventeenth of July. On the nineteenth they had accomplished their purpose and were ready to return. The incidents of their long journey must be left to the imagination; and we may try to imagine how they were received when they returned victorious, and learned that in their absence Michilimackinac had been attacked by five ships from Detroit, and had successfully resisted the attack.

Another notable event took place on the nineteenth of July. The little village of St. David's, near Queenston, was burned by order of Colonel Stone, who was in command of a party of the invaders. This was done without any special provocation, other than that the colonel considered it a nest of Tories. It must be added, to the credit of General Brown, that as soon as he heard of it he punished Colonel Stone by abruptly dismissing him from the army without trial.

July 25.—Every boy in Canada who has read his Canadian history knows of the battle of Lundy's Lane, the fiercest of all the battles of the war; the battle that was fought at night, with the roar of the Falls of Niagara mingling with the sounds of the conflict. Some may not know that United States historians have claimed a victory for their army in the battle of Bridgewater, and that this is the same battle under another name.

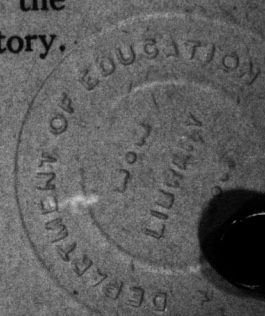
A monument marks the battlefield. Years ago, it is said, the caretaker of the place, wishing to please his visitors, had two stories to tell; one for Canadian visitors, and one for those who came from the United States. It happened one day that among the visitors was General Winfield Scott, of the United States army, who had led the first attack and had been wounded in the thickest of the fight. The courteous narrator mistook him for a British officer, and told the wrong story. Probably neither of his stories was quite correct.

The battle began at six o'clock on the evening of the twenty-fifth of July. General Riall, with about a thousand men, finding his position attacked, as he supposed, by an army of four thousand, began a hasty retreat. Just then General Drummond came up with eight hundred more troops, and took command. He countermanded the retreat and formed his men in order of battle. The invaders, who had not as yet their whole army on the ground, attempted to gain the hilltop which the British had suddenly left and as suddenly reoccupied. In this they failed; but they got possession of five of the British field guns, by an attack so sudden and unexpected that every man at the guns was killed.

There are contradictory accounts of what followed, but some things are undisputed. Riall was wounded and taken prisoner. Both Drummond and Brown were wounded later. About nine o'clock, both sides were reinforced; thus bringing the British strength up to three thousand, and bringing into action the enemy's full force, with the exception of Scott's brigade which had left the field after suffering severely in the first assault. The additional British troops were wearied by a march of twenty miles in the heat of the day; but their arrival made the numbers nearly equal, as in fact they had been throughout. The battle went on in darkness and confusion, with varying incidents of repulse and rally and renewed attack, but with little advantage for either side. About midnight the fighting ceased, perhaps because both armies were exhausted. The British still held the hill, from which they had not been driven; and the enemy moved off unpursued, retreating towards Fort Erie.

The British either recaptured their guns or found them next morning on the field where the enemy had left them. Whichever is true, in the end the British has lost one gun and had gained two. And, whatever else is doubtful, there is no question about the severity of the struggle. The losses were very heavy. Nor is there any question that General Drummond looked upon it as a decisive victory; for he immediately disbanded all the sedentary militia and sent them home to look after their crops.

The battle of Lundy's Lane still remains the last important battle fought in Canadian territory.



SCHOOL EXHIBITIONS.

L. A. DEWOLFE.

Possibly in no way can one awaken more interest in Nature Study than through the School Fair. Children like to collect with a purpose. And through collecting plants and insects, they become acquainted with these more intimately than in any other way.

Furthermore, the Fair brings the parents to the school. Nature Study too often is made a dry, formal subject forced upon the school by the course of study. Oftener still, it is entirely neglected. With an exhibition in view, however, the subject ceases to be a school subject, and becomes one in which the children are really interested.

Now is the time to begin preparation for next September's Fair. Even if the teachers change in the meantime, the Fair, being largely in the hands of the pupils, is kept in mind throughout the summer. Teachers who really wish to advance the interests of their pupils will start the scheme, even if they never see its completion. Possibly they will go to a school next term where some other teacher has started a similar scheme; and, in such case, the spring's experience will help fit into the new surroundings.

A school Fair should consist of an exhibit of all sorts of grain, vegetables, fruits and flowers, that the school children grew. Whether they grew them at home or in the school garden matters little. All nature collections made by the children should also be exhibited. These will consist of collections of wild flowers pressed and mounted on cardboard or white paper; collections of garden flowers, weeds, seeds, native woods, ornamental shrubs, etc., Many of these collections may illustrate such plant relations as seed-dispersal, protection, adaptation to environment and insect relations. Collections according to locality are always interesting.

Besides plant collections, children will exhibit their collections of minerals, insects, fossils, sea-shells, pictures of natural objects, nature booklets, etc.

Older children could make collections illustrating local, county or provincial industries. For this, much material might be obtained through exchange with other schools.

The girls of the school would exhibit samples

of their sewing, cooking, preserving, stencilling, raffia work, etc.

If they can grow tomatoes, onions, cucumbers and cauliflower, and from these make pickles, their exhibit would have double value.

It is needless to name all the things that might be exhibited. The chief point is the exhibition.

How many teachers, when they read this, will bring the subject before their pupils? The last month of school is usually a "drag." Try this plan to brighten things up. Ask the children to look after the garden plots they already have, and assure them it is not yet too late to plant something more. No matter how small your school is, try the Fair. Talk it over with the people. Ask for one dollar contributions towards a prize list. Appoint an exhibition committee to keep things moving during vacation. This committee will also carry the work over from one teacher to the next. The honor of having *started* the exhibition idea in any school is worth the trouble. If a teacher remains to see the end of it, so much the better.

These Fairs have been tried in many places. They have usually met with opposition from non-progressive people the first year. The second and third years, however, shew marked improvements.

After all, the life of a Fair is the teacher. If she cannot inspire her pupils to do things; if she teaches by the clock; if she thinks of school only between nine a. m., and four p. m.; if she can teach only from a text-book; if she can teach only dead subjects; to be brief, if the teacher have no ambition, energy and snap, she should leave the Fair alone. But if she be a real teacher, this is an opportunity to do something for which she will be remembered when her present pupils are the men and women of the country.

I should consider it a favor if teachers in Nova Scotia who have already tried School Fairs would write me, telling me what they did and with what success. Those who will try it this year for the first might also write me at Truro. I shall appreciate it. I want to know the difficulties you meet and also your achievements. You can help me by such reports. Possibly I, too, can help you.



The Royal Commission on Industrial Training and Technical Education.

By far the greatest event in the educational record of Canada for the year is the publication of the Commission on industrial training and technical education. This Commission was appointed in June 1910, and consisted of the following gentlemen: James W. Robertson, C.M.G., LL.D., *chairman*; Hon. John N. Armstrong, of North Sydney, N. S., George Bryce, Esq., LL.D., F.R.C.S., of Winnipeg; M. Gaspard de Serres, Montreal; Gilbert M. Murray, Esq., B.A., Toronto; David Forsyth, Esq., M.A., Berlin, Ontario; James Simpson, Esq., Toronto. The work of the commission was to enquire into the needs and present equipment of the Dominion as regards technical education, and into systems of such education in use in other countries.

This appointment by the Federal authorities was heartily approved by the Governments of the respective provinces. The matter of technical training is of such importance to the trade and commerce of the whole country, that it was recognized as a question for national, rather than sectional, investigation and study.

An interim report was submitted by the Commission in 1911, and in 1913 the full results of their labours appeared in four volumes, containing probably the best exposition of the subject in the English language. Parts one and two of the report appear in Volume I. Part one contains the opinions and recommendations of the Commission, and the other parts are devoted to detailed statements of the information upon which these opinions are based. Part III fills two volumes, and contains full accounts of the systems and methods of industrial training and technical education in England, Scotland, Ireland, Denmark, France, Germany, Switzerland, and the United States. Part IV is an exhaustive inquiry into conditions affecting industrial education in Canada, and covers the educational systems in the respective provinces, the industries, resources, conditions of industrial workers, both men and women, and the special needs as regards industrial and technical training for the proper development of the country. To learn that in Canada alone, between 1500 and 1600 persons, men and women, teachers, business men, farmers, mechanics, in short, people in almost every walk of life, gave information and sug-

gestions to the Commission, is to get some idea of the labour involved and of the general value of the report.

