

PAGES

MISSING

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THE EDUCATIONAL REVIEW,
St. John, N. B.

We ask the attention of New Brunswick teachers to Mr. Rieker's letter in another column. The obligation so gallantly assumed by the students at the Rural School should not be allowed to become an anxiety to their committee. So many war funds appeal to us that the Machine Gun Fund has perhaps been temporarily forgotten, but we are confident that the teachers of the province will loyally and generously support their colleagues in this undertaking.

At the Teachers' Institute in Bathurst, the editor of the REVIEW recommended a certain book to teachers of English Composition. She

now finds that she made a mistake in the name of the book. The lesson on "Introductions" is in Lockwood's *Lessons in English*, published by Ginn & Company, Boston, a book that has many valuable suggestions. Other good books on the subject are *Elementary English Composition*, by Huntingdon; the Macmillan Company of Canada, Toronto. *Elementary Composition*, by W. F. Webster; Houghton, Mifflin & Company, Boston. *A first Book of Composition for High Schools*, by Briggs & McKinney; Ginn & Company.

Children of whom some real work is demanded are not only better pupils, but happier children. The ability to go quietly and cheerfully about a piece of work, and to keep at it until it is carried to a satisfactory conclusion, is a possession surely worth acquiring, and we cannot afford to overlook its cultivation in planning for these children of ours. Give them the joy of feeling that they have accomplished some real thing each day. It is worth far more than the feverish excitement which passes for enthusiasm in the classes where work always appears in the guise of play. Be sure that the work is not too hard, and that there is not too much of it, and be definite in your statement of what is to be done. Let the work required be something really worth doing, and if you can make the children feel that it is worth doing, the battle is half won.—*Selected.*

The new government early discovered the need of an universal education to fit men to the great conceptions of its universal rule. It proclaimed as if it were a mere secular truth that sacrifice was expected from all, that respect had to be shown to all; it revived schools or set them up all around the world, and everywhere these schools taught the history of war, and the consequences of the last war; everywhere it was taught not as a sentiment, but as a matter of fact, that the salvation of the world from waste and contention was the common duty and occupation of all men and women. *From the World Set Free.*—H. G. WELLS.

NATURE STUDY OF ANIMALS.

H. G. PERRY.

SPHINX CATERPILLARS.

A caterpillar similar to the one shown in Figure 1, and in exactly the same infested condition, covered over with small oval bodies, was sent to me a few days ago by a New Brunswick teacher. The oval bodies are not a part of the caterpillar proper, but must be regarded as an accident. We will mention them later.

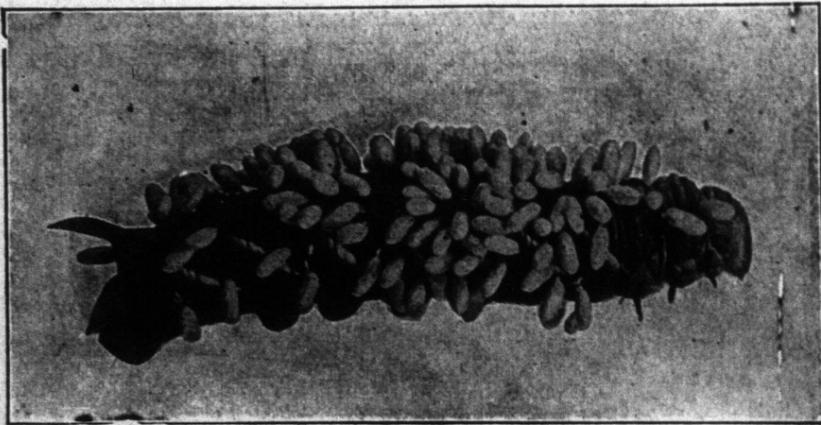


Fig. 1. Sphinx caterpillar with cocoons of braconid parasites.

These caterpillars, larvae, are common in the fall, and are easily seen as they crawl along roads and foot-paths. Why are they so seldom found feeding on plants? Why do they leave their "feeding grounds" at this time of year? Note and study their general appearance: their large size, naked cylindrical bodies, the conspicuous horn at the posterior end, and their beautiful green color. The color markings vary with different species, and at times in the same species, brown and even black forms being found, where the regular color is green. Most of the species have oblique lines along the sides, usually light in color, and in some, paralleled with a dark line.

