

PAGES

MISSING

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To Our Subscribers.

In order to avoid confusion and delay will all subscribers who have changed their addresses kindly notify us at once, giving both the old and the new address.

Some of our old subscribers sent changes of address too late for change in the August mailing list. Such notices should reach us before the first of the month.

It has been announced that the Fourth International Congress on Home Education will meet in Philadelphia, September 22-29. It was in Liege that the first Congress met, in 1905, and the third Congress met in Brussels in 1910. The President of the Commission on these Congresses is H. R. H., the Duchess of Vendome, sister of King Albert of Belgium. That gallant nation has a title to honour in the arts of peace as well as in war.

If from any cause you wish to discontinue your subscription, do not fail to send a notice to this office. The REVIEW is always continued to an address until the subscriber notifies us to stop it. Look at the date upon your address label.

We cordially welcome the organization of the High School Teachers of New Brunswick, as we believe that such an association can do a great deal to increase the usefulness of the profession, and to add to its dignity and honour.

Now is the time for our Empire Day teachings to bear fruit. Do we yet fully realize the unity of the Empire, and our duty as her citizens? Combat the idea that in sending men and money Canada is merely "helping England," as she would help a friend. It is the Empire that is at war, and the Empire is one.

No easy hopes or lies
Shall bring us to our goal —
But iron sacrifice
Of body, will, and soul.

There's but one task for all
For each, one life to give;
Who stands if freedom fall?
Who dies if England live?

— Rudyard Kipling.

NATURE STUDY OF ANIMALS.

H. E. PERRY.

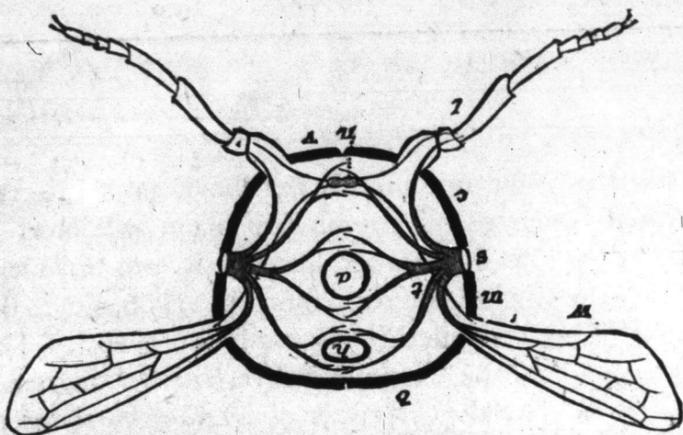


Fig 1. Ideal cross section through an insect: h, Heart; n, Nerve Cord; s, Spiracle. [breathing pore]; t, Tracheal Tubes; l, Legs; w, Wings.

The alimentary canal or digestive tube has already been described and pictured in these studies. See EDUCATIONAL REVIEW, August issue, page 35, Fig. 4.

The heart is a delicate tube extending along a median dorsal line immediately under the integument. In most adult insects it consists of a series of chambers, each of which permits the ingress of blood, but hinders its egress; while within the chambers are valvular folds, which allow the blood to move forward only. The blood enters the dorsal vessel through the lateral valves.

The pulsating portion of the dorsal vessel is confined for the most part to the abdomen. It is continued as a simple tube through the thorax, and into the head region, where it passes under the brain and divides into two branches. If the posterior or pulsating portion is called the heart, the anterior portion must be called the aorta. Compare this arrangement with the heart and aorta of higher animals. On the under or neutral side is another long blood tube, in which the blood flows backward. From these tubes the blood flows through spaces between muscles, tracheae, nerves, etc., bathing all the tissues.

The blood of insects is not red. It consists chiefly of a watery fluid or plasma, which contains corpuscles or leucocytes. Compare it with the blood of higher animals. What gives the red color to our own blood? If the red corpuscles were removed how would the residue compare with the blood of insects? How can insects get along without red corpuscles?

Note the position of the nerve cord. It is neutral, and is the chief central nervous system

of the animal, and extends along the median line of the body as a series of ganglia connected by nerve cords, a ganglion for each segment. In the head, however, we find a fusion of ganglia into two centres or masses; the foremost being dorsal to the œsophagus is called the brain or supraœsophageal ganglion, and the lower on the neutral side, the subœsophageal ganglion, and the two are connected by a girdle of nerve tissue around the œsophagus.

The brain gives rise to the optic nerves, and the nerves to the antennae. It is the seat of will, using the term "will" in a loose sense; and it directs the locomotor movements of the legs and wings.

The subœsophageal ganglion controls the mouth parts, co-ordinating their movements as well as some of the body movements.

The thoracic ganglia govern the appendages of their respective segments, and in common with the ganglia of the abdomen are to a great extent independent of brain control, each being an individual motor centre for its particular segment. This explains why decapitated insects are still able to breathe, walk or fly, and often retain for days some power of movement.

The respiratory system of insects consists of the spiracles and tracheal tubes. The tracheal tubes divide and sub-divide until they become extremely delicate tubules which penetrate even between the muscle fibres, and the other tissues of the body, and possibly even enter the cells, and thus convey air to the remotest tissues.

Fig. 1, shows the tracheal system in cross section in the region of the wings and legs. For the lateral distribution of the spiracles, see REVIEW, August issue, page 34, Fig. 1. Count them in the grasshopper, and compare with other insects. Winged insects never have more than ten pairs, although there are twelve segments in which they may appear—the three thoracic and the first nine abdominal segments.

The respiratory movements are entirely reflex and are independent of the brain, for they continue after decapitation, and even in the detached abdomen of a grasshopper or dragon fly, each neutral ganglion is an independent respiratory centre for its own segment.

The grasshoppers, locusts, crickets, cockroaches, etc., belong to a group or order of insects, called the straight-winged insects, technically known

as Orthoptera. Look up the derivation of this term in a dictionary, and after examining members of this order, note how appropriate the name is.

The fore wings are thickened, serving as a protection for the hind wings, which when at rest are folded or plaited like a fan.

The young when hatched from the eggs are of the same general form as the adults, and gradually attain the adult size by a series of molts, i. e., the development is said to be direct, or in other words, the metamorphosis is incomplete.

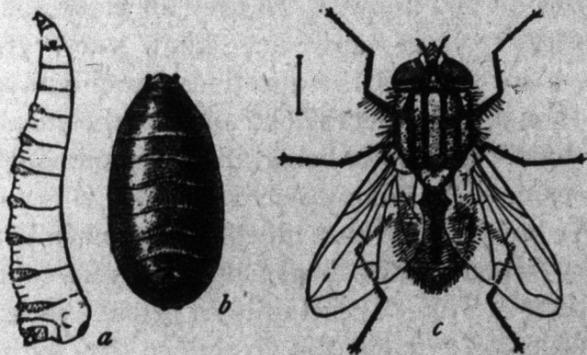


Fig. 2. The House-fly, [enlarged] a, Larva; b, Pupa or Pupaarium; c, Adult.

FLIES.

Examine a house-fly, (*Musca domestica*). Note the division of the body, head, thorax, and abdomen. How many pairs of legs has it? Is it a true insect? How many pairs of wings do you find?

Upon close examination you will find small rudimentary hind wings. They are called balances. In the crane-fly, a form which looks like a large mosquito, the balances are quite prominent and end in a little ball or knot.

The term "fly" is often indiscriminately used for all small flies with membranous wings, but strictly it is applicable only to the two-winged insects,—Order, Diptera. What is the derivation of this word? Derive the names of other orders of insects as you meet them from time to time.

This is a large and important order, containing about seven thousand American species.

The mouth parts are fitted for piercing, sucking or lapping. As pictured in Fig. 2. the larva is much unlike the adult in all the species, and is followed by a resting stage, the puparium, i. e., the metamorphosis is complete.

There are hundreds of different kinds of flies in Canada. Among some of the more common are horse-flies, bot-flies, blow-flies, the ox warble fly, sheep bot-fly, mosquitoes, gnats, horn-flies'

stable-flies, Hessian-fly, the typhoid fever or house-fly, crane-flies, etc., etc., Many of these are very injurious to man, his crops, and animals.

The house-fly has long been considered a nuisance about the house, and it is now known as the principal insect agent in the spread of typhoid fever.

Its habits and life history are well known. It hibernates, sheltering itself in cracks and crevices, and is occasionally seen about the house during the winter. They breed chiefly in stable manure and door-yard filth, during the summer. The eggs, numbering about one hundred, hatch in about a day into smooth white conical, almost transparent, footless larvae, called maggots. The larvae feed for about a week, molting twice, and then pupate, remaining in the resting stage another week, when the winged form appears. In a summer the descendants of a single pair may reach an incredible number.