The information as to technical and industrial schools in other countries, and of the needs and opportunities in our own, are full of interest, and offer material for profitable study, but the part of the report that was most eagerly looked for was that embodying the recommendations.

Some of these are: that in Elementary Schools the teaching of Drawing, Manual Training, Nature Study, Experimental Science and Pre-Vocational Work, should be provided for; that Secondary Vocational Education should be provided for those persons who are to follow industrial, agricultural, commercial and housekeeping pursuits; that the plans adopted should be such as to preserve provincial control, encourage local initiative and develop local responsibility, and at the same time ensure consideration of national interests, as well as of local points of view; that for elementary education the Dominion parliament should make a grant of not less than \$350,000 a year for ten years, and that this sum be divided among the Provinces in proportion to population, in amounts not exceeding seventy-five per cent of the sum, expended the year before by each Province in elementary education; that the sum of \$3,000,000 be granted annually for ten years by the Parliament of Canada and paid into a Dominion development fund, this also to be allotted in shares to each Province for development undertakings.

If space allowed, we should gladly quote at length from the report. We commend it to the thoughtful reading of all who are interested in education, and who desire that Canada should take an honourable place among other nations. It is very far from being a mere collection of dry facts and statistics. Human interest abounds on nearly every page, and the personal element is emphasized. Indeed the final word of the report is an admission of the inadequacy of organizations and "mere payments of money" to ensure the education of the present generation, without "the personal effort and service of parents and others."

About forty-four thousand men and boys are employed as sailors on ships registered in Canada.



PLATE I.

DEVELOPMENT OF THE FROG.

Copied by permission of Messrs. Ginn & Company, Boston, from their "General Zoology."

NATURE STUDY OF ANIMALS.

H. G. PERRY.

In this picture on the development of the frog, figures 1, 2, and 3, represent frog's eggs or spawn in different stages of development. Their relative size and general structure are well illustrated, but these points are best seen in the eggs themselves, and if possible should be so studied—belated eggs are sometimes found in cool ponds as late as June.

Note the dark central part surrounded by the transparent gelatinous covering. This is spher-

ical at the beginning, but gradually elongates into an early tadpole-form, as it approaches the hatching period. It is the essential part of the egg, and is to the frog's egg what the yolk is to the hen's egg. With what is the outer part or covering comparable?

This covering, now thick and gelatinous, was at first, when the eggs were deposited in the water, a very thin coat. It absorbed water, began to swell, and reached its greatest expansion at the end of three hours. Besides holding the eggs together in a mass, and affording protection from injury by contact with surrounding objects, and from animals, it is said to perform valuable work in the process of incubation, of capturing and storing heat.

Place the bulb of a thermometer in a mass of eggs, and compare their temperature with that of the surrounding water. Which is the warmer, and why? Note how the gardener captures and holds the heat of the sun for his plants in hot beds, and hot-houses. The egg does the same work by means of its gelatinous coat, combined with the power of the dark central mass to store heat.

Correlate this work with lessons on heat and color. Compare the use of white, and black clothing in hot countries. Which color predominates, and why?

Before the eggs hatch, the little larvae are quite distinct within the gelatinous covering, (see figure 3), and they finally hatch, in from seven to ten days, according to temperature, into forms pictured in figure 4. These young are at first blind, and without gills, or a true mouth. They fasten themselves to weeds and other objects in the water by means of a crescent-shaped adhesive apparatus at the anterior end, and the body is more or less covered with cilia, which are used for locomotion.

Eyes, external (primary) gills, and a mouth for feeding, and the use of the tail in swimming soon follow,—see figure 5. The primary gills are replaced by secondary gills, which soon become covered with a fold of skin leaving only a small hole, usually in the left side, for the exhalant current of water. This is the form of the tad-pole in summer,—see figure 6.

The changes outlined take place in a few weeks and can readily be observed by keeping the eggs in a glass fruit-jar in the school, the only

care necessary being to keep them well supplied with fresh water, removing and adding a little every day.

Large tadpoles, which have not quite reached the stage represented by figure 7, may be found in ponds in the fall, and are easily kept in glass jars during the winter. Till toward late spring they require very little food besides what they

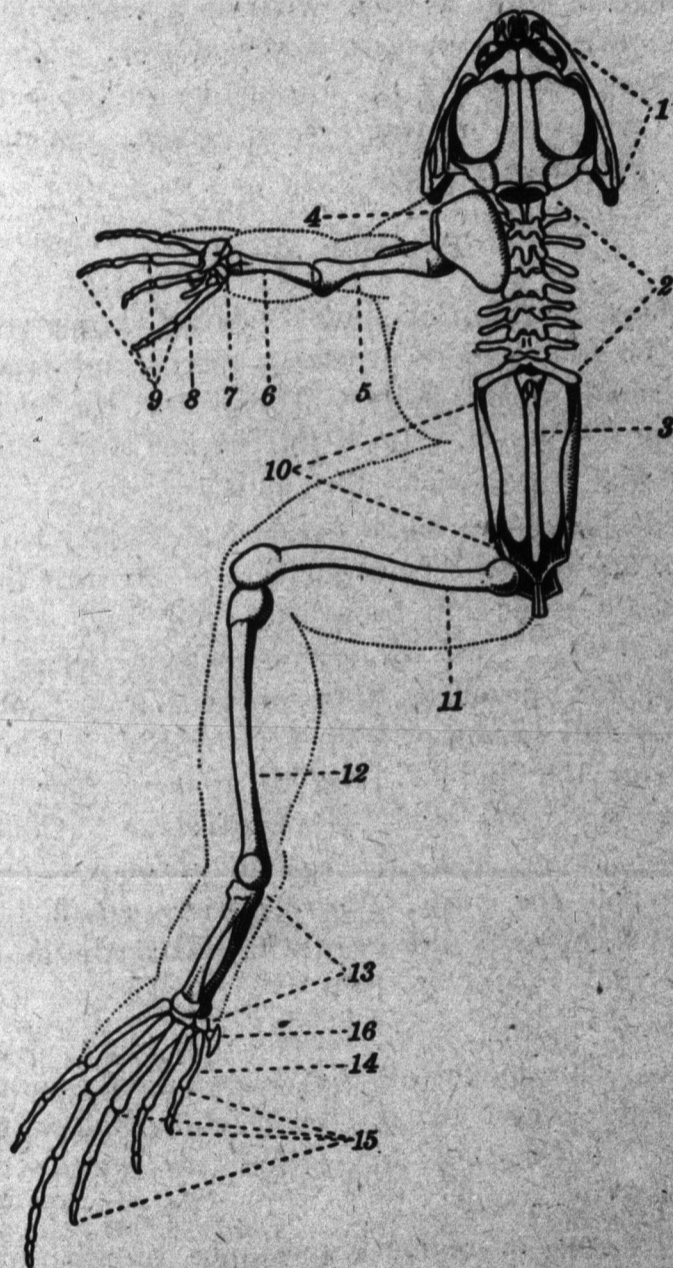


PLATE II.

SKELTON OF FROG, NATURAL SIZE.

Copied by permission of Messrs Ginn & Company, Boston, from their "General Zoology."

can nibble from a water-plant, which should always be in the jar. In spring and early summer they pass through the stages pictured in figures 7, 8, 9, 10, and 11, and finally reach the mature form seen in figure 12. Specimens representing these forms may be gathered in shallow parts and sloughs where the water is warm. If fed fish-food during the winter they develop earlier.

Study the form of the mature frog, and compare it with the forms through which it has passed in its early stages. These forms, together with the egg, complete the cycle of its life history.

Note the picture of the skeleton of a frog, and compare it with the skeletons of other animals. Notice the close similarity between it and the skeleton of man, especially in the bones of the arms and legs. This supplies a good exercise in working out homologous parts. The radius and ulna are separate in man, but in the frog these are almost completely grown together; the same is true of the tibia and fibula. The frog also shows a peculiarity in the tarsal bones, see 13. 16 is a rudimentary toe. The pelvic girdle is pictured in 10, and the prolongation of the vertebral column, in 3, is known as the urostyle. The bones of the head are not so readily compared with those of the human skull. The position of the eyes is well marked, and between and extending back from them is the small brain case. 4 marks the scapula. Note the small number of vertebrae in the back bone,—nine,—eight have well marked lateral processes. Note the absence of ribs.

THE ANTIOPA BUTTERFLY.

Plate III illustrates the metamorphosis of our earliest butterfly, the mourning cloak or antiopa butterfly (*Euvanessa antiopa*). It is a widely distributed insect, occurring throughout North America as far south as Mexico and Florida, and is found over northern Europe and in Asia.