These forms are Sphinx caterpillars, the larvae of Hawk-moths or Sphinxes. The name "Sphinx" was given to them by the great naturalist Linnaeus, since in their characteristic position, with the fore part of the body raised, in which position they often remain for hours, they reminded him of the Egyptian Sphinx. And further, like the Egyptian Sphinx they have a riddle — that posterior horn. The many questions asked about it all remain unanswered.

Most of the Sphinxes pass the pupa stage in the ground, so caged specimens should be provided

with three or four inches of moist light earth, if one wishes to have them pupate. Watch them burrowing into the earth. Which end serves as the digger? How do these little creatures know to do this? Compare this knowledge with the ability of the silk worm to weave its cocoon, the spider to spin its web, the little bird to build its nest and the duckling to swim. Is it the same kind of knowledge that man shows in building houses, boats, etc?

These caterpillars do not form cocoons, like those of other moths we are familiar with, but chrysalides. Compare it in this respect with both butterflies and moths. These chrysalides are often found in gardens during the spring planting. They are long, and taper gradually toward the ends, and are usually of a shiny brown color. The long tongue forms a curved handle down one side, and is often compared to the handle of a jug. Bend the end of the abdomen to one side and note the reaction. Under this stimulus it twitches nervously from side to side. But a little

irritation of this nature often proves fatal to the developing moth.

Many of the moths are very beautiful. The wings are long and narrow and are very strong, and for this reason the name "Hawk-moths" is applied to the group. As one watches them hovering over the flowers, sipping, nectar with their long tongues, they are easily mistaken for a small "new species" of humming-bird. Comstock says: "Of all the beautifully arrayed lepidoptera some of the Hawk-moths are the most truly elegant. There is a high-bred, tailor-made air about their clean-cut wings, their closely fitting scales, and their quiet but exquisite colors. * * * They seldom have vivid colors except touches of yellow or pink on the abdomen or hind wings, as if their fastidious taste allowed petticoats only of brilliant colors always to be worn beneath quiet-toned over-dresses."

The small oval bodies mentioned above are cocoons of little parasitic braconid-flies, of the genus *Apanteles*. They have a wonderful life history. The mother parasite deposited eggs within the body of the caterpillar; the eggs hatched and the larvae flies fed upon the juices and tissues

of the host, and finally reached full size and passed into the pupa stage, forming the little oval silk cocoons scattered over the body of the caterpillar. Such infested caterpillars never develop into the moth form. Their vitality has been sapped, and their life-cycle broken, they can serve no further purpose in the economy of life better than to aid in the development of forms, braconid parasitic-flies, that in turn will infect others of their kind.

Some months ago another little braconid was mentioned in these columns, the *Lysiphlebus tritici*, which is parasitic upon aphids. To this little fly belongs in a large measure the credit of holding in check the southern grain aphid. And who can tell what debts we owe to the little *Apanteles* for holding in subjection such large ravenous forms as the *Sphinxes*?

Compare the life history and work of the *Apanteles* with other parasitic insects, as the *Pimpla* and the *Limneria*, parasitic on tent-caterpillars and tussock-moth caterpillars; the *Ophion*, parasitic on the emperor and American silkworm moths; and the long-tailed ichneumon-fly, *Thalessa lunator*, parasitic upon the wood-boring larva of the Pigeon Horntail. Comparison might also be made with bot-flies of the horse and the sheep, and with the marble-fly of the ox. The economic importance of each of these forms is considerable and should receive some attention in nature-study.

GROUND-BEETLES.

Under sticks and stones one frequently finds small black beetles with glossy corrugated wing-covers, which in some species are marked with rows of dots. They all have long legs, and make good use of them both in escaping from danger and pursuing their prey. As a group they are called ground-beetles.

Several species of ground-beetles are found in gardens, where, in both the larval and adult form, they prey upon cutworms, grubs, etc.