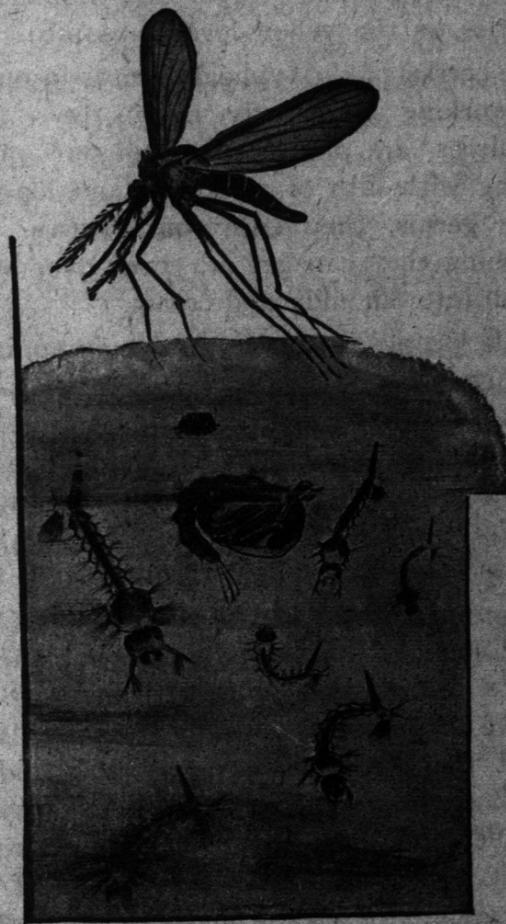


Fig. 3. Life History of a Mosquito, [*Culex*]. [Much enlarged.]

In Fig. 3. note the adult, winged form of the mosquito, just above a small raft of eggs floating on the surface of the water. Several long slender larvae are in the water, they are often known as "wrigglers" or "wrigglers." Examine rain

barrels and stagnant ponds and pools for wrigglers. If taken home in a glass, the resting or pupal stage is readily seen. It is pictured as a large form just under the egg-raft.

The mosquito requires from ten to eighteen days to complete this life cycle.

Since the female lays over 200 eggs in a raft (the eggs in a raft vary from 200 to 400) it has been computed, allowing ten days for a generation, that in 180 days the progeny of one pair would number, 2,000,000,000,000,000,000,000,000,000,000,000,000,000,000,000. No wonder mosquitoes are plentiful every year!

See that rainbarrels and stagnant pools near your home are properly protected, or drained, if you wish to keep this pest in check.

Some forms of the mosquito are carriers of deadly diseases. One genus, *Anopheles*, is the intermediate host and transmitter of the malarial germ; another, the *Stegomyia*, common in warm countries, is the yellow-fever mosquito.

The carrier of the typhoid germ is in our midst, and working incessantly every day. (Malaria mosquitoes are found also in our province). Reeking with filth of all kinds, and loaded with deadly germs, they enter our houses, flyspeck everything they can get at, crawl over our food, and fall into our milk and cream.

While people in agricultural communities will probably never be able to rid themselves entirely of this pest, they can do much to keep them down. In all our war upon flies we should understand that the major part of the battle is being waged for us by birds, bats, toads, etc., etc., in a struggle that has been going on for centuries.

Man owes a great debt to these helpers. Every scholar should know something about them, and learn to respect and protect them.

If we cannot prevent fly-breeding, we can prevent the flies from carrying filth and germs to our food in the kitchen and dining room. We can have a sanitary privy; the cost is not more than six or eight dollars. No Board of Health should permit the use of any other kind of privy. In addition every dining room and kitchen should be effectually screened against flies. The few that enter should be caught or killed at once, while those that seek admission should be captured in large traps, placed in the back yard.

[The cuts used in this article are copied from Sanderson and Jackson's Elementary Entomology, through the kindness of the publishers, Messrs. Ginn and Company, Boston, Mass.]

BOTANY OF A BLUEBERRY TRIP

L. A. DEWOLFE.

To the average person, picking blueberries means a pleasant drive of varying distance, the gathering of as many berries as possible, visions of blueberry pies, and a drive home.

To the nature student, however, there is all this and something more. On what kinds of soil do blueberries grow? What is meant by blueberry barrens? Why is the soil partially barren, and why not wholly so? How many kinds of blueberries do you know? Do they all grow in similar localities? Does any one kind vary greatly? These are a few of the questions one might answer by thoughtful observation; and, in the meantime, our blueberry pail is being filled without our being conscious of the labor involved.

We have noticed that blueberries grow in swamps, rocky woods, peat bogs, pine barrens and old pastures. This is certainly a great variety of localities. It might be explained by supposing that different localities will afford different species; or it may be that the same species can adapt itself to varying circumstances. Both explanations are true.

In a dry pasture, for instance, one will find in August, patches of berries ripening earlier than others. One also finds a variation in the leaves of different patches. In some cases the leaves are a light green; in others, dark green. Some leaves are smooth; others, rough. Some are woolly, and some are not. Some have toothed margins, while others are entire.

In the case of the fruit, too, one finds differences. Some berries are *blue* and some are *black*. Some are elongated or pear-shaped. Most of them are nearly spherical. It is the common belief, however, that all these berries are of two kinds — the blue ones and the black ones. The average person does not notice the differences in leaves and twigs; but the color attracts his attention at once.

Now, take your botanical text book to the blueberry field. That is better than bringing the plants to the schoolroom and the text. You will find the botanist has divided practically all the pasture blueberries into two species; but he has not drawn the distinctions on color, as the amateur would. His Pennsylvania Blueberry and Canadian Blueberry are both blue. At this season, the leaves and twigs will enable you to distinguish the two species. Earlier, the corolla may have helped

though personally, I depend on the leaves at all times for identification. The time of blooming is also a help at that particular season.

But, you will say, what about the black ones? I find the text gives them as a *variety* of the Pennsylvania. Here is a chance for the inquisitive or ambitious student to find out, through reading, the technical difference between *species* and *variety*. I suggest, in connection with this, the reading of Mendel's Law, Plant Breeding, and similar topics in any good text on Biology or Botany. Two good books in connection with this are Darwin's "Origin of Species" and Burbank's "New Creations in Plant Life."

We spoke of the "black" blueberries. Rub a blue one, and notice that it becomes black. The blue coating that so easily rubs off is called "bloom". To find the probable use of this "bloom", dip a unrubbed and a rubbed blueberry into water, and see to which one the water adheres. Might the "bloom" be of service to the berry in wet weather? You will find a "bloom" on plums and other fruits.

What plants associate with blueberries? The bog blueberries have different neighbors from their pasture brothers. It is interesting to note that among the blueberries' neighbors we find Leather Leaf, Andromeda, Pale Laurel, Sheep Laurel, Rhodora, Pyrola and Mayflower, all of which belong to the same botanical family as the blueberry itself. Could it be possible that their common inherited tastes and habits have kept them together, just as in rural communities so many members of the human race are relatives? In the latter case many households trace their descent from one or two families who settled there a century or two ago. I wonder what tribe of plants was the common ancestor of the blueberry and its relatives centuries upon centuries ago!

Blueberries, as we all know, occupy waste or neglected ground. Is this a matter of choice or of expediency? What is the general nature of blueberry ground? When you go on that next trip take a piece of blue litmus paper with you. Test the moist earth. Test not only blueberry ground, but both cultivated and uncultivated ground in several localities. Of course you know that if the litmus turns red, the soil is "sour" or acid. If you find the blueberries nearly always growing in acid soil, is it safe to say they prefer that soil? Possibly they do. If we find certain regiments occupying, at present, certain positions in Europe,

possibly they are there because they were crowded out of better positions. On the other hand, they may be there from choice.

Some plants are so constituted that they cannot stand acid soil, they would die rather than submit to it. Blueberries and their relatives find life pleasant there; and find it easier to occupy the acid soil some other plants have abandoned than to fight their way to cultivated ground. The presence of blueberries, then, gives one some idea of the condition of the soil. Drainage and cultivation would bring in an invading army of other plants, and the peaceful blueberries would retire to the neglected pastures and bogs.

Topics for Nature lessons not yet mentioned are:

What insects have you found attacking blueberries? What is the science of *canning* blueberries and other fruit? What does Nature grow berries for? What is the geology of a blueberry barren or peat bog? Account for the "star" at the end of a blueberry. What about the blueberry industry? What is their geographical distribution? Why does a fire increase the blueberry crop? Try taking up these topics. Study them with your pupils.

RARE AND LOCAL FERNS.

J. VROOM.

In low, rich woods, or among wet rocks, let us look for the Maidenhair Fern. It is very scarce and local, but has been found at several places in Nova Scotia and in northern New Brunswick. The fan-like shape of its fronds, and the one-sided, wedged-shaped segments and glossy stalks, are so distinctive that it cannot be mistaken for anything else. The fruit is borne on the under side of a lobe of the frond which is folded over to form a covering. This is generally regarded as the most beautiful of our native ferns.

A rival of the Maidenhair in beauty, found in similar situations, is the Bulblet-bearing Bladder Fern. The stream which we are following is any one of a hundred brooks in Nova Scotia or New Brunswick. If it happens to be in a limestone region, we may search for this fern with good hope of finding it, especially if we look for it near falling water. Its slender bipinnate fronds are from one to two feet long, are widest at the base, and commonly bear on the under side a few fleshy bulblets which will fall off and begin life as independent plants.