The upper picture represents the larvae or caterpillars, a little less than half their natural size, feeding on a twig of elm. They are often called the spring elm caterpillars. Look for them in a few weeks on elm, and willow trees, you will see at once why they are spoken of as "spring."

The middle picture shows the pupa or resting stage, chrysalis. Note the empty chrysalis to the right, and the adult, winged form, imago, clinging to the twig. The lower picture is a dorsal view of the imago with wings expanded, slightly reduced.

They live about four weeks in the caterpillar stage, molting once each week, and feeding with increased voracity with every molt; they then pass into the pupa or resting stage, and

remain in this from twelve to fourteen days. The short resting period gives them great value for school illustration.

The adult forms of late summer and fall hibernate during the winter, and come out in



PLATE III.
THE SPRING ELM CATERPILLAR, OR MOURNING CLOAK BUTTERFLY.
[Slightly reduced]

Copied by permission of Messrs Ginn & Company, Boston, from their
Elementary Entomology.

early spring, the earliest even while the snow is yet on the ground. On warm days they may be seen sipping with their long tongues the sweet sap of the maple at cut twigs and stumps. By biting the young maples for sap the red squirrel unwittingly provides many a feast for these butterflies.

In captivity they will feed on a thick solution of sugar or the juice of a freshly cut apple.

Compare the life history of this insect with that of the grasshopper. Note that young grasshoppers hatch from the eggs in forms quite similar to the adult, and gradually reach the adult size and form through a series of molts, remaining active all the while. Such a gradual change of form as this, without a resting stage, is known as *incomplete metamorphosis*, while the changes outlined in the life history of the butterfly, with its resting pupal stage, constitute *complete metamorphosis*.

THE BUD MOTH.

Many of the opening buds of apple trees will be found more or less gnawed, and pierced by small worm holes. These are the marks of the bud moth. Look for the larvae in curled or rolled leaves near the buds.

This larva is a small cylindrical, naked worm, from one-half to three-quarters of an inch long, and of a pale dull, brownish, color, and with a black head. Note its nervous activity when the leaves are unrolled from around it. Collect several and preserve in 70% alcohol.

About the last of June these larvae are full grown, and pass into the pupal stage. Collect several pupae and preserve in alcohol. Over others on the twig fasten securely small bags made of cheese cloth in order to secure the moths when they escape in July.

Caged moths will deposit eggs on apple twigs. This makes all the stages of this animal complete — eggs, larvae (the chief feeding stage) pupae (the resting stage) and the moth (the reproductive stage).

Study the economic importance of this and other insect pests, and learn how the farmer keeps them in check. At what time would you advise spraying for the bud moth?

There are many other forms that can be worked out more easily than this particular one, and afford quite as good biological training, but this insect was selected mainly because of its small size, and the fact that its extensive deprecations often pass over quite unnoticed.

The following forms are recommended for additional study: Tent-Caterpillars, Canker-worm The Fall Web worm, Plant-Lice or Aphids, Scale Insects, Coddling Moth, Borers, etc., etc.

NOTES ON BIRDS.

SPRING MIGRANTS.

In this report on the spring migrants only a few of the earlier, and more important species have been named. Through want of data, for the latter part of May, from some stations, the names of several species have been withheld for the time. We hope to be in a position to report on these later.

The tabulation is made by counties, those of New Brunswick coming first. The date following the name of a place indicates the time the bird was first seen; and when followed by a dash and another date, the last indicates the time of becoming common.

ROBIN.—Charlotte Co., (Big Duck Island) March 27 to April 8, (Lynnfield) March 27 to April 14; St. John Co., March 27 to April 6; Queens Co., April 7-18; Sunbury Co., April 5-7; Victoria Co., April 17; Westmorland Co., (Shediac) March 26 to April 8, (Moncton) April 4-11; Kent Co., (Richibucto) April 6-11, (McNairn) April 7; Hants Co., March 21-26; Kings Co., March 21 to April 7; Yarmouth Co., April 2-5; Shelburne Co., March 29 to April 6; Queens Co., March 21 to April 5; Guysboro Co., April 3-15; Antigonish Co., March 24 to April 7; Pictou Co., March 16.

SLATE-COLORED JUNCO.—Charlotte Co., March 26 to April 6, March 28 to April 7; Queens Co., April 8-13; Sunbury Co., April 10-14; Westmorland Co., (Shediac) April 5-12; Kent Co., April 6-15; Hants Co., April 2; Kings Co., April 5-10; Yarmouth Co., March 28; Queens Co., March 18 to April 5; Guysboro Co., April 8-14; Antigonish Co., March 24 to April 7; Pictou Co., April 9.

FOX SPARROW.—Charlotte Co., March 27; Hants Co. April 6; Kings Co., April 2-7; Queens Co., April 18 (several at Milton); Guysboro Co., April 17-22; Antigonish Co., April 13-14; Pictou Co., April 12-13.

SONG SPARROW.—Charlotte Co., March 26 to April 6; Queens Co., April 12-18; Sunbury Co., April 13; Carleton Co., April 23 to May 10; Westmorland Co., April 11; Kings Co., April 6-15; Hants Co., April 1; Kings Co., March 30 to April 5; Yarmouth Co., March 28 to April 5; Guysboro Co., April 5-15; Antigonish Co., April 4-7; Pictou Co., April 5.

WHITE-THROATED SPARROW.—Charlotte Co., March 31 to April 18; St. John Co., March 26 to April 12; Sunbury Co., April 4-14; Westmorland Co., April 20; Kent Co., May 12-17; Hants Co., April 29; Kings Co., May 8-13; Shelburne Co., May 8-9; Queens Co., May 4.

NORTHERN FLICKER.—Kent Co., April 27 (a flock); Hants Co., April 12; Kings Co., April 24-28; Queens Co., April 19; Antigonish Co., April 20-28.

BELTED KINGFISHER.—Queens Co., April 26; Sunbury Co., April 20; Kent Co., April 20; Hants Co., April 12; Queens Co., May 7-10; Guysboro Co., April 7; Antigonish Co., April 30.

MYRTLE WARBLER.—Queens Co., May 10; Kent Co., May 8-12; Hants Co., May 16; Kings Co., April 24; Yarmouth

Co., April 24; Queens Co., May 5; Antigonish Co., April 21.

BRONZED GRACKLE.—St. John Co., April 12-15; Queens Co., April 4-12; Sunbury Co., March 27 to April 8; Victoria Co., April 16; Westmorland Co., April 4-12; Kings Co., April 4-10; Queens Co., March 25 to April 4; Guysboro Co., April 18; Antigonish Co., April 7-12.

RUSTY BLACKBIRD.—Charlotte Co., March 31 to April 11; Yarmouth Co., April 6; Antigonish Co., April 8-11.

SAVANNAH SPARROW.—Kent Co., April 12; Hants Co., April 28; Kings Co., April 26; Yarmouth Co., April 18-25; Antigonish Co., April 26.

CHIPPING SPARROW.—Charlotte Co., April 1-16; Carleton Co., April 26 to May 18; Kent Co., April 12-18; Kings Co., May 8; Queens Co., May 3-4.

VESPER SPARROW.—Queens Co., April 22-30; Sunbury Co., April 8; Carleton Co., April 28 to May 11; Kent Co., April 29; Antigonish Co., April 28.

PURPLE FINCH.—Kent Co., May 11-16; Hants Co., May 15; Queens Co., April 2.

GOLDFINCH.—Kent Co., May 9-17; Queens Co., (resident throughout the year).

YELLOW WARBLER.—Kent Co., May 20-21; Kings Co., May 16-19; Shelburne Co., May 18-20; Queens Co., May 12.

BOBOLINK.—Queens Co., May 23; Hants Co., May 19; Kings Co., May 18.

LEAST FLYCATCHER (CHEBEC).—Hants Co., May 19; Kings Co., May 15; Queens Co., May 17.

The reports sent to me in some instances were not clear enough to admit of tabulation, e.g., such popular class names as "Blackbirds," "Swallows," etc., were reported, so it was quite impossible to designate the particular species the reporter had in mind. More care should be exercised in this particular. Three species are usually included under the popular name "Blackbirds,"—the Rusty B., the Red-Winged B., and the Bronzed Grackle. The Purple G., is not found in our provinces, but is found farther south; what we often erroneously call the Purple G., is in reality the Bronzed G. The Red-Winged B., is not widely distributed; it seems to be confined chiefly to southern New Brunswick. The distribution of the Purple Martin also presents some peculiarities. It is *very* seldom seen at Wolfville, in the northern part of the Annapolis Valley, while at Windsor, twenty miles away, it is a common summer resident. It is reported from Sunbury, April 13 and 19; Kent, April 26 to May 5; Windsor, N. S., May 25 (date of becoming common).