Figure 2 pictures two of our larger ground-beetles. The upper one is commonly called the *Calosoma* beetle, and the picture tells something of its taste and ability. An European species of the *Calosoma*, of almost the same shape, has been imported into America to feed on the gipsy and brown-tail moths, and has been distributed from some centres in the Maritime Provinces. Another

ground-beetle, *Lebia grandis*, with a yellowish-red head and thorax and bright blue wing-covers, has been found to be an enemy to the eggs and larvae

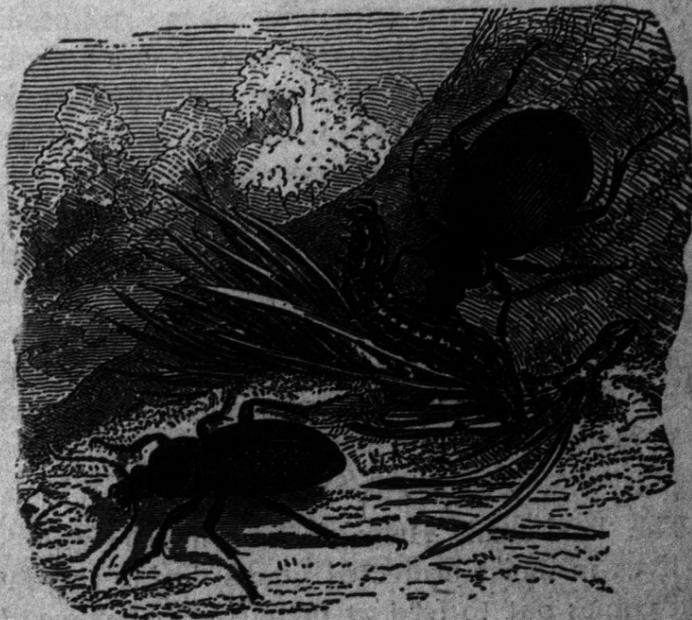


Fig. 2. Ground-Beetles—a *Calosoma*, above, feeding on a cutworm; below a Fiery Hunter.

of the Colorado potato-beetle. The other beetle pictured in Figure 2 is the Fiery-Hunter. It is easily recognized by the rows of reddish or copper-colored pits on the wing-covers. During October

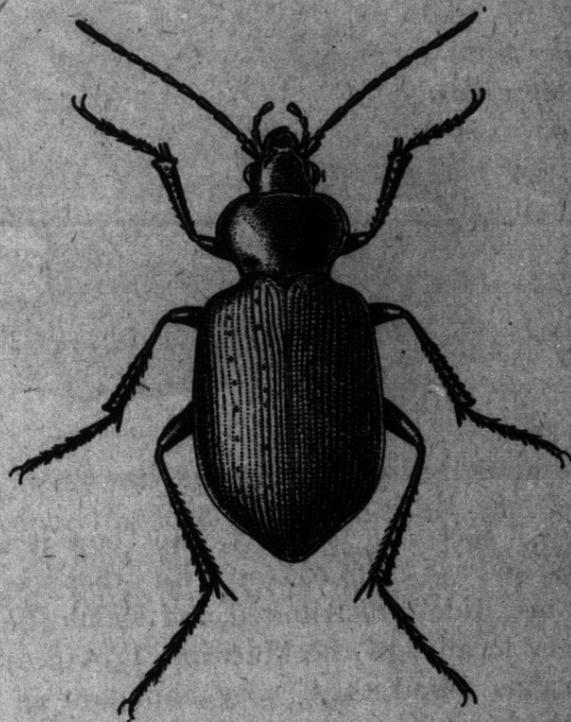


Fig. 3. European ground-beetle (*Calosoma Sycophanta*) imported to prey on the gypsy and brown-tail moths.

and November the writer has found this species very plentiful in the soft rotten wood of decaying hardwood logs and stumps. Do they winter in such places?

The larvae of ground-beetles are usually elongated in form and of nearly equal breadth throughout. They may be known by their tarsi ending in two claws, by the protruding sharp calliper-like mandibles, and by the body ending in a tube-like part of varying length and in two lateral conical bristle-like appendages.

Like the adults the larvae prey upon a great variety of insects, chiefly in the larval form, but they have some cruel enemies in the insect-world. If the little ants find them out life is a severe struggle. Large larvae are frequently seen quite helpless in the "hands" of three or four small ants. If you happen upon such conflicts make note of them.

LAND-SNAILS.

The land-snail, *Helix*, is shown in Figure 4. It lives in moist protected places during the day, and comes out to feed at night, and is frequently found wandering about on damp cloudy days.