The fruit dots before maturity are covered by a loose, bladder-like hood, which gives the name to the genus.

The Fragile Bladder Fern, or Brittle Fern, is more generally distributed, and much more difficult to determine. The hood which covers the young fruit dots soon disappears, and then the fertile fronds look like those of a shield fern. The leafy portion of the frond is from four to twelve inches in length, and is borne upon a slender, naked, brittle stalk which is fully as long. Perhaps the long and slender footstalk is the surest guide to its identification. The Brittle Fern may be found in almost any situation, from dry cliffs to open wet places and rocky woods. Its fronds are very variable in shape; but, even when heavily loaded with fruit, they are graceful. They mature and wither before the summer is over, and sometimes new fronds appear in August. We may possibly find both the old and the new, though it is not a good time to look for either.

If we are in the southern part of Nova Scotia, we may by rare good fortune, find in a bog the Virginian Chain Fern. Its fronds somewhat resemble the sterile fronds of the Cinnamon Fern; and the oblong fruit dots are arranged in chain-like rows near the midrib.

If in Cape Breton or in New Brunswick, there is a fair probability of our finding the Rusty Woodsia; a very interesting little fern, and one easy to determine. It grows in crevices of the driest cliffs, and on exposed rocky banks; and its range extends northward to the Arctic regions, and westward to the Rocky Mountains. The fronds are from four to ten inches long, smooth and green above, but covered with a rusty chaff beneath; and have a jointed stalk, so that when they fall at maturity they leave about an inch of the stalk remaining. One or two other Woodsias, smaller, more naked and more delicate than this species, can be found on moist cliffs in northern New Brunswick.

The Holly Fern, well known in our greenhouses, which also extends to the Rocky Mountains and along the Arctic coast, has been reported from one station in Cape Breton. Other very rare ferns in our region are the Maidenhair Spleenwort, a pretty little fern with a dark purple thread-like stalk that accounts for the name, found on moist cliffs at several places in Nova Scotia; the Green Spleenwort, a small evergreen fern with a green stalk, found on limestone rocks in New Brunswick,

the Fragrant Shield Fern, known with us only at one place in Nova Scotia and two in New Brunswick, and the Slender Cliff Brake. The latter is a delicate little fern growing in crevices of shaded rocks in northern New Brunswick, but not reported elsewhere in the lower provinces. The fronds, twice pinnate, or nearly so, are from three to six inches in length, and quite unlike. The divisions of the fertile frond are narrow and pointed, the fruit hidden by the revolute margin as in the Common Brake. The sterile fronds are few and smaller, and their ultimate divisions are broad and rounded, not unlike those of the Smooth Woodsia which is sometimes found near it.

The Ostrich Fern and the Interrupted Fern will bear transplanting, and can be grown with good effect in a shady place in the garden. Some of the other native ferns will do well in places specially prepared for them.

It is said that the Maidenhair Fern and the Bulblet Bladder Fern were the first of our ferns to be taken to England. The writer remembers a mass of them growing together in the deep shade of a butternut grove as the most charming group of ferns he has ever seen. The butternuts were cut down later to clear the land, and their great trunks were burned because it would have cost more than they were worth to take them to market. This was many years ago. Butternut is scarcer now; and probably the aggregate value of all the crops that have grown there since, might not, equal the net value of the wood to-day. Certainly, all the roses and lilies that the land could be made to produce, would be less beautiful than the stately trees and the ferns they sheltered. No one, perhaps, would wish to keep private owners from extending the area of cultivation and including in it the richest land that they possess; but we may rejoice that some land owners can afford to keep the natural growth on a part of their holdings, even where they do not find it profitable to do so. There are still many spots within our reach where the beauty of nature is undisturbed; spots of sylvan calm and quiet, where the rapt visitor feels it almost a desecration to touch leaf or frond, and is glad that the springing moss will hide all sound and trace of his footsteps and leave no mark of his intrusion.

"They say that this will be the last great war."
"It looks to me as if it was going to be the first."—*Boston Transcript.*

CENTENNIAL ANNIVERSARIES OF THE
WAR OF 1812.

J. VROOM.

September 21.—At daylight on the morning of the first day of September, 1814, a fleet from Halifax arrived off the mouth of the Penobscot, and the fort at Castine was summoned to surrender. After firing a few shots, the fort was evacuated and blown up. The British troops then took possession, and proceeded to occupy the surrounding country east of the Penobscot. Bangor and all the intervening towns were taken, after more or less resistance. A detachment of the fleet sailed for Machias, and occupied that place on the eleventh.

This expedition, under the command of Sir John Coape Sherbrooke, Governor of Nova Scotia, was not sent out to pillage and destroy; but to take and hold the territory with a view to permanent possession. At the close of the Revolutionary War, the Castine Loyalists who afterwards moved to St. Andrews, had sought to make the Penobscot the international boundary, claiming the district between that river and Passamaquoddy Bay as part of the ancient Acadia. They proposed to make it a separate province, under the name of New Ireland; but the St. Croix was finally accepted as the boundary, and so New Ireland did not find its place upon the map.

Wars abrogate treaties, however; and when General Sherbrooke thus took possession of the New Dominion, as he called it, the British peace commissioners at Ghent were planning to secure for Great Britain a cession of the northern portion of Maine, which lies between New Brunswick and Quebec, preventing direct communication. Though the commissioners finally agreed to a general restitution of captured territory, it was while the rectification of the boundary was under consideration that Castine and Machias were taken.

We shall not understand the war of 1812 unless we keep in mind the fact that there was little enmity towards us among the people of New England in general. Especially along the Maine and New Brunswick border there was good feeling, and a desire to make the best of the situation. Immediately after the British occupation of Machias, knowing that it was meant to bring about a change in the political boundaries, and ready to abide by the result, the authorities of Washington County, civil both and military, came forward and offered

submission. Thus Calais, Robbinston, Pembroke, and some twenty or thirty other towns and villages, came quietly under British rule; and the active militia, with General Brewer at their head, laid down their arms and were paroled.

General Sherbrooke issued his proclamation at Halifax on the twenty-first of September, formally annexing the whole territory to the British dominions; and it was held and governed by martial law until the close of the war.

THE HUMOROUS SIDE OF IT.

Charles Lamb had little difficulty in seeing the humorous side of things. To all who love his writings this familiar passage from a letter to a friend to whom he had entrusted his dog Dash will be re-read with pleasure:

"Excuse my anxiety, but how is Dash? * * * Goes he muzzled, or *aperto ore*? Are his intellects sound, or does he wander a little in his conversation? You cannot be too careful to watch the first symptoms of incoherence; the first illogical snarl he makes, to St. Luke's with him. All the dogs here are going mad, if you believe the overseers; but I protest they seem to me very rational and collected. But nothing is so deceitful as mad people, to those who are not used to them. Try him with hot water: If he won't lick it up it is a sign — he does not like it. Does his tail wag horizontally, or perpendicularly? That has decided the fate of many dogs in Enfield. Is his general deportment cheerful? I mean when he is pleased — for otherwise there is no judging. You can't be too careful. Has he bit any of the children yet? If he has, have them shot, and keep him for curiosity, to see if it was hydrophobia. * * * You might pull out his teeth (if he would let you), and then you need not mind if he were as mad as a Bedlamite."

It is one of the privileges of the small nations to amaze the world by their valor on the field of battle. Belgium is the latest example. In the Balkan war there was Montenegro, and before her the Transvaal, Switzerland, the Netherlands and Greece.— *Mail and Empire, Toronto.*

The likings of children are many; their duty is, after all, only one. It is not the task of the school to entertain the children; the true task is to teach them to do their best.— *Hugo Munsterberg.*

BIBLE READINGS FOR OPENING EXERCISES. NOTES ON HIGH SCHOOL LITERATURE.

1. Psalm XLIV, 1-6.
2. St. Matthew V, 1-9.
3. 1 Kings XIII, 22-25, 26, 44, 45.
4. Isaiah XXV, 1-4, 8, 9.
5. St. Matthew VIII, 5-10.
6. Psalm XLVI, 1-6, 11.
7. St. Matthew VI, 9-15.
8. Isaiah XXVI, 1-7.
9. I Peter II, 13-17.
10. St. Matthew XV, 29-31.
11. 1 Kings VIII, 57, 58, 60, 61.
12. St. Matthew VI, 25-34.
13. Psalm III, 3-6, 8.
14. I Peter II, 18-24.
15. St. Matthew XII, 46-50.
16. Psalm CXXII
17. Deuteronomy VI, 1-9.
18. Isaiah XLIII, 1-7.
19. 1 John III, 14-18.
20. Psalm, XVIII, 1-3, 46-49.

SEVERITY OF A MOTHER.

A very estimable widow in Germantown, Philadelphia, is the mother of a son who has given her much trouble by reason of his waywardness.

"I am afraid," said a friend one day, in speaking of the boy, "that you are not firm enough with him."