The Bluebird also seems to be local in its distribution. But one station reported it,—Sunbury, March 24 and April 19. Information regarding the movements, nesting, etc., of any of these birds will be much appreciated.

H. G. P.

THE SUMMER SCHOOL OF SCIENCE.

Summer Schools are certainly growing in popularity. The first year that the writer attended the Summer School of Science, there were not eighty students on the roll, and at that time no other Summer courses were offered in the Maritime Provinces. Last summer, with 225 attending the session at Halifax, the Truro Rural School had as large an attendance as the authorities there desired. This summer, the number that can be accommodated at the new Rural Science School at Woodstock is already made up; there will be the usual large attendance at Truro; and yet the secretary of the Summer School of Science writes, "We have twice as many applications as we ever had in any previous year at this date." This all argues well for the interest and ambition of our teachers, and should add very much to the usefulness of our schools.

There are special inducements to go to Charlottetown this year. Tuition is free, and there are twenty-five or more scholarships offered for competition. Teachers may qualify for the Grade B Certificate in Physical Training, and to all who do so the Department of Militia and Defense will pay a bonus of \$15. There are to be lectures and discussions on methods of teaching. In the English Literature Class some of the set books for High School work in Nova Scotia and New Brunswick will be read, with a view to methods of presenting them in class.

The session of the school at Halifax was a very enjoyable one, but some of the students thought that they were worked too hard. This, we think, rests very much with themselves. It is a mistake for any one who is not particularly strong to fill up all the morning hours with lectures, do laboratory or field work in the afternoon, go to evening entertainments and study for examination late at night. This, as a first year student wrote from Halifax to the Faculty, "sends us back to the schoolroom with more knowledge, but with less energy to impart it." But it is not obligatory. We advise anyone who is planning to attend the school, not to attempt more than three courses in all, and especially not to try for a scholarship if he or she is working for a Physical Training Certificate.

Charlottetown offers a delightful climate,

beautiful surroundings, and restful pleasures. The Classes will all be held in Prince of Wales College, so that no time or strength will be wasted in getting from one class to another.

The only evening lecture definitely announced as yet, is one by the Editor of the Educational REVIEW, entitled "Studies for Delight," but others of interest and profit will be arranged for.

COLLEGE CONVOCATIONS.

UNIVERSITY OF NEW BRUNSWICK.

On Thursday, May 14th, the University of New Brunswick sent forth another band of graduates, and closed another year's excellent work.

Thirty-eight degrees in all were conferred. Seven of these were honorary, and of the ordinary degrees, two were of M.A., eleven of B.A., ten of B.Sc. in civil engineering, five of B.Sc. in electrical engineering, and three the same degree in forestry.

The Douglas gold medal was won by Mr. Emerson C. Rice of Wickham, who is also the winner of the Connaught gold medal, given for Political Economy in the fourth year. The Montgomery Campbell prize for classics was awarded to Mr. Hugh C. Titus, Marysville, and the Alumni gold medal for best translation of a selected prose passage into Latin, by Mr. McMurray Baird, of Fredericton. Miss Marguerite Adams of Hampton received the Brydone Jack scholarship.

Among the graduating civil engineers, Mr. Samuel R. Weston, of Upper Gagetown, took the Ketchum medal for highest standing, and the City of Fredericton gold medal for fourth year work on Public Water Supply, was won by Mr. Walter Melanson, of Moncton. The highest average among the women of the Sophomore class was made by Miss A. Ethel Thurrott, of Fredericton, who thus gained the Alumnae Society's prize. Mr. Charles R. Smith, of Lower Coverdale, took both the William Crocket Memorial Scholarship for first year Latin and Greek, and Dr. Walker's prize for English essay work. The prize for first year chemistry was presented to Mr. Leo C. Kelley of Fredericton; the prize for fourth year electrical engineering to Mr. A. Foster Baird, also of Fredericton.

Professor R. M. Miller, Dean of the Forestry School, delivered the address in praise of the Founders, and argued in defense of the small college, that it gives opportunity for close contact between teachers and taught; and room for the influence of a strong personality. Dr. Berton C. Foster, in his address to the graduating class, pleaded for high standards, for deliverance from love of riches, and for cultivation of love of

Nature, literature and art. Dr. A. Stanley MacKenzie, of Dalhousie University, in the Alumni Oration, spoke upon the connection of the University and the state, and urged the graduates to consider the duty and honour of bringing their trained minds and consciences to public service. The Valedictory was delivered by Mr. Robert Leslie Simms.

Of the honorary degrees, the degree of LL.D., was conferred upon Sir Frederic E. Barker. Mr. Justice Grimmer, Mr. Justice Crocket, Mr. Justice Barry and Dr. H. S. Bridges. The honorary degree of M.A., was conferred on Miss Mary K. Tibbitts, the first woman graduate of the University, and the degree of M.Sc., in Forestry upon Col. T. G. Loggie, Deputy Minister of Lands and Mines.

There will probably be no changes in the University staff this year.

KING'S COLLEGE ENCOENIA.

The ceremonies of Encoenia Day, May 14th, began with the celebration of the Holy Communion in the College Chapel at 7.30 a.m. The usual procession of Collegiate School boys and all members of the University, formed at ten o'clock, and marched to the parish church where service was held. The preacher of the day was the Canon Frederick George Scott, of Quebec.

In the afternoon the annual meeting of Convocation took place in Convocation Hall, the Chancellor of the University, Chief Justice Sir Charles Townshend, presiding. Degrees were conferred as follows: The honorary degree of D. C. L., upon Rev. Canon Scott, the well known poet and hymn writer; Ven. T. F. Draper, Archdeacon of Cape Breton; J. H. Plummer, president of the Dominion Steel Corporation. The degree of D. D., *jure dignitatis* upon Very Rev. A. J. Doull.

The following received the degree of M. A.: Very Rev. A. J. Doull, M. A., (Oxon.), *ad eundem*. Rev. A. W. Teed, M. A., (U.N.B.) *ad eundem*; H. W. A. Wadley, Esq., M. A., (Cantab.) *ad eundem*. Rev. R. M. Fenton, B. A., Rev. W. R. Martell, B. A., Rev. W. T. Suckling, B. A., L. H. Martell, B. A., N. H. Wilcox, B. A.

Degree of B. A.: D. M. Wiswell, J. H. A. Holmes, H. G. Morrison, A. F. Bate, Rev. A. H. Powell, M. P. Maxwell, L. T. Wilkinson, C. E. Knickle, B. F. Porter.

Degree of B. C. L.: Ralph Perley Hartley, B. A., Robert Holland Tait, B. A.

The valedictory was read by G. H. Morrison, of the graduating class. After the prize giving, the Alumni Oration was delivered by the Rev. B. W. Roger Tayler, D. D. A brief address was made by the Chancellor, congratulating the Faculty upon the present condition of the

College, and an interesting paper was read by J. H. Plummer, D.C.L., upon "Industrial Development in the Maritime Provinces and the part that University Men should take in this Work."

All the meetings of the different Associations were marked by a spirit of encouragement and hope. The year has been an excellent one, both for the University and the Collegiate School. The matter of providing a residence for women students is under consideration.

THE YEAR AT MOUNT ALLISON.

The year at Mount Allison has passed quickly and quietly. Although the collective body of students has numbered over six hundred, there have been few cases of illness of any kind, and none that were infectious or serious.

All three branches of Mount Allison, the Academy, Ladies College and University, have had a good attendance. Indeed the problem of accommodation is becoming somewhat serious.

The influx of engineering students has been this year so large,—some thirty-eight new men—that the rooms in the science building will be overtaxed next year.

The question of providing a new science building was discussed at the meeting of the Board of Regents, and a generous donor offered \$10,000 in addition to a previous subscription of a like amount. This, with a number of smaller subscriptions and one or two large ones in prospect, suggests that the funds required may be procured so that the building will be ready for use in 1915.

The science work at Mount Allison is suffering a loss in the resignation of Dr. Bigelow, Professor of Chemistry. He goes to Brown University. He graduated at Mount Allison before going to Harvard; and has been so connected with various sides of Mount Allison life, that his place will be hard to fill. Not many other changes are anticipated in the staff. Two of the Ladies' College teachers have leave of absence for the year. One will spend it in abroad. Miss Annie Sprague, B.A., who has been acting Vice-Principal of the Ladies' College during the year, has succeeded admirably and will probably assume the position permanently.