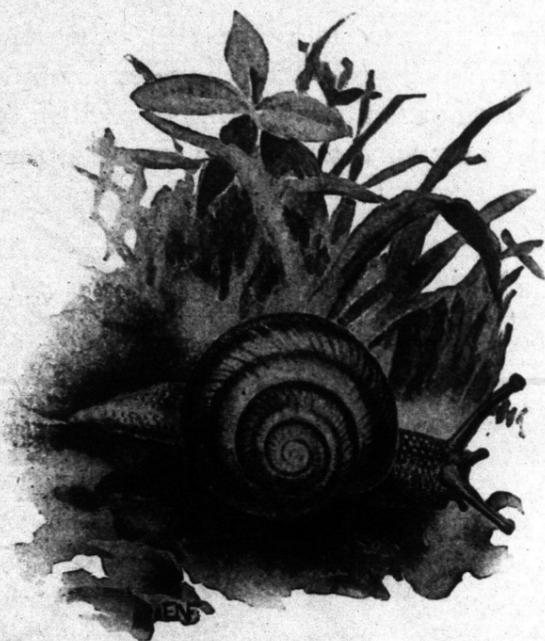


Fig. 4. Land-Snails, *Helix*. Natural Size.

Find a specimen of *Helix*, and show it to your classes, and ask them to search for other specimens. They are widely distributed and should be found in every locality of the Maritime Provinces. The writer has found them very abundant in places near the coast.

Examine specimens kept in cages. Note the dark colored bands on the shell. How many are there? Are they equally plain on all specimens? Do other objects in nature show variations? Give specific instances in both plants and animals.

Touch a specimen as it moves along, and note

how it contracts its whole body. Of what benefit is this power to snails? Compare this kind of protection with that that we have observed in other animals. The shell is formed by the animal itself, and remains attached to its body throughout life. Empty shells are frequently found, but must be regarded as the remains of dead snails. Test such empty shells with a drop of hydrochloric acid, and note the reaction. What have you learned about their composition? Also test clamshells, oyster shells, and the dry bones of the chick, turkey and other animals, with the same acid. How do they compare in composition with snail shells? Compare snail shells with the skeletons of higher animals as to composition, position in the body, use, etc.

What is the shape of the body when expanded? Note the two pairs of horns or tentacles at the anterior end of the body. The shorter tentacles are special organs of touch, and are used like the antennae of insects; the longer tentacles end in dark pigmented spots, eyes, and should be compared with the stalked-eyes of the lobster and crab. Touch one of them with a toothpick or pin and note the reaction. How do animals like the cat, dog, horse and cow protect their eyes?

The large pore in the right side partly beneath the edge of the shell opens and closes over a small hollow space in the body called the lung. This space is adapted for using the oxygen of the air. At the edge of the breathing pore is situated the anal opening.

The mouth is on the ventral side at the anterior end, and is provided with a wonderful little rasp-like tongue, called a radula, with which it "chews" its food. In some species of marine snails, such as the oyster-drill, the radula is fitted for boring holes through the hard shells of other snails, clams and oysters. Of what economic importance are such forms?

How does the snail, *Helix*, move from place to place? Note that the whole ventral surface of the body is used as a foot, and that a slime streak is left wherever it travels. Such animals are all grouped in a class called Stomach-footed Animals, Gastropoda or Gasteropoda. Name some other forms very much like snails that are Stomach-footed Animals.

In France a species of *Helix* is used as food, and we are fond of some of its near relatives, such as clams, scallops and oysters.

POND-SNAILS.

Collect pond-snails from ponds, brooks and streams, and keep them in an aquarium. They are easily kept if supplied with water plants, and are interesting subjects for study, and for comparison with land-snails.



Fig. 5. Group of Living Pond-Snails. Natural Size.

They have but one pair of tentacles, the feelers, at the base of which are the eyes. They feed on water-plants, and respire air. You will often see them come to the surface to breath. Watch the movement of the "foot" as they travel up the sides of the glass, or journey on the underside of the water-film, with the body downward, from one side of the aquarium to the other.

There are three common genera of pond-snails,—*Limnaea*, with a right-handed spiral coil (*i. e.* if the tip of the spire is towards the observer, the coil turns with the hands of a clock); *Planorbis*, with a flat watch-spring like spiral, or discoid shell; and *Physa*, with a left-handed spiral shell.

SLUGS.

One frequently finds in gardens and orchards, and in moist woods, especially under the bark and in the decaying trunks of fallen trees, forms that are very much like snails, but without shells. Such naked forms are called slugs. In some, the shell is entirely wanting, in others it is represented by a thin calcareous plate in the mantle that covers the back. In both cases they are regarded as degenerate forms.