"On the contrary," said the mother, "I sometimes fear that I am much too harsh."

"Indeed!"

"Oh, I don't mean to say," the fond mother hastened to explain, "that I have ever really taken any summary action, but I have talked to him a great deal."

"And what have you said?"

"Why I have said, 'Richard! Richard!' and other severe things."—*Lippincott's*.

"There is no such thing as standing still in this world. Each soul is either a little stronger or a little weaker, a little nobler or a little less noble, a little more self-reliant or a little more dependent to-day than it was yesterday."

F. B. Meagher, Inspector for District No. 8, has been granted one year's leave of absence.

His place is being supplied by F. A. Dixon, with headquarters at Woodstock, N. B.

THE LAY OF THE LAST MINSTREL.

II.

Since writing my notes for August, I have had some welcome suggestions as to the difficulties in studying and teaching this poem. These are chiefly concerned with the story, and especially with the trouble I have already referred to, of getting the story confused with the setting. So I have thought it well to give a summary of each. The student will do well to mark off in coloured ink, or in some other conspicuous way, the following passages.

I. The Introduction.

II. Canto I, 346-363.

III. Canto II, (a) 330-345; (b) 416,-434.

IV. Canto III, (a) 1-17; (b) 421,-434.

V. Canto IV, (a) 1-25; (b) 564-627.

VI. Canto V, (a) 1-38; (b) 514-523.

VII. Canto VI, (a) 1-36; (b) 554-583.

SUMMARY.

I. In the time of William III (l. 20) a poor old wandering Harper, the last of the Minstrels, seeks refuge in Newark Castle. The Duchess is kind to him, and he offers to sing for her a "Lay" that he had once sung to Charles I at Holyrood.

II. At the end of the first part of his story, the Minstrel, fearing that he has lost his skill, is discouraged and timid, but the Duchess and her ladies praise him and urge him to go on.

III. (a) The Minstrel breaks off in the story to complain that he is too old to sing of love. (b) At the end of this Canto, he is seen to be weary. A page brings him wine, which refreshes him, and he goes on in a livelier strain.

IV. (a) He sings a little song in praise of love. (b) When he stops in the story, at the end of Canto III, his hearers applaud. They wonder that he should be alone in his old age, and ask if he has no children. He answers the question,

V. (a) And laments the death of his only son. (b) He explains that although many minstrels say "such combat should be fought on horse" he has the authority of his master "the jovial Harper" for saying that the fight of William of Deloraine and Musgrave was fought on foot. He goes on to tell that his master slew a rival for questioning the truth of this, and suffered death at Jedwood Air for the murder. He laments that he is the last survivor of his master's scholars. The Duchess, to cheer him, marvels how the minstrel can bring to life, in his song, forgotten deeds and heroes. The old man is pleased.

VI. (a) He tells how the Poet, when he dies, is mourned by the spirits of those whom he has celebrated in his songs — the Maiden — the Knight — the Chieftain — because they will now be forgotten. Their sighs and wails pass into wind,

rivers and trees, and so it is true that "mute nature mourns."

(b) A description of the music of the harp. The ladies applaud, and ask why such a musician should waste his time in a poor country like Scotland. This rouses the Minstrel's indignation.

VII. (a) And calls forth the noble burst of patriotism beginning, "Breathes there the man." (b) An account of the Minstrel's later years.

When reading the poem aloud in class, the setting should be assigned to one good reader, who should read no other part,—or it might be best for the teacher alone to read it. Other devices for keeping it distinct will probably suggest themselves.

Three dates should be known, at least approximately, and often repeated:—The dates, (a) When the events of the story took place, middle of 16th Century (Lord Walter's death was in 1552); (b) When the Minstrel lived, reign of William III. (c) When the poem was written, 1805.

In Canto V, 505 and 520, see that "the Minstrel" who "wailed" at Musgrave's funeral is not confused with the "last Minstrel" who is telling the story.

SUMMARY OF THE STORY.

Canto I begins with a description of Branksome Hall, and the readiness of the family and retainers for war. It goes on to tell of the feud between Scotts and Carrs and the death of Lord Walter in 1552. Lady Scott and her little son desire revenge, but Margaret weeps because the feud will separate her from Lord Cranstoun, her lover, who had fought on the side of the Carrs. Lady Scott, who has magical powers, can understand the conversation between the spirit of the Flood and the spirit of the Fell, who say that love must be free. But to prevent her daughter's marriage she sends William of Deloraine to Melrose to fetch the magic book of the great Wizard, Michael Scott.

Deloraine's ride is described.

Canto II. Reaching Melrose at midnight Deloraine is led to the Wizard's tomb by the Monk. They open the tomb. A mysterious light shows the dead Wizard and his book, which Deloraine secures. He starts for Branksome. The Monk dies.

Meanwhile, Margaret goes out at daybreak to meet Lord Cranstoun, whose Goblin Page now comes into the story.

Canto III. Cranstoun, leaving Margaret, meets Deloraine returning. They fight. Deloraine is wounded and Lord Cranstoun rides off, leaving the Page to tend the wounded man. The Page looks into the magic book, and learns a spell by which people or things may be disguised. By means of this spell he takes Deloraine into the castle, unseen, and entices the young Buccleugh away into the woods, where he is captured by English archers. The beacons give the alarm on the approach of enemies from over the Border.

Canto IV. The English advance to Branksome holding the young Buccleugh as a hostage, and demand the surrender of Deloraine for "march treason" and the murder of a Musgrave. The Lady refuses, but says that Deloraine will meet Sir Richard Musgrave in single combat. The English, hearing that an overwhelming force is coming against them, accept the challenge for the next day.

Canto V. The English and Scottish troops make merry together while the lists are prepared. A dispute arises as to who shall fight for the wounded Deloraine. Lord Cranstoun, who has entered the castle by the magic of his Goblin Page, appears and enters the lists as Deloraine. Musgrave is slain; the victor, upon the appearance of the real Deloraine, is found to be Cranstoun. The Lady, remembering the words of the spirit, consents to his marriage with Margaret.

Canto VI. The marriage feast is described. The Goblin Page plays mischievous pranks. Three famous minstrels sing songs. Then comes a sudden thunderstorm in which the Page disappears, recalled by his master, Michael Scott. The lords make a pilgrimage to Melrose to pray for the repose of the Wizard's soul, and the "Lay" closes with the solemn *Dies Irae*.

It is not intended that the summary shall be dictated, or even read to the pupils. It may serve as a guide to the inexperienced teacher, as it contains the chief points that the pupils should gather for themselves. If this is the first story in verse that they have read, they will probably find it hard to grasp. In a small class, it may be found possible to give them some practice in reading shorter stories first.

"Rosabelle," in Canto VI, "The Host's Tale" or "Sir David Lindesay's Tale" in "Marmion," might be read in class, solely for the story. Or the pupils may beset some story poems to read at home and report upon. Tennyson's "Dora," parts, or the whole, of "Enoch Arden," Longfellow's "Falcon of Sir Federigo," "Robert of Sicily," "the Birds of Killingworth," the Bell of Atri," are all very easy reading.

After the "Lay" has been mastered, special marks might be offered for a good report on another one of Scott's longer poems. If the student can be made to realize that he is gaining a distinct power, namely, the ability to grasp the story of a narrative poem, by the study of this one, it will add interest to the work.

By all means interest your class in the centennial anniversary of Waverley, published in July, 1814, a year of great historic events. Will the present troubled and exciting days produce any such literature? Certainly at this crisis, when our sense of nationality, and our recognition of heroic virtues are quickened, Scott's novels are, more than ever, the best of reading. "They are pivoted," says Mr. Hutton "on public, rather than mere private interests and passions. They give us an imaginative view, not of mere individuals, but of individuals as they are affected by the political strifes and social divisions of the age. Scott makes you open your eyes to all sorts of historic conditions to which you would otherwise be blind."

EDUCATIONAL MEETINGS.

The Interprovincial Education Convention for the three Atlantic Provinces met in the Technical College, Halifax, on August 26th, 27th and 28th, with a very satisfactory attendance. The session opened on Wednesday morning with short welcoming speeches by Superintendent MacKay and Principal Sexton. Dr. Carter, Chief Superintendent of Education for New Brunswick, the presiding officer, gave the opening address.

The subjects dealt with were varied, but speaking generally, they had to do with the larger issues in the Educational world, and most of the papers and speeches were very informing, and of great interest. Besides the speakers engaged in Educational work in the Maritime Provinces, the Convention was addressed by Dr. James W. Robertson, C.M.G. of Ottawa, Dr. W. E. Fernald, Superintendent of the Massachusetts School for the Feeble Minded, and Mr. Harlan I. Smith, Archaeologist of the Geological Survey of Canada.

Dr. Robertson spoke at some length on Vocational, Industrial and Technical Education on Wednesday afternoon, and again at the public meeting that evening. His addresses were deeply stirring and impressive. He pleaded that "the great art of living" be not lost sight of, and for the right of every Canadian to learn to live a happy and useful life. He urged that the "three R's" should early be mastered as *arts*, the art of reading, the art of writing, of computing. To these should be added the art of drawing, and all taught as a means, not an end. Singing should be constantly used to induce a happy and impressionable mood. Dr. Robertson explained the Montessori method of teaching writing, and told of its successful use in Canadian schools.