The Student government at the Residence, which was inaugurated a few years ago, has passed the stage of trial, and is now worked out in careful detail. A similar method has been adopted for the Annex of the Ladies' College occupied by the young women of the University, and is developing satisfactorily.

At the closing of the year in the Academy, eleven received certificates of matriculation, thirteen graduated in book-keeping, and over twenty in shorthand. From the Ladies' College nineteen received diplomas in music, or household

science, in arts and crafts, or in the school of expression. At the University Convocation the class receiving the degree of B.A. was smaller than usual, consisting of three young ladies and thirteen men. Four received certificates in Applied Science, and ten in theology. The degree of M.A. in course, was conferred on three candidates, and the honorary degree of D.C.L., on two men, both former Mount Allison graduates—one being H. A. Powell, K.C., of St. John, a member of the International Waterways Commission. An important event at the Convocation was the presentation of an illuminated address from the Board of Regents, Alumni, and Faculty, to Dr. R. C. Weldon, Mount Allison, '66, who was a former Mount Allison professor, and is now retiring from many years of service as Dean of the Dalhousie Law School in Halifax. The address was presented by His Honor Lieut-Governor Wood, a fellow-student and life-long friend of Dr. Weldon, and short addresses were delivered by Dr. Smith, Professor of Classics, and Dr. Allison, formerly president of the University.

During the year, Mount Allison appointed as Rhodes Scholar for New Brunswick, Mr. William H. Irving, who graduated in 1912, and who has since been a teacher in the High School at Moncton. Mr. Irving has the highest qualifications both personally and educationally, and is expected to continue his good record after taking up his residence at Oxford in October.

ST. FRANCIS XAVIER.

The commencement exercises of St. Francis Xavier College were held on May 12th, when the Assembly Hall was crowded to the doors. The Salutatory was delivered by William Noblett, the subject being History and National Life. After the Salutatory the degree of M. A. was conferred upon: William Randolph Walsh, St. John; Professor E. W. Connolly, Truro; Vincent Burke, Inspector of Schools, St. Johns, Nfld. Thirteen students, two of whom were women, received the degree of B.A.

The Class Essay was read by Frederick Guthro of Glace Bay. It was called "A Poet's Outlook on Life," and based upon Matthew Arnold's poem "Rugby Chapel."

After the prizes in the various departments had been presented, the Valedictorian, Mr. Angus L. MacDonald, of Port Hood, gave an excellent address on "Literature and National Life."

The Very Reverend D. Thompson addressed the students briefly, urging them to be true to the principles instilled at St. Francis Xavier, and prophesying useful futures.

The baccalaureate sermon was preached by Rev. D. C. Gillies on the subject of modern

thought. In the evening the College Alum held their annual dinner at St. George's hotel.

ACADIA UNIVERSITY.

The seventy-sixth anniversary of Acadia occurred the last week in May. The visitors were numerous and the weather delightful, although the orchards had not advanced sufficiently to show the beauty of their bloom. The baccalaureate sermon was preached by Dr. Matthews, Dean of the Divinity School of the University of Chicago, and the address on Sunday evening, before the College Y.M.C.A., was delivered by Dr. MacDonald who recently assumed the editorship of "The Maritime Baptist." The combined attendance at these Baptist schools for the year just closed was seven hundred and fifty-five. From the College thirty-one graduated in the B.A. course, four in the B.Sc. course, and three took the B.Th., degree. Eleven persons took their M.A. and nine engineering certificates were given. The honorary degree of D.C.L. was conferred upon Mr. I. B. Oakes, long connected with the educational work of these Provinces, and the same degree was granted to a well known Canadian surgeon of Montreal, Dr. W. W. Chipman. Rev. E. D. Webber, formerly of Wolfville, now of Haverhill, Mass., was made a D.D.

Last autumn a fire-proof Library building, the need of which has long been felt, was commenced, and that structure of stone is now steadily advancing. On the first of May excavation began for a new College Residence for women, and it is expected that this edifice of brick and stone will be ready for use at or near the opening of the next College year. During commencement week the College Residence for men, known as "Chipman Hall" was totally destroyed by fire, as was also the Gymnasium. But no time was lost by the Governing Board in beginning to make provision for the need so suddenly created. Four days after the fire the first sod was turned for a new Men's Residence, to be made of brick with stone facings. The students have generously subscribed for a Gymnasium and a Rink, so that the expectation is that without much delay, these buildings will also be secured. Aside from smaller gifts, there have come to Acadia in the past year three bequests especially worthy of mention, the first from Mr. Cramp, a lawyer of Montreal, amounting to one hundred thousand dollars, the second, forty-five thousand, from Mrs. Tedford, of Yarmouth, N. S., and the third, of thirty thousand, from Mr. Joshua Goodwin, St. John, N. B.

R. Y. E.

FOR FRIDAY AFTERNOONS

SUMMER DAYS.

Winter is cold hearted;
 Spring is yea and nay;
 Autumn is a weathercock
 Blown every way:
 Summer days for me,
 When every leaf is on its tree.

— Christina G. Rossenti.

BEES.

Bees don't care about the snow:
 I can tell you why that's so:
 Once I caught a little bee,
 Who was much too warm for me.

— Frank D. Sherman.

JUNE EXAMINATIONS.

What do you think the daisies said,—
 The laughing, swaying mass,
 Today as from exams I came,—
 "Lousia, did you pass?"

Then all the clover-blooms called out,
 Like children in a class,
 And these were just the words they said,
 "Louisa, did you pass?"

Out rang the winds, out sang the birds,
 Out spoke the tall June grass,
 The merry brook paused just to ask,
 "Louisa, did you pass?"

I hurried home to shut them out,
 And there I found — alas —
 Mama and Grandma, and they said,
 "Louisa, did you pass?"

— ALICE E. ALLEN, in the Farmer's Wife

COMPARISONS.

By LAURA CHAUNCEY PECK.

The robin cannot even talk;
 He hops along the garden walk,
 And from his look it's plain to see
 That he would like to play like me.
 I'm sure he quite dislikes a worm;
 He has to eat them when they squirm.
 It's strange, no matter how I try,
 I never can make out to fly.
 And tho' I work my very best,
 I cannot build a robin's nest.

— Youth's Companion

THE BIRTHDAY GIFT.

By LOUISE TAYLOR DAVIS.

Last week I had a birthday, and my father said to me,
 "I'll give you anything you want. Now, son, what shall
 it be?
 How would you like a phonograph?" But I just answered
 "No.
 I'd rather have a puppy, 'cause a puppy loves you so!"

So then he laughed and said that he would try and get a
 pup,
 And on my birthday morning, the minute I woke up,
 The fattest little furry dog was sitting on my bed!
 There's nothing in the world that I'd rather had instead.

He follows me around all day and sleeps with me at night;
 He loves to bark at me and growl, and then pretend to
 bite.

His little legs are wobbly, and he can't run fast, but oh!
 I'm glad I've got that puppy, 'cause a puppy loves you so!

— Exchange

A DANDELION STORY.

A dandelion grew in a garden plat
 In the shade of an old stone wall;
 Her slender leaves made an emerald mat,
 Where the stem grew straight and tall.

In the cool spring days she had worn a hood
 That was small and tight and green;
 She wore it as long as she possibly could,
 Till many a hole was seen.

Then she sent down word through her stem and
 mat
 To the storehouse under her feet,
 That she needed at once a bright new hat,
 With trimmings and all complete.

It was fine as silk and yellow as gold
 Like a star that had fallen down;
 With brightest trimmings and all complete
 The gayest hat in town.

And she next wanted a summer hat,
 Adorned with small white plumes;
 So they sent her one, in place of that
 They had sent with yellow blooms.

For many a day she waved and danced,
 And bowed to the birds and bees;
 For many a day the sunbeams glanced
 Through leaves of the friendly trees.

But a brisk little wind went by one day,
 "Please give me your hat!" he cried.
 He carried the little white plumes away,
 And scattered them far and wide.

— Exchange

THE QUESTION BOX.

1. SUB.—Is there a railroad from Capetown to Cairo in Africa? If so, will you name the chief stations?

The Cape-to-Cairo railway must as yet be looked upon as no more than a remote possibility. In South Africa there is a railway running northward from Capetown for a distance of about two thousand miles, passing through Kimberly and Bulawayo, and crossing Zambesi at Victoria Falls. It is a part of the system of government railways; and as such, of course, cannot be extended beyond the limits of South Africa. Another railway runs southward up the Nile from Cairo to Khartum. The distance between these two railways is spanned in part by navigable rivers and lakes; but there are hundreds of miles of railways still needed to make connection with these. In the meantime the growing commerce of Central Africa can reach either the east or the west coast by a shorter route over existing railways.