Watch them as they move along. Which do they more closely resemble, land-snails or pond-snails? How many pairs of tentacles have they? Where are the eyes situated?

Collect slugs and keep them in cages for observation. Feed them upon a variety of garden plants, such as lettuce leaves, radish, cabbage leaves, pieces of turnip, etc., in order to show what havoc they may make in gardens. A good demonstration cage is made by placing a lantern chimney over some young growing beans, covering the upper end securely with mosquito bar or cheese cloth. Five or six slugs in such a cage will soon show you their special treatment for young beans. In the same way try them with other young plants.

At this season of the year the egg masses of slugs are found associated with them in moist situations under boards, sticks and other refuse. Collect several masses of eggs. Of what color are they? Keep in moist situations, as near natural conditions as possible. They are said to hatch in from two to three weeks at ordinary fall temperature. Those laid later probably do not hatch till spring.

[Cuts illustrating this article are presented through the kindness of Messrs. Ginn & Co., Boston, Mass., from their publications: "Elementary Entomology," and "General Zoology."]

If a man does not make new acquaintances as he advances through life, he will soon find himself alone. A man, sir, should keep his friendship in a constant repair.—SAMUEL JOHNSON.

"If any man love the labor of any trade, apart from any question of success or fame, the gods have called him."—R. L. STEVENSON.

Happy is he who has learned this one thing—to do the plain duty of the moment quickly and cheerfully, whatever it may be."

NOTES ON SCHOOL READERS.

BY THE EDITOR.

THE DEATH OF NELSON. N. B. Reader III, p. 23. N. S. Reader IV, p. 302.

The *Life of Nelson*, from which this extract is taken, is one of the best biographies in the English language. It has been called "an immortal monument raised to valour by genius." The author, Robert Southey, (1774-1843), wrote a great deal both in prose and verse, and was Poet Laureate from 1813 until his death. But his prose far excels his verse. The *Life* is his best known work. In the preface he says that he made it short, as he meant it to be a manual for the young sailor that he might "treasure up the example in his memory and in his heart." It is a book that should be known not only by sailors, but by every English speaking boy and girl, and the teacher should do her best to make the selection serve as an introduction to this story of the hero's life.

An outline of the events leading up to the Battle of Trafalgar, such as may be got from the history text book, should be learned in preparation for the lesson.

Captain Hardy. He was "the closest of all Nelson's friends." Captain of the *Vanguard*, Nelson's flag-ship, in 1798, he was made Captain of the *Victory* in 1803. He lived to be a Vice Admiral and a baronet (Sir Thomas Hardy), and died in 1839.

Admiral Collingwood was second in command at Trafalgar. The British fleet bore down upon the enemy in two lines, Nelson, in the *Victory*, leading one, and Collingwood, in the *Royal Sovereign*, the other. Collingwood's ship was the faster sailer and was first engaged in fight. Nelson said "See how that noble fellow Collingwood carries his ship into action." While Collingwood, perhaps at the same moment, exclaimed to his captain "What would Nelson not give to be here?" He succeeded to the command upon Nelson's death. "It had been part of Nelson's prayer." The prayer that he wrote down and offered just before the battle:

"May the Great God, whom I worship, grant to my country and for the benefit of Europe in general a great and glorious victory; may no misconduct in any one tarnish it; and may humanity after victory be the predominant feature in the British fleet. For myself, I commit my life to Him who made me, and may His blessing light upon my endeavours for serving my country faithfully. To Him I resign myself

and the just cause which is entrusted to me to defend. Amen. Amen. Amen.

Trafalgar means, "the Cape of laurels."

Begin the lesson with a little discussion about the qualities that make us love or admire a man. What makes a hero? Then read with the aim of finding out the qualities shown by Nelson in the hour of his death. Some of them Southey names; as, Nelson's humanity; others, as his unselfishness, are left for the reader to name. The passage in which he tells us why his fellow-countrymen loved Nelson (given in the N. S. reader) should be memorized:

"England has had many heroes, but never one who so entirely possessed the love of his fellow-countrymen as Nelson. All men knew that his heart was as humane as it was fearless; that there was not in his nature the slightest alloy of selfishness or cupidity; but that, with perfect and entire devotion, he served his country with all his heart and with all his soul and with all his strength; and therefore, they loved him as truly and as fervently as he loved England."