Mr. Harlan Smith's most interesting lecture on the "Archaeology of Canada" suffered from being crowded into a very late hour of the evening, but was listened to with enjoyment. The lecturer's suggestions as to the use of museums were valuable and well timed, and should bear fruit in the schools.

On Thursday evening the Convention heard with absorbed attention the presentation of the case of the feeble minded, and their claims upon the state, by Dr. Fernald. Teachers would have been glad to hear fuller details of the lecturer's own work for this unfortunate class, but he devoted most of his time, no doubt wisely, to impressing upon his hearers the danger and cost that the

feeble minded bring upon the community, and the grave importance of secluding them, and giving them such work and such pleasure as lies within their grasp. One touching comment upon the picture of a decent-looking woman remains in the memory, and drives home the meaning of the whole lecture. "This woman had broken jail several times, and was brought to us in charge of four warders. She now spends all her time in caring most tenderly and lovingly for our little helpless children."

In the discussion upon Standardization of Secondary Education, Teachers Licenses, and School Statistics, and Uniformity of School books throughout Canada, and the advantage of a possible Dominion Education Bureau, all opinions were agreed as to the gain that would accrue if these were adopted. Papers on these subjects were read by Prof. Howard Murray of Dalhousie University, and by Superintendent MacKay. The former speaker showed that there is already a tendency towards uniform text books, in that some of the books selected and authorized by the Ontario Board of Education have been adopted in other provinces. A good point was made when one of the speakers urged the increased feeling of unity if school children all over Canada were trained in the same ideas and sentiments. The discussion on this subject, by Superintendent Campbell of Prince Edward Island, and Mr. S. A. Starratt, was cut all too short for want of time.

Whether the undergraduate college course should take three or four years engaged the attention of the presidents of Acadia, Dalhousie, St. Francis Xavier and the University of New Brunswick. The opinion seemed to be strongly in favour of the longer course, mainly because of the advantage of the increased maturity of the student. "In three years you may cram a boy with four years work, but you cannot give his mind four years' growth." Superintendent Carter made a very strong plea for the shorter course on economic grounds. Dr. H. S. Bridges thought that the question might be settled by the expedient of Senior Matriculation.

Dr. McDougall and Dr. Blackadder of Halifax, and Dr. Walker of Truro, gave practical addresses on Medical Inspection of Schools. The Cadet Movement was dealt with by Mr. Elliott, Secretary of the Canadian Defence League, and Mr. A. Stirling Macfarlane. A paper on the "Single Tax," written by Mrs. E. M. Murray, was read by Miss

Wynne. Principal Creelman, of Sydney, made a forcible speech, and put forth a definite suggestion on how to get teachers salaries' increased. He urged teachers to unite and to work definitely for this object, and not to expect results at once, but to keep at it. The discussion that followed did not keep to Mr. Creelman's point, but different speakers advanced their own ideas on the subject. A very lucid and informing paper was read by Dr. Soloan on Provincial Claims to Federal Subsidies for Education.

After Dr. Fernald's lecture on Thursday evening, refreshments were served by a committee of Halifax teachers.

The meetings were well attended throughout. A general criticism was that the programme was rather too full. Fewer good things could perhaps have been better digested. Many of the visiting teachers also, would have been glad of more opportunities to see some of the sights of beautiful Halifax, and such sight seeing might surely be considered educational.

THE SUMMER SCHOOL OF SCIENCE.

The Summer School of Science for the Atlantic Provinces held its twenty-eighth annual session in July. The School met this year in Charlottetown, in a united session with the Prince Edward Island Summer School, under the auspices of the P. E. I. Department of Agriculture. The enrolment was 518, much the largest on record. Three hundred and seventy-one students were from Prince Edward Island, and the other Maritime Provinces were well represented. Predominance was given to the study of Agriculture, the time table being so arranged that all first year students could take the entire course, and the courses in Science were planned to have a direct bearing on Agriculture and School Gardening. This arrangement was very advantageous to the Agriculture Students, but not so satisfactory to those interested in other subjects, which were crowded into the hours of the afternoon. Physical Drill also made taxing demands. Evening lectures were given by Miss Eleanor Robinson, Editor of the EDUCATIONAL REVIEW, upon the teaching of Literature; by Professor L. A. DeWolfe, of the Truro Normal School, on School Fairs; and by Professor Fernald of Harvard University on "Botanical Evidences of the Discovery of Vineland." The School

visited the Bunbury Farm, one of the finest farms in the Province, to see the extensive orchard and nurseries, the fox ranch, and the Karakull sheep.

The citizens of Charlottetown invited the students to a lawn party, which bad weather turned into a gathering in the college hall.

The interest in the work shown by both teachers and students was intense. "One could not ask" writes a correspondent "for greater enthusiasm or more faithful labour. Might one, however, suggest that most of the students tried to assimilate too much information. It would seem wise to follow the practice found necessary in other summer schools, and save the eager student from herself by uniting the number of courses she may elect. Greater power would follow from this concentration of effort, and in so brief a course, increase of mental power rather than acquisition of facts must be the reward. Difference of opinion on this point should not obscure the recognition of the spirit of earnestness shown by both instructors and students, nor the solid results of the session."

Through the generosity of the government of Prince Edward Island, all tuition was free. About thirty scholarships were awarded at the close of the school and a list of these, with the winners will be given in a future issue.

RURAL SCIENCE SCHOOLS.

The Rural Science School at Truro, closed its Summer session, August 6. The enrolment was 130. Of these, forty-nine completed the course, getting the Rural Science Diploma. Thirty-four obtained one year certificates. Twenty-five did not write any examinations, though some of them attended Science classes. This twenty-five belongs to the group who came for Physical Drill only.

The session was a very successful one. The students were of a very superior type, and entered into all activities heartily. We kept six gardens in operation. Three of these were on vacant lots in the town of Truro; two were on public school grounds, and one on the Normal College grounds. Each garden was under the management of a Rural Science student, whose duty it was to direct the work of her fellow-students or of school children in these gardens.

We held a model exhibition at which the students exhibited their collections of flowers, insects, pressed plants, domestic science and manual

training work. This exhibition will, doubtless, be imitated in many rural and town schools during the coming year.

With this experience in garden work and exhibitions, in addition to the regular class room, laboratory, and field work, the members of this summer session can scarcely fail to make their influence felt.

The first Summer School of Rural Science for New Brunswick was held at Woodstock, in the Vocational School Building, from July 8th to August 4th. The closing exercises were held on Tuesday evening, August 4th, in the Assembly Hall of the Fisher Memorial School, the Hon. James Murray presiding. Mr. R. P. Steeves, Director of Elementary Agricultural Education, gave a report of the work of the session. Seventy-five students were enrolled, sixty-six of whom took the examinations. Twenty-nine passed in the first division, and sixteen in the second division. Mr. Earle McPhee gave the valedictory, and at the close of his address moved a vote of thanks, which was unanimously carried, to Mr. Steeves for his painstaking and sympathetic supervision of the school. Brief addresses were given by the Chairman, by Chancellor Jones of the University of New Brunswick and by Mr. J. B. Daggett, and a musical programme was carried out. It was agreed that New Brunswick's first Rural Science School was a complete success.

NEW BRUNSWICK HIGH SCHOOL TEACHER'S ASSOCIATION.

It has long been felt that the teachers of New Brunswick should be organized to protect their interests. During the session of the Summer School of Rural Science, at Woodstock, the teachers present holding Superior or Grammar School licenses formed an association to be called the "New Brunswick High School Teacher's Association." All teachers holding Superior or Grammar School licenses are eligible for membership. It is not deemed advisable to enlarge the association by admitting teachers of other classes of licenses, as yet. The officers of the Association are President, Vice-President, and Secretary-Treasurer. These, with one Associate Secretary from each Inspectorate, comprise the executive.

The aim of the Association is to increase the

efficiency of teachers and by a united effort to place our profession on a par with other professions. Before the Association can prove effective, it must have as members the majority of teachers. Whether you are doing High School work or not, matters not. If you have a Superior or Grammar School license, send your name, and fee of \$1.00 to the Associate Secretary in your Inspectorate, or to the General Secretary. The Executive have been instructed to use this fee for advertising the Association, and for promoting its aims.

At the first regular meeting of the Association, the following officers were elected:

President, F. C. Squires, Woodstock, N. B.; Vice-President, Miss Zula Hallett, Marysville, N. B.; Secretary-Treasurer, E. D. MacPhee, Sackville, N. B. Associate Secretaries: Mr. Meagher's Inspectorate — J. H. Barnet, Hartland, N. B.; Mr. Mersereau's Inspectorate — L. R. Hetherington, Newcastle, N. B.; Mr. Hanson's Inspectorate — W. H. Elgee, Moore's Mills, N. B.; Mr. Brook's Inspectorate — H. C. Ricker, Kingston, N. B.; Mr. O'Blenes Inspectorate — J. C. Hanson, Riverside, N. B.