2. A. S.—Why is the top of a map called north, and the lower end south?

2. This is not always the case. We sometimes see a map or plan drawn obliquely with respect to the meridian; in which case an arrow or some other device is drawn to show the true line of the meridian. There is an understanding among map makers that when the direction is not so indicated the lines running up and down on the map shall be regarded as running north and south.

3. R. W. F.—Correct the following sentences, giving reasons.

3. The sentence, "There was no one in the room but him and me" is correct. "But" here is "except," and is a preposition governing the pronouns "him" and "me" in the objective case.

In the sentence "I am very pleased to meet you," "very pleased" is assumed to be the doubtful phrase. This is a question, not of grammar, but of good usage. Whether "pleased" is considered as an adjective or a participle, an adverb may modify it. But it is not customary to use the adverb "very" alone to modify a past participle. We say "very charming," "very exciting" but "very much charmed," "very much excited," "very much pleased."

4. Give a concise account of the life of Lord Strathcona.

4. Donald Alexander Smith was born at Archlestone, Morayshire, Scotland, in 1820. He

received his education at a local school, and, in 1838, as a stripling of 18, he came to America and entered the service of the Hudson Bay Company. He spent thirteen years of his life on the Labrador coast, and was afterwards stationed in the Northwest. He rose step by step to be chief factor. Subsequently he was named resident governor and chief commissioner of the Company in Canada. As a public man he first came into prominence in connection with the Red River insurrection, 1869, being in December of that year appointed a special commissioner by the Dominion government to inquire into the circumstances connected with it. In the next year he was returned to the legislature of the newly organized province of Manitoba. He was also called to the Northwest territorial council, and was returned for Selkirk to the House of Commons. In 1874 he resigned his seat in the legislature, but remained in the Dominion House until 1880, when he was defeated at a by-election. He re-entered the House of Commons, in 1887, as a member for Montreal West. In April 1896, he retired from political life in Canada, taking the high commissionership, which he held until his death. In 1896 he also became Chancellor of McGill University, an institution to which he gave a great deal of money. His benefactions are too numerous to give in detail. He was made Sir Donald Smith in 1886, and in 1897 was created a peer, with the title of Lord Strathcona and Mount Royal. He died in January, 1914, and was buried in Highgate Cemetery, North London. The funeral service was held in Westminster Abbey.

R. W. F. sends also five questions in geography. The answers to them would take more room than can be spared.

Five hundred teachers of English have been gathered in Tokyo, Japan, for their second conference in the history of that country. About five per cent of these were English and American men and women. The programme occupied ten days, and the entire proceedings were in English. The rapid spread of the study of English is very striking. In the secondary schools alone in Japan, there are upward of 100,000 boys and girls studying English as a part of their course. The boys in these schools must study English seven hours in each week for five years, and the girls at least half that time, and as Japan claims the largest percentage of school attendance of any country in the world, it is safe to say that within a few generations English will be almost universally spoken there.

SUMMER SCHOOL OF SCIENCE

FOR ATLANTIC PROVINCES OF CANADA

Session of 1914 at Charlottetown, P. E. Island, July 7th to 29th

NATURAL SCIENCES, LITERATURE, ETC., TAUGHT. SPECIAL ATTENTION
GIVEN TO AGRICULTURE and SCHOOL GARDENING, Also PHYSICAL TRAINING

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All information cheerfully furnished by J. D. SEAMAN, Secretary, 63 Bayfield Street, CHARLOTTETOWN, P. E. I.

CURRENT EVENTS.

The Panama Canal is actually open for business, though the formal opening will not take place until the beginning of next year.

Nothing has yet been heard of the *Karluk*, the principal ship of Stefansson's expedition, which disappeared last October, being carried off by an ice floe while the leader and some of his assistants were on shore. It is feared that she may never be heard from again.

Sir William Willcocks, the eminent British engineer who built the Assouan dam in Egypt and has more recently been engaged in a similar work in Mesopotamia, has been invited to visit the United States and discuss the flood problems on the Mississippi. His advice is that they should build their dams bigger. The Babylonians, he says, never built a dyke less than a hundred feet wide. He has also given advice in respect to drainage for the prevention of the diseases carried by mosquitoes. At Khartum, in the Nile valley, were found the worst and most malignant mosquitoes, yet the drainage there is so perfect now that a man is fined twelve shillings for every mosquito seen on his place.

A new constitution for the Republic of China has been promulgated. It gives the President much greater powers than he possessed under the former constitution, including the sole control of the army and navy. The rebels under White Wolf seem to have been scattered, and the insurrection is virtually suppressed; but another rebellion is threatened under the leadership of Sun Yat Sen, the former provisional president.

The campaign against opium smoking in China has reached such a point that in one city persons under forty years of age if found smoking the drug are to be shot, and those over forty who indulge in the practice will be sentenced to penal servitude.

In England and Scotland, the crimes of the suffragettes are increasing in violence, and they are now openly threatening the life of the King; yet the government refuses to take the movement as a serious matter, and everybody but the suffragettes themselves recognizes that it is a complete failure.

The Home Rule Bill, which reestablishes the Irish Parliament, passed its third and final reading in the British House of Commons on the twenty-fifth of May, and was sent to the House of Lords. The Lords will probably reject it; but under the new Parliament Act it may become

law without their approval, having been passed three times by the same Parliament.

Prince William, the new ruler of Albania, refused to let his minister of war, Essad Pasha, raise an army to put down the Epirote rebellion; and the latter resigned and joined the insurgents. Essad was arrested and banished from the country, but the insurrection continued, and the situation is serious.

Fortunately the REVIEW's estimate of the credibility of latest rumors is seldom so far astray as it was last month in regard to the Mexican news. Salina Cruz and Manzanillo were not attacked by United States forces, and Zapata has not joined Huerta nor accepted his offer of amnesty. Since the first of May the Constitutionalists or northern rebels have taken Tampico. With this port in the hands of the rebels, and the United States still holding Vera Cruz, Huerta has lost his two chief ports on the gulf coast. A third, however, called Puerto Mexico (Mexico Port,) the eastern terminus of the Tehuantepec railway, is still open; and through this he has received two large shipments of arms and ammunition from Europe, which will greatly strengthen his resources. Hostilities between the United States and Mexico are suspended during the mediation conference, which is being held at Niagara Falls, on the Canadian side of the river.

The South American mediators, who hope to find some way of averting the war between Mexico and the United States, began their conference at Niagara Falls on the twenty-sixth of last month. The United States has sent three representatives to the conference, and Mexico three. It is expected that Carranza will also send a representative: Though the doings of the conference are secret, there is reason to believe that a settlement may be reached; and that peace between the two republics and peace between the warring factions in Mexico may be the outcome. The conference itself is a notable event, as it marks the beginning of South American influence in the affairs of North America.

The sinking of the Canadian Pacific steamer *Empress of Ireland* near Quebec, on the morning of the twenty-ninth of May, by which over a thousand lives were lost, is the worst marine disaster since the loss of the *Titanic*. She was outward bound, and, having just dropped her pilot at Father Point, was ready to proceed on her voyage, when she was struck by a coal laden vessel, and sank before there was time to launch her boats. Among the lost were many of the leaders of the Salvation Army in Canada, who were on their way to attend a world congress in London.

New Brunswick School Calendar, 1914-1915.

1914.	FIRST TERM.	Dec. 18.—Normal and Public Schools close for Christmas Vacation.	May 24.—Last Day on which Inspectors are authorized to receive applications for Departmental Examinations. Reg 38-6.
July 1.—	Dominion Day (Public Holiday).	1915.	SECOND TERM.
July 7.—	Departmental Examinations begin.	Jan. 4.—	Normal and Public Schools open.
July 13.—	Annual School Meetings.	Apr. 1.—	Schools close for Easter Vacation.
Aug. 5.—	Normal School opens for French Candidates.	Apr. 7.—	Schools re-open after Easter Vacation.
Aug. 26.—	Public Schools open.	May 18.—	Loyalist Day (Holiday for St. John City only).
Sept. 1.—	Normal School opens.	May 23.—	Empire Day (Observe May 21st).
Sept. 7.—	Labor Day (Public Holiday). Thanksgiving Day (Public Holiday).	May 24.—	Victoria Day (Public Holiday).
Dec. 15.—	Examinations for Class III License begin.		June 24.—
			Examinations for Class III License begin.
			June 3.—
			King's Birthday (Public Holiday).
			June 4.—
			Normal School Closing.
			June 8.—
			Final Examinations for License begin.
			June 21.—
			High School Entrance Examinations begin.
			June 30.—
			Public Schools close for Year.