Associate Secretaries for the remaining Inspectorates will be appointed early in September.

Will not all teachers eligible for membership unite with the Association. Let us by a combined effort, elevate the teaching profession. Let us act as a body, and show the ratepayers of our province that we aim to increase our usefulness, and then we shall see better conditions for all members of the profession.

Arrangements are being made to report the work and discuss the aims of the Association each month in the EDUCATIONAL REVIEW, which will thus become the recognized means of communication between the members.

A schoolmaster once said to his pupils, to the boy who would make the best piece of composition in five minutes on "How to overcome Habit" he would give a prize. When the five minutes had expired a lad of nine years stood up and said: "Well, sir, habit is hard to overcome. If you take off the first letter it does not change 'a bit.' If you take off another letter you will have a 'bit' left. If you take off still another, the whole of 'it' remains. If you take off another it is totally used up, all of which goes to show that if you want to get rid of habit you must throw it off altogether."

HOW TO MAKE A RELIEF MAP.

TO THE EDITOR OF THE EDUCATIONAL REVIEW:

I have been asked by Mr. Tibert, President of the Teachers' Institute for Inspectorate No. 4, Nova Scotia, to give in the EDUCATIONAL REVIEW, some information in regard to a relief map shown at a recent session of the Institute held in Weymouth. This map, used in teaching a lesson on the geography of the Bay of Fundy, was made of plasticine laid upon a ground of dark gray cardboard. It measured 30 in. x 40 in., and included that part of North America extending from Cape Cod on the south to the Peninsula of Gaspé on the north; and from the western limits of New Brunswick to the most easterly point of Cape Breton.

The dark gray-blue paper was left uncovered to represent water; the United States territory was built up from red plasticine, and the Canadian, including Nova Scotia, New Brunswick, Prince Edward Island and part of Quebec, from the light gray. The quantity of plasticine used for this map was one-half package of red and one and a half packages of gray. For convenience of carrying, the cardboard was divided into four strips and the part to represent land on each strip was built up separately. These pieces were afterward glued to a piece of strong factory cotton, making a map which might be folded without serious injury and, since plasticine dries very slowly and may be softened by the application of a little vaseline, any slight injury might easily be rectified.

The shaping of mountains and the building up of the higher lands requires some thought, but a general idea of elevation may be got from the ordinary school geographies, and much more may be learned by observing the courses taken by the rivers.

Plasticine is easily moulded with the fingers, but a pointed knife is helpful in making the outlines of the coast.

After all the plasticine had been laid on, I marked out the course of the rivers and made hollows in the plasticine for the lakes. For this part of the work a bit of wire or a woman's ever-ready hairpin proves quite satisfactory. Colored crayons, by careful manipulation, may be made to supply any further color needed for towns, boundaries, railroads, etc.

The total cost of a map, such as I have described,

is about \$1.30, and five good evenings' work is needed to complete it.

Before making this map, I made one of Nova Scotia, measuring 2½ ft. from western Nova Scotia to eastern Cape Breton. One package of plasticine was used in this.

In my own school room, I have found these maps very useful in teaching the rudiments of physical and commercial geography.

Perhaps some one may think of other materials which might be used for making relief maps. At the Normal College, Truro, I saw one prepared by two pupils of the college from a sort of papier-maché, material made from newspapers reduced by long boiling, to a pulp and mixed with paste. I, myself, last year tried ordinary red clay for map-making, and found it troublesome to handle. If one preferred it, the white clay used for modelling might be used, but I conclude, after trying vainly to get it in Halifax and St. John, that it is kept only in the larger centres.

Failing to get white clay, I wrote to Miss Smith, teacher of drawing in the Nova Scotia Normal College, who kindly recommended plasticine as the most practical material. This also I found, after some trouble, was not kept in Halifax or in St. John. I obtained it from the Geo. M. Hendry Co., 215 Victoria St., Toronto. It is made in six colors; red, yellow, blue, green, gray and white. It comes in boxes of assorted colors, or in 1 lb. packages at 30 cents, postage extra.

Further information in regard to materials for modelling may be got by writing to the Geo. M. Hendry Co., supervision of Miss Johnson.
Annapolis Royal, S. E. PRIMROSE ELLIOTT
May 2, 1914.

AN M. P.'S ANECDOTES.

Many good stories were told by Dr. Macnamara, M.P., recently, when he gave some of his "Reminiscences and Reflections" at the Herne Hill Congregational Church, London.

Among the unconscious witticisms of children (for which he did not vouch) he narrated that a small boy defined "Mediator" as "a chap who says hit me instead." Another boy, whose home lesson sums were all wrong, told his teacher, "I knew they would be; father would help me." An alleged answer to the question, "What does 'etc.' mean?" was, "A sign to make believe you know more than you do."—*Exchange*.

A WAR POEM.

Thou careless, awake!
Thou peacemaker, fight!
Stand England for honor
And God guard the right.

Thy mirth lay aside,
Thy cavil and play,
The foe is upon thee
And grave is the day.

The monarch Ambition
Has harnessed his slaves,
But the folk of the ocean
Are free as the waves.

For peace thou art armed,
Thy freedom to hold,
Thy courage as iron,
Thy good faith as gold.

Through fire, air and water
Thy trial must be,
But they that love life best
Die gladly for thee.

The love of their mothers
Is strong to command,
The fame of their fathers
Is might to their hand.

Much suffering shall cleanse thee,
But thou through the flood
Shall win to salvation
To beauty through blood.

Up, careless! Awake!
Ye peacemakers, fight!
England stands for honor,
God defend the right.

— Dr. Robert Bridges
(Poet Laureate.)

WHO'S TO BLAME?

The College President:
Such rawness in a student is a shame,
But lack of preparation is to blame.

The High School Principal:
Good Heavens! What crudity! The boy's a fool;
The fault, of course, is with the grammar school.

The Grammar Principal:
Would that from such a dunce I might be spared!
They send them up to me so unprepared.

The Primary Teacher:
Poor Kindergarten blockhead! And they call
That "Preparation!" Worse than none at all.

The Kindergarten teacher:
Never such lack of training did I see!
What sort of person can the mother be?

The Mother:
You stupid child! But then, you're not to blame;
Your father's family are all the same.

— Selected.

SHOW THE WAY, ENGLAND.

Show the way, England!
Not in the bright hour
But in the dark hour
When the world threatens.
We are your sons —
Not for the might of you,
Shelter and right of you —
Not for the paid-coin,
Not for your guns,
But that we love you,
Sucked at the breast of you,
You are our Mother,
We are your sons.

Show the way, England!
And in the fated
Din of the battle
Stand you alone?
Loyal Canadians,
Sons of the sons of you,
Back of the guns of you —
Bone of your bone,
We will stand four square.
Rock of the rock of you,
Ribs of the steel of you,
Let the world thunder;
Ere you go under
We will follow you,
Might of your might.

Show the way, England!
Let that grim master
Of earth's dread disaster
But darken your sun,
Trust your child — Canada,
She will be with you
Shoulder to shoulder,
Gun to your gun,
She will reply with you;
Fight for you,
Die for you,
So, wide to the world
Be the old flag unfurled,
Show the way, England!

— Wilfred Campbell.

"Self is the only prison that can ever bind the soul;
Love is the only angel who can bid the gates unroll;
And when He comes to call thee, arise, and follow fast;
His way may lead through darkness, but it leads to light at
last."
— Van Dyke.

[For the REVIEW.]

OPENING EXERCISES for PRIMARY SCHOOLS

The first twenty minutes of the school day seem to me most important ones. The children are fresh and full of outside interests, and it is then that the observing teacher can get a glimpse into the real nature of the child, and note the things that interest and appeal to him.

After the opening hymn, it has been my custom to have the children repeat the Lord's Prayer. It is seemly that they all assume the same attitude and that the prayer be repeated with becoming reverence. I have followed the plan of placing a suitable verse of scripture on the blackboard. The Golden Rule as found in St. Matt. 7:12 is a good one to begin with. Several children may repeat this verse after the prayer. If it remains on the board for several days, it will be memorized by most of the children.

This plan may be varied by reading or repeating a whole passage appropriate to a particular season; as, a Thanksgiving Psalm for the months of October and November, and the Christmas story for December, as told in St. Luke 2:8-14.

As in all school work, it is necessary to have a plan or outline of the subjects to be taken up in the morning talks. Every morning, have something specially planned to bring before the children; such subjects as, the weather, winds, direction, nature topics, duties and attitude of the children toward each other, and kindness to animals, lend themselves to this purpose.

Have the subject matter planned for some time ahead, but often allow the immediate interest to furnish the subject for the day. For instance:— One April morning a whole flock of fox sparrows arrived in our school yard. We all saw them. We had but to stand in the windows and keep very quiet to watch them as long as we pleased, scratching in the dead leaves. Of course we talked of fox sparrows that morning. Another morning, in May, two small boys appeared, bearing with pride some fine specimens of Jack-in-the-pulpit. My scrap-book furnished this verse,—

"In a pulpit of green
Every year may be seen
A queer little preacher named Jack.
He's a man of few words,
But the flowers and the birds
Come in crowds to welcome him back."

which we learned with appreciation. We left the "Jacks" in water for several days, when one

small boy discovered "green berries" growing inside one of the flowers. We talked about this and then memorized the following verse,—

"Jack-in-the-Pulpit preaches to-day,
Tomorrow the pulpit is faded away.
Come back to see Jack when September is nigh,
And a bunch of red berries is all you will spy."

Often our drawing, writing or composition exercises later in the day grow out of these morning talks. For example: Grade II may copy the verse on Jack-in-the-pulpit as an exercise in writing. This same class may write a story about the fox sparrow in the composition period or answer simple questions on the verse written, as,—

To whom does Jack preach?
Who plays the organ?
Who sings in the choir? etc.

Some incident of the play-ground or some complaint of a play-mate furnishes the occasion to teach kindness and consideration for others. This may be accomplished by means of a story and it is seldom necessary to point the moral. Children are particularly apt in that.

I like the plan of selecting the subject matter for morning talks by months. Each month teems with things we want to know about. Let us take the month of September. In the first Primary, the children have just entered school—forty-odd little embryo men and women with as many different conceptions of school and teacher. Some of these have been gathered from the talk of older brothers, sisters or play-mates; other alas! come from the remarks of injudicious elders, and the ideas of wilful disobedience and revengeful punishment are often given a prominent place. For the first few days, try to make the morning talks a link between home and school. Try to gain the confidence of the child. It means everything in the year to come.

This little finger-play always appeals to children just beginning school,—

(Hold up thumb, then each finger in succession.)

Little Tommy Thumbkins
Went to school to-day

(Hold up thumb.)

Sister Rose went with him
Showing him the way

(Hold up first finger.)

Mother in the doorway
Waved her hand good-bye
Little brother left at home
Then began to cry
Baby creeping on the floor
Tried to say "Bye-bye."

SOME DEVICES FOR PRIMARY WORK.

See! she has laid out her programme for the day. She is to teach the phonic "h" the first thing in the morning. As the class leaves the board, they find on their desks a small white or brown paper with a large "h" written on it (made with a paint brush dipped in ink). This they cover with split peas. Every stroke they make in placing the peas is fixing the form of that "h" in their baby memories, beside the invaluable lessons of neatness and accuracy in placing.

They have nothing to invent. Fifteen minutes of the teacher's time have provided the invention. Later in the day, comes a neat little paper, with a column of ink-written letter "h's." With each paper is distributed a piece of ordinary tissue paper. They trace through the columns, making possibly three or four, as time permits. Here they are seeing the morning lesson "h" in a smaller form, but the work still requiring no great brain activity, and yet every tracing impressing indelibly that little "h."

Such delight to take that tissue paper home to mamma!

In the afternoon, when the little heads are heavy and all doors to a lowest primary grade should be closed, but can not, because the clock still says only three — then comes a beautiful gift. Each little tot finds in his hands a big, black-headed pin, a little oblong paper with their friend "h," in a red pencil line, and they at once see who can prick the neatest, closest, most even little line of holes.—*Selected.*

AN ARITHMETIC DEVICE.

Constant drill on number combinations is necessary in the primary grades, and a teacher must be very inventive if she wishes to keep the work from growing monotonous and uninteresting to the children. Anything in the way of competition usually appeals to the little ones, and the following device keeps the interest at white heat: Arrange a line of sums from left to right low down on the board. Have from twenty to thirty simple examples in addition, subtraction or multiplication numbered from 1 to the end. Let one child begin at number one and work toward number 20; while another child begins at number 20 and works toward 1. Whoever passes number 10 first has of course won the game. Always count accuracy before rapidity and commend the child who has finished

9 correctly, rather than the one who has finished 11 with mistakes.—*Selected.*

SIMPLE EXERCISES FOR RESTLESS LITTLE ONES.

On rainy and dull days the little ones grow very tired and restless. The following are a few simple exercises that will give them opportunity for activity and which they will all enjoy.

Before the class stands, the teacher should tell them that they must all pretend they are trees. This will appeal to the little ones, who are usually fond of impersonations. As they all want to be beautiful trees, they must be straight. To be straight they must stand with heels together, hands close to the sides, and heads up. The teacher should then direct the class to stand.

The lesson will now continue as follows:—

Teacher—"The first tree we are going to be is the poplar. It has a straight trunk like this. (Go to the board and draw a straight line.) Its branches curve upward and are close to the trunk. (Draw branches on the tree trunk.) Watch carefully what I do and say, and then do it with me."

(1) "First, I raise my arms up high."

(Teacher raises arms straight upward, keeping them close to head.)

"I am a poplar reaching to the sky." (Hands down.)

Teacher and pupils now recite the verse together, executing the exercise. The pupils continue the exercise while the teacher counts 1, 2—1, 2—1, 2, etc.

The teacher should now tell the class something about the oak tree,— its beauty, strength and use as a shade tree. The second exercise is then done by the teacher, the pupils watching as before.

(2) "Now I raise them to the side;"

(Teacher raises arms shoulder high.)

"I am an oak, with branches stretching wide."

(Arms lower.)

The teacher and pupils then repeat the verse together. The pupils may continue the exercise to the count of 1, 2, as before.

The two remaining exercises are done in the same way.

(3) "Now there comes a little breeze

That only turns the heads of trees."

Turn the head to side and turn back; count 1, 2.

(4) "Next I bend my body down

(Bend the body.)

The wind is blowing all around.
 (Raise the body again; count 1, 2.
 —*The Teacher, Philadelphia.*

For copy work have the name of the month written on the board; opposite the name write the name of a holiday occurring in the month, or a child's name whose birthday comes in that month. Under this write number of days in month.

On the last day of the month have a weather report blank drawn for the following month. Insist on these reports being kept in a book, and on their being properly filled out.

Reflect that this empire has been acquired by men who knew their duty and had the courage to do it, who in the hour of conflict had the fear of dishonour always present to them. — *Thucydides.*

The whole earth is the sepulchre of famous men: not only are they commemorated by columns and inscriptions in their own country, but in foreign lands there dwells also an unwritten memorial of them, graven not on stone, but in the hearts of men. Make them your examples, and esteeming courage to be freedom and freedom to be happiness, do not weigh too nicely the perils of war. — *Thucydides.*

Castilian Gentlemen!
 Choose not their task; they choose to do it well. — *George Eliot.*

To every season is its own peculiar beauty given,
 In every age of mortal men we see the hand of Heaven;
 And century to century utters a glorious speech,
 And peace to war, and war to peace, eternal lessons teach.
 So God doth mould as pleaseth Him, the nations of His choice.
 Now in the battle cry is heard His purifying voice.
 — *John Reade*

The blood of man should never be shed but to redeem the blood of man; it is well shed for our family, for our friends, for our God, for our country, for our kind — the rest is vanity, the rest is crime. — *Edmund Burke.*

Nor discipline nor valour can withstand
 The shock, nor quell the inevitable rout
 When in some great extremity breaks out,
 A people, on their own beloved land
 Risen, like one man, to combat in the sight
 Of a just God, for liberty and right. — *Wordsworth.*

O, waken all,
 Whate'er your temper, at your country's call;
 Resolving (this a freeborn nation can)
 To have one soul, and perish to a man,
 Or save this honoured land. — *Wordsworth.*

War causes an incalculable amount of avoidable human suffering, and it ought to cease among Christian nations. But, on the other hand, I know certainly that the most beautiful characters yet developed among men have been formed in war; and that all great nations have been warrior nations.
 — *John Ruskin.*

Under heaviest sorrow earth can bring,
 If from the affliction somewhere do not grow
 Honour which could not else have been, a faith
 An elevation, and a sanctity,
 If new strength be not given, nor old restored
 The blame is ours. — *Wordsworth.*

THE ST. JOHN BUSINESS COLLEGE.

The managers of the St. John Business College have issued a handsome booklet giving full information about their courses of study, with illustrations showing their new quarters. The college has entered upon its forty-seventh year, and its reputation as an institution giving a thoroughly sound business education has long been established. The Carnegie Foundation report on College Catalogues says, "the college as an educational agent may fairly be judged by the character of the catalogue that it issues, taking into account its literary form, its honesty, its accuracy, and the clearness and completeness with which its information is presented." In all these points, this new catalogue testifies to the high standing of the St. John Business College, and if we knew nothing else of the institution the catalogue alone would predispose us in its favour. As it is, our knowledge of the conscientious work done by its teachers, the admirable tone in the classrooms, the value of its diploma, and the success achieved in the business world by its students is all borne out by the many hearty testimonials coming from different parts of Canada and the United States. We wish the institution continued success, and most cordially recommend it to any of our readers who are thinking of a business course.