It is announced that Queen Mary's brother, the Duke of Teck, will be the next Governor General of Canada. His Serene Highness Prince Alexander of Teck is an Englishman by birth, and served with distinction in the South African war. He is a great-grandson of King George III, and a son of the Princess Mary Adelaide, daughter of the late Duke of Cambridge. His wife, Her Royal Highness the Duchess of Teck, is a grand-daughter of Queen Victoria.

It is understood that the Russian government will not only offer a subsidy for steamship service to Siberia by the Kara Sea route, but will establish a wireless telegraph station at the mouth of the Yenisei, and establish an ice patrol of small vessels equipped with wireless telegraph and reporting their observations to the land stations.

A wall two miles long has been built to prevent the Rangoon River from taking a new course and leaving the town and port of Rangoon.

The total tonnage of British merchant ships is given as something over twenty million tons; which is nearly one third greater than that of all the other maritime powers combined. The German merchant tonnage, which comes next, is a little less than five million tons.

A lighting projectile invented in Germany is filled with calcium carbide. On being fired from a cannon, and falling in the water, it rises and floats, and the acetylene gas set free by the moistening of the carbide ignites spontaneously, producing a light of three thousand candle power.

SCHOOL AND COLLEGE.

Halifax schools celebrated Empire Day by a great meeting in the Arena Rink. Nearly 8,000 children were present, and a great many visitors. Addresses were made by R. V. Harris, Esq., Chairman of the School Board, Mayor Bligh, Bishop Worrell and others. National songs were sung to the accompaniment of the Royal Canadian Band. The most interesting part of the programme was the unfurling of a Union Jack sent by the school children of Halifax, England, to the school children of Halifax, Nova Scotia.

During the early hours of Monday, May 26th, the gymnasium of Acadia University and Chipman Hall, the

men's residence, were burned to the ground. Other buildings were saved by great efforts on the part of the firemen. The origin of the fire is unknown.

Miss Clara W. Fritz and Miss Rosalie Waterman, both of St. John, won distinction among McGill students this year, Miss Waterman taking first class honours in classics, and Miss Fritz, first class honours and the gold medal in biology, the Penhallow prize for botany, and a scholarship of \$150.

Mayor W. E. Outhit, Instructor and Inspector of Cadet Corps for Nova Scotia, has gone to Calgary, Alberta, where he takes the same post under the Militia Department that he has held in Nova Scotia for some years. The transfer is in the nature of a promotion in recognition of his services to the Cadet movement. This movement in the Dominion owes more to Major Outhit than to any other person.

Few men have worked at educational business as long as Mr. Charles A. Sampson, of Fredericton, who is now entering upon his thirty-eighth year of service as Secretary to the School Board of that city. Mr. Sampson has seen many changes and much advance in the educational world during his long term of office. Commenting upon this the Fredericton Gleaner says: "Thirty-seven years ago our male teachers received salaries ranging from four hundred to six hundred dollars, and the ladies had to try to be contented with an income of two hundred to two hundred and fifty."

A Cadet corps is to be organized in the St. John High School, with Mr. C. M. Lawson as instructor.

Miss Sadie L. Thompson, Principal of Charlotte Street School, Fredericton, leads all the teachers in the Physical Training Course at Ottawa, making a mark of 100 in theory and teaching.

Mr. John Hamilton Lane Johnstone, of Pictou, for the last two years instructor of Physics at Dalhousie University, has been nominated by that institution for the 1851 London Exhibition Science Research Scholarship, worth \$750 a year for three years. Mr. Johnstone has further been awarded the Currier Fellowship at Yale, worth \$400.

Plans are now being prepared for the construction of an Agricultural School at Sussex, N. B. About \$40,000 is to be spent upon the building.

RURAL SCIENCE SCHOOL

TRURO, N. S.

The Rural Science School will open at Truro, Wednesday, 10 a. m.,
July 8, 1914, and will close Thursday evening, August 6.

Classes are open to teachers of Class A, B and C, who are recommended by the Normal College Faculty. Those of Class B and C who are strongly recommended by an Inspector are also admitted. Application for admission must be made before June 30. The Course of Study follows:

COURSE OF STUDY

1. All Candidates for R. S. Diploma shall be required to complete satisfactorily the following courses: (a) Nature Study—1 hr. per week for 1 term, (b) Horticulture—3 hrs. per week for 1 term, (c) Biology—2 hrs. per week for 1 term, (c) Botany—6 hrs. per week for 2 terms.

2. Candidates shall elect as "majors" one subject from each of the groups A and B following

A	Entomology.
	Chemistry.
	Economic Zoology.
B	Agriculture

Each of the major courses elected shall involve as a minimum 6 hrs. per week class and laboratory work for two terms.

3. Candidates shall elect any two of the following as "minors," involving as a minimum two hours per week class and laboratory work for one term: (a) Bacteriology, (b) Brush and Cardboard Work, (c) Woodwork, (d) Mechanics, (e) Wether-work, (f) Geology and Soil Physics, (g) Birds, (h) Plant Diseases.

4. Work done in the Normal College in the following courses will be credited to the candidate for a Rural Science Diploma: (a) Brush and Cardboard Work; (b) Woodwork; (c) Wether-work.

Buy a single ticket and procure a Standard Certificate

For further particulars see Journal of Education, October, 1913. For list of boarding houses and similar information, apply to

E. W. CONNOLLY, REGISTRAR

Miss Chipman, a graduate of King's College, Windsor, N. S., has been made president of the University Women's Club of Vancouver.

Empire Day was observed at the Consolidated School, Kingston, N. B., with a ceremony of more than usual interest. After a programme of songs, recitations and speeches had been carried out in the assembly hall of the school, the pupils marched to the burial ground and placed flags on the graves of the Loyalists who are buried there. The meeting was largely attended and was addressed by the Chief Superintendent, Inspector Brooks, and Mr. R. P. Steeves, Director of Elementary Agricultural Education. Dr. Carter, in a stimulating speech, dealt on the responsibilities and duties of British citizenship, and urged intelligent appreciation of the work of the Loyalists.

That "blood is thicker than water" is exemplified by the formation at Moose Jaw last month of an Association to be composed of teachers in Saskatchewan who formerly taught in the Maritime Provinces or who are natives of these provinces. The charter members present at the meeting numbered nearly fifty and as many more are expected to join as soon as an organization programme is launched.

The new association bears the name "Maritime Provinces Teachers' Association of Saskatchewan." The idea originated with H. W. Hewitt, a former Nova Scotia teacher and newspaper man now resident in Saskatoon.

He sent the "fiery cross" among the teachers gathered at Moose Jaw on the occasion of the annual meeting of the Provincial Educational Association and when, in the midst of conflicting events, enough had gathered together to make a start, explained his proposition, which was enthusiastically accepted by all present. In quick order organization was completed, the following office bearers being elected: President, H. W. Hewitt, Saskatoon; Vice-President for Nova Scotia, Miss Bertha Oxner, Saskatoon; Vice-President for New Brunswick, J. M. Nason, Watrous; Vice-President for Prince Edward Island, Miss K. Rowe, Macklin; Secretary-Treasurer, Charles I. Macnab, Saskatoon; Editor in chief of the association's organ, H. W. Hewitt, Saskatoon.

Once a year the members will meet at the banquet table when old acquaintances will be renewed and new friendships formed. The traditions of the home provinces will be maintained. Means will be taken to keep former and present Maritime Provinces teachers and former Maritime teachers in touch with one another, through exchange of ideas, objects, etc. All will unite to honor the old home, to bring about a better understanding between the east and the west, and to give a welcome and correct information to intending newcomers. District associations will be formed, which will be the nucleus for the district of Maritime Provinces gatherings during the winter months.

OFFICIAL NOTICES.

N. B. HIGH SCHOOL LITERATURE COURSE.

(To go into effect July 1, 1914.)

- GRADE IX.—Dickens' — Christmas Carol.
Cricket on the Hearth.
Scott's— Lay of the Last Minstrel.
- GRADE X.—Lamb — Essays of Elia, omitting the last essays.
Parkman — Oregon Trail.
Burns — Shorter Poems, as in Oxford Edition edited by J. Logie Robertson.
- GRADE XI.—Shakespeare — Merchant of Venice.
Thackeray — Henry Esmond.
Milton — Paradise Lost — Books I and II.
Carlyle's Essay on Burns.