The September war number of the Canadian Pictorial is most attractive and interesting. Among other objects of special interest just now it shows the flags of all the European nations. Teachers who wish to illustrate schoolroom talks on the war can hardly do better than send ten cents to the John Dougall & Son, Montreal, for this number, with an inquiry about their special offer.

Brussels, August 8, 57 B. C. (Delayed in transmission)
 . . . 'Horum omnium fortissimi sunt Belgae . . .
 proximique sunt Germanis, qui trans Rhenum incolunt,
 quibuscum continenter bellum gerunt.'—C. J. Caesar.—*New York Evening Sun.*

St. Petersburg, the capital of Russia, more correctly called Petersburg, was named in honour of its founder, Peter the Great. The Russians have now changed the name, because it was German in form; and the city will hereafter be known as Petrograd.

CURRENT EVENTS.

A month of the war in Europe, with millions of men under arms, has brought swift movements of immense armies, and greater battles than the world has ever seen before, but no decisive results. The German armies have swept through Belgium, and now occupy the greater part of that country and the north of France; while the Russians have entered Galicia and taken possession of a wide strip of Austrian territory, and also occupy a great part of East Prussia and are pressing on towards Berlin. The war, which will, perhaps, be known in history as the Great War, is not confined to Europe. True to her alliance with the British Empire, Japan has declared war against Germany, and will protect British interests in the Far Eastern waters. She also promises to take the German province of Kiau-Chau and restore it to China; but will not at present send her ships into other seas. And wherever there are other German colonies they are open to attack by British ships; for, very literally, when the British Empire is at war all the ends of the earth are at war. A New Zealand expedition has captured the German colony at Samoa, and other German possessions in the South Pacific will probably be taken. The German province of Togoland, on the coast of the Gulf of Guinea, has been practically annexed to British West Africa. This, however, does not mean that the conquered territories will become permanent possessions of the conquerors. The ownership remains to be adjusted at the close of the war.

The first remarkable event of the war was the heroic defence of Liege (lee-ayzh) by the Belgians, which delayed the German advance for a time, while the French and British troops were preparing to meet the invaders. The Belgian resistance was at length overcome, and the enormous masses of German troops have been steadily pressing back the allies; yet the retreating armies are unbroken, and every day brings nearer the still greater armies of Russia, which, sooner or later, the Germans must meet in force. It remains to be seen whether they can conquer France and then turn to meet the Russians.

The British navy has been able to protect the routes of trade. In the few scattered encounters with German ships, the British and French ships have been always victorious, but no great naval battle has yet been fought.

Brussels being occupied by the Germans, and Paris threatened, Antwerp has been made the capital of Belgium, and the seat of government in France has been moved to Bordeaux.

The Mexican war is not yet quite settled, though it may very well be forgotten. Gen. Carranza is in power in the capital, but there have been uprisings against his rule in several places.

The opening of the Cape Cod Canal, on the twenty-ninth of July, has made available for vessels of light draft a new waterway by which they save a distance of seventy miles in coastal navigation and avoid the dangerous shores of the cape.

Pope Pius X died on the twentieth of August. It is said that grief over the outbreak of the European war hastened his end. No one who ever filled his high office won more than he the respect and affection of the world at large, and

he is generally regarded as a martyr of the war. An Italian cardinal has been chosen as his successor, and has taken the name of Benedict XV.

A special session of the Dominion Parliament has been held to pass the necessary legislation for war expenditures and other measures connected with a state of war. Sir Robert Borden announced that the term of office of His Royal Highness the Governor-General has been extended indefinitely, so that Canada may have the benefit of his advice and experience during the continuance of the war.

SCHOOL AND COLLEGE.

The course of instruction for teachers seeking to qualify as instructors of cadet corps, which was going on in Fredericton, was brought to a sudden close by the outbreak of war, a week before the date set for its completion, as the instructors received orders to join their company at St. John.

During the past year through the efforts of the teacher Miss Margaret McNabb a Union Jack has been purchased — a flag pole put up — and single seats and desks at a cost of one hundred dollars have been placed in the schoolhouse at St. Croix, York Co.

In the Empire Day Essay Competition this year, the Lord Meath Empire Day Challenge Cup and League of the Empire personal prize of five guineas, for all pupils of the Empire between the ages of fourteen and twenty, was won by George Cooling, Boys' Grammar School, Brisbane, Queensland. The Lord Meath Empire Day Challenge Cup and League of the Empire personal prize of three guineas, for all pupils of the Empire under fourteen years of age, was won by Walter McGregor Albury, Boys' Central School, Nassau, Bahamas. Essays were received from England, Scotland, Ontario, Nova Scotia, Manitoba, Alberta, Saskatchewan, Newfoundland, New South Wales, South Australia, Victoria, Queensland, New Zealand, Cape Province, Natal, Orange Free State, Bechuanaland, Bengal, Madras, Central Provinces, Jamaica, Barbadoes, Straits Settlements, Gibraltar, British Guiana, Gold Coast Colony, and the Bahamas.

In the Milltown, N. B. Schools one new teacher is added to the staff to succeed Miss Ryder, who has resigned, namely Miss Boyd of Fredericton. Miss Thompson, who taught grade seven, will teach grade four, Miss Grace Coughlin taking grade seven. Miss Boyd will take charge of grade eight. The high school will open on Monday with Mr. Denham, the former principal, in charge.

Miss Laurestine Bailey, daughter of Dr. L. W. Bailey of Fredericton, has been appointed head of the art department of Acadia Ladies' Seminary, Wolfville.

The Centennial School, St. John, loses a valued member of its staff by the resignation of Miss Annie M. Hea.

It is said that ninety per cent of the undergraduates of Oxford University are Territorials. Among the Canadian Rhodes Scholars who have volunteered for active service are Mr. Arthur Carter, of the University of New Brunswick, and Mr. A. L. Collett, of Kings College.

Miss Leah Stickle of Fredericton will teach in Campbellton this term.

New Brunswick School Calendar, 1914-15.

1914. FIRST TERM.

Thanksgiving Day (Public Holiday).
To be appointed by government.

Dec. 15.—Examinations for Class III License begin.

Dec. 18.—Normal and Public Schools close for Christmas Vacation.

1915. SECOND TERM.

Jan. 4.—Normal and Public Schools open.

Apr. 1.—Schools close for Easter Vacation.

Apr. 7.—Schools re-open after Easter Vacation.

May 18.—Loyalist Day (Holiday for St. John City only).

May 23.—Empire Day (Observe May 21st).

May 24.—Victoria Day (Public Holiday).

May 24.—Last Day on which Inspectors are authorized to receive applications for Departmental Examinations. Reg 38-6.

May 25.—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.

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BOOK NOTICES.

Bird Lore for July-August is a delightful number, full of illustrations and interesting articles. The report of the Audubon societies is most encouraging. The generous patron, who insists on remaining anonymous, has given this year, the sum of \$20,000 towards the expenses. This enables the Junior Audubon Class to enroll members and provide pictures and much valuable instruction, for the nominal fee of ten cents. Over 95,000 school children now belong to these classes and over 3,600 of these are Canadians. Teachers who want to interest their pupils in birds should write for particulars.

We can hardly speak too highly of *The Children's Cameos of Poetry and Prose*. We wish that our boards of education, would prescribe them for use and supply them to the children. Failing that, every teacher should have the book or books suited to her grades upon her desk, for supplementary reading. There are eight little volumes, excellently graded. Book I has fifty-one selections, from many different writers, all suited to very little people. The choice of selections is admirable and includes some that will be new to many readers, as well as old favourites. The large type and generous spacing make the books attractive and the price brings them within everybody's reach. George Philip & Sons, 32 Fleet Street, London. Books I-IV, paper 3d., cloth 4d.; V-VIII, paper 4d., cloth 5d.]

Teachers who wish to get a new and trustworthy map of the Maritime Provinces for their schools are advised to write to Mr. F. C. C. Lynch, Superintendent of Railway Lands Branch, Department of the interior, Ottawa. This department is preparing sectional maps of the Dominion to show the location of the various Canadians chartered banks. Railways appear prominently in these maps and they are of considerable interest and value. The sheet covering the Maritime Provinces is now ready for free distribution.

Mr. LAURENCE KETTLE, as quoted by The Irish Volunteer and re-quoted by The Dublin Evening Mail (and they may share the glory between them):—

"Those gentleman of the army could be described by the poet Milton as the Oiled and Curley Assyrian wolves."

However, it is no good going to the Zoo to look for these in the Wolf House. Stay at home quietly and read "Maud" and "The Destruction of Sennacherib," and then you will understand how Milton would have plagiarised Tennyson and Byron in one line if he had only lived long enough.
— *Punch*.

OFFICIAL NOTICES.

The attention of teachers is directed to the Nature Study and Agriculture Course as per school register.

Those schools not already supplied with the Nature Study and Agriculture Course may obtain them by applying to the Inspectors.

These courses are not the property of the teachers, but of the schools, and must be kept in the registers and left for succeeding teachers.

W. S. CARTER,
Chief Superintendent Education.

Education Office, September 3, 1914.

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