The above texts may be obtained with notes from:—
The MacMillan Co. of Canada, Ltd., Toronto.
The Copp Clark Co., Ltd.
Oxford University Press, 35-37 Richmond St. West,
Toronto.
Chas. E. Merrill Company, 432 Fourth Ave., New
York City.

W. S. CARTER,
Chief Supt. of Education.

Approved by the Board of Education.

(To go into effect July 1st, 1914.)

NATURE STUDY AND AGRICULTURE.

COUNTRY SCHOOLS (UNGRADED).

- GRADE I.—As in authorized Nature Study and Agriculture Course, with School Gardening, where possible. Drawing. Study and care of the home.
- GRADE II.—As in authorized Nature Study and Agriculture Course, with School Gardening where possible., General local geography. Estimation of distances, sizes and weights in a general way. Drawing of common objects, as fruits, vegetables, simple leaves, domestic animals, etc. Study and care of the home, continued.
- GRADE III.—As in authorized Nature Study and Agriculture Course. School Gardening, where possible. Field excursions, with out-door lessons. Language exercises, both oral and written, based on work done in Nature Study. Household Economy.
- GRADE IV.—As in authorized Nature Study and Agriculture Course. School Gardening, where possible, continued. Experimental School and Home Plots. Introductory Household Economy (practical where possible).
- GRADE V.—As in authorized Nature Study and Agriculture Course. Agricultural experimentation. Insects, weeds, soils, economic plants and animals. Elementary Chemistry of Oxygen, Hydrogen, Nitrogen and Carbon. Photosynthesis, Respiration, Transpiration in plants. Show presence of starch, sugar, water, mineral matter, etc., in plants. Simple analysis of starch, sugar, wood, etc. School Gardening, continued. Sanitation. Household Economy.

NATURE STUDY AND AGRICULTURE.

GRADED SCHOOLS.

- GRADE I.—As in Nature Study and Agriculture Course with School Gardening, where possible. Drawing. Study and care of the home.
- GRADE II.—As in Nature Study and Agriculture Course. School Gardening, continued, as above. General local geography, estimation of distances, sizes and weights in a general way. Drawing of common objects, as fruits, vegetables, simple leaves, domestic animals. Study and care of the home, continued.
- GRADE III.—Selected work from authorized Nature Study and Agriculture Course for Grade III ungraded, with School Gardening, as above. Language exercises, both oral and written, descriptive of observation lessons. Study and care of the home, continued.
- GRADE IV.—Authorized Nature Study and Agriculture Course for Grade III ungraded, completed. School Gardening, where possible. Field excursions, with out-door lessons. Oral and written language exercises, continued. Study and care of the home, continued.
- GRADE V.—Selected work from authorized Nature Study and Agriculture Course for Grade IV ungraded. School Gardening, where possible. Experimental School and Home Plots. Paragraph descriptions of particular trees, birds, insects, etc., and accounts of work done or observations made. Introductory Household Economy.
- GRADE VI.—Authorized Nature Study and Agriculture Course for Grade IV ungraded, completed. School Gardening, where possible. Short essays on Nature Study subjects of local interest. Experimental School and Home Plots. Household Economy.
- GRADE VII.—Selected work from authorized Nature Study and Agriculture Course for Grade V ungraded. Agricultural Experimentation and Practical School Gardening, where possible. Soils, their composition. Introductory work in Chemistry (Oxygen, Hydrogen, Nitrogen, Carbon). Household Economy. Essays on parish or county industries and developments.
- GRADE VIII.—Authorized Nature Study and Agriculture Course for Grade V ungraded, completed. School Gardening, where possible. Plants and animals, their composition and food. Elementary Chemistry, continued. Photosynthesis, Respiration, Transpiration, in plants. Show presence of starch, sugar, water, mineral matter, etc., in plants. Simple analysis of starch, sugar, wood, etc. Household Economy. Competitive practical work in agricultural lines, chiefly at home. Essays on subjects suggested by practical work done.

REFERENCE BOOKS.

First Book of Rural Science, J. J. Green.....	\$0 40
Elements of Agriculture, G. F. Warren.....	1 10
The Soil, F. H. King.....	1 50
Practical Garden Book, Hunn & Bailey.....	50
Principles and Practices of School Gardening, A. Logan.....	1 00

Life Histories of American Insects, Weed..... 50
 Published by The MacMillan Company of Canada, Ltd.,
 Toronto, Ont.
 Domestic Birds, J. H. Robinson.....\$1 35
 Agriculture for Beginners, Burkett, Stevens & Hill.... 75
 Published by Messrs. Ginn & Company, Boston, Mass.
 Hand-book of Nature Study, A. B. Comstock.....\$3 25
 Bird Note-book Nos. 1 and 2, A. B. Comstock..... 30
 Published by The Comstock Publishing Company.

W. S. CARTER,
 Chief Supt. of Education.

Education Office, May 1st, 1914.

Elementary Agricultural Education.

REGULATIONS OF THE BOARD OF EDUCATION.

1. Any Board of School Trustees that provides for and satisfactorily maintains instruction in Elementary Agriculture with School Gardening, in accordance with the course prescribed by the Board of Education in this subject, shall be entitled to receive a special grant of thirty dollars per school year. In case, however, the full amount of such grant has not been expended for such maintenance, as shown by a statement of expenditure submitted by the Board of School Trustees at the close of each term, the payment of an amount equal to that expended shall be made.

2. The grant to Boards of School Trustees for the first year, after Agricultural Instruction with School Gardening has been undertaken as a permanent and integral part of the school work, shall be fifty dollars, and thereafter as specified in Regulation 1 above.

3. The Minister of Agriculture shall pay to the certificated teacher who carries on this work satisfactorily, as shown by reports of the Director, a special grant, at the rate of fifty dollars per school year.

Teachers with only one session of special training in Elementary Agriculture with School Gardening shall, upon the recommendation of the Director, receive a special grant for satisfactory teaching in this work, at the rate of thirty dollars per school year.

4. In all cases the amounts paid for this special work to both teachers and School Boards must be approved and recommended by the Director.

5. School officers intending to introduce or to continue this work, and to qualify for the grants, must give notice to the Director of such intention on or before the first day of September, or the seventh day of January in each school year. This notice shall be signed by the Trustees, or their Secretary by order of the Board, and by the teacher.

6. The time to be allotted to this work shall be not more than one and one-half hours per week during the school year.

7. Throughout the year the teacher shall record from week to week on a form supplied by the Director, the work carried on in the garden and the instruction given in the school, specifying the subjects taken up and the

method followed. At the end of each term these records shall be included in the Agricultural Instruction Return. These weekly Records shall be available to both Inspectors and Director at all times.

8. At the meeting of the Board of Education before the end of each school year, there shall be apportioned from the amount of money set apart by the Minister of Agriculture for Elementary Agricultural Education, a fund to be used for the encouragement of schools and pupils, to be applied as prizes in School Garden, home plot work and school fairs.

For this purpose each County shall form a unit for distribution. All work thus encouraged shall be carried on under the instruction and supervision of the teachers in the public schools.

9. At the same time an amount shall also be determined upon for the improvement of school grounds, which afford an opportunity for the care and study of trees, shrubs and vines, for the purchase of pedigreed seeds and bulbs and for extending such practical work along agricultural lines and the improvement of country life.

10. When the equipment on which special grants to Trustees have been paid remains unused for two years, said equipment may be transferred, on recommendation of the Director, to another school in the Province.

NOTE.—The pupils receiving instruction in this subject should be encouraged to make notes and records in a systematic manner, having special reference to Nature Study observations, agricultural conditions and school garden work. These record books should receive recognition in determining the standing of pupils. Care should be taken to interest and encourage pupils, rather than to urge them in this special work.

W. S. CARTER,
 Chief Supt. of Education.

Education Office, May 1st, 1914.

Interprovincial Teachers' Institute

N. S., N. B., and P. E. I.

To Meet in the Technical College, Halifax

Aug. 26, 27 and 28th, 1914

N. B. Teachers are requested to note, that there will be no Provincial Institute held this year, but that all are urged to attend the Interprovincial Meeting at Halifax. There are many matters of importance and mutual interest to discuss.

For all Teachers who attend the Halifax Meeting the public schools will reopen after the summer vacation Aug. 31. For all other teachers, schools will reopen Aug. 26.

A full programme with necessary information will be published.

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