What characteristic is shown in the speech, "Not while I live, Hardy?" (Compare Parkman's account of the death of Wolfe). By his not concealing his "badges of honour" from the enemy? He is said to have answered to those who pointed out the danger of wearing them, "In honour I gained them, in honour I will die with them."

With the words, "Thank God, I have done my duty," compare the dying words of Wolfe, and those of Sir Richard Grenville, "Here die I, Richard Grenville, with a joyful and a quiet mind; for that I have ended my life as a good soldier ought to do, who has fought for his country and his queen, for his honour and religion."

How does a ship show that she has surrendered? "Nelson went into the Battle of the Nile with six colours flying; so that even if five were shot away it should not be imagined he had struck." What different meanings may "The ship struck" convey? What speech of Nelson's shows that he had reckoned on victory?

"He desired that he might be buried beside his parents, unless it should please the King to order otherwise." What King? It did so please the King, and Nelson lies in the crypt of St. Paul's Cathedral, exactly under the centre of the dome. Near him lie the Duke of Wellington and Admiral Collingwood.

Read from Tennyson's *Ode on the Death of the Duke of Wellington*, the stanza beginning "Mighty seaman, this is he."

YE MARINERS OF ENGLAND. N. B. Reader III, p. 28. N. S. Reader IV, p. 154.

Thomas Campbell (1777-1844) is best known by his lyrics, *The Battle of the Baltic*, *Hohenlinden*, *The Soldier's Dream* and *Ye Mariners of England*. He calls the latter poem "A naval ode." An ode means a poem to be sung, and this one is an imitation of an old patriotic song, *Ye Gentlemen of England*, and was written to be sung to the same tune.

Most of Campbell's poems were written between 1799 and 1809. In what wars was England then engaged? From what had her fleet saved her? What line in Verse 2 helps to fix the date of this poem?

"Apostrophe is direct address, (a) to the absent as if they were present, (b) to the dead as if they were living, or (c) to inanimate things as if they had life." Which of these is used in the first line of the poem? Find three other poems in your reader that begin with apostrophe.

Explain "our native seas." Does it mean the seas immediately surrounding Great Britain? Does the line "Her home is on the deep" suggest another possible meaning? What seas are guarded by the British fleet today? What two dangers have to be met by the fleet? What is the flag of the navy? Why should "manly hearts glow" because Nelson and others have fallen at sea? Look up Admiral Blake in your history and tell something of what he did for his country.

"Her native oak." Of what are ships of war built now? What is the exact meaning of quell? How can the thunder of the guns be said to quell the roar of the waves? For what nouns do the adjectives *steep* and *deep* in Verse 3 stand?

Lines 1-4 of Verse 4 should be carefully studied, and the metaphor worked out. The time of war and danger is compared to a stormy night. England's flag is compared to a meteor. Why? A meteor is regarded as a sign of evil, something to be dreaded. The flag of England is "terrific" to whom? And when? The time of peace when war is over, is like the clear quiet sky with a star shining. With what feeling does Campbell address the Mariners of England? What other song of his may be said to "flow to the fame of their name?"

What lines in the poem do you particularly like? What do you notice about the seventh line

in each verse? About the phrases "fiery fight," "loud and long?"

[N. B. We have been asked for notes on Tennyson's "St. Agnes' Eve." These will be given in January, as more timely. Other requests for notes on particular lessons in any of the Readers will be welcomed and given consideration. "The Tantrammar Revisited." N. B. Reader III, will be annotated in the November REVIEW.

NEW BRUNSWICK TEACHERS' MACHINE GUN FUND.

EDITOR OF THE EDUCATIONAL REVIEW:

When the Rural Science School was in session at Sussex during July and August a movement was set on foot by the teachers there assembled to raise funds to procure a machine gun for one of our New Brunswick battalions. A Publicity Committee, with Prin. Geo. G. Perry of Peticodiac as Chairman, was appointed to bring the matter to the attention of the teachers of the province, and a treasurer chosen to whom all funds are to be sent.

The Publicity Committee have from time to time made their appeal through the press. Every teacher in the province has been asked to contribute. One day's pay is a small sacrifice compared with what others are doing, but if each contributed that amount quite a number of guns could be procured.

The Minister of Militia has written me that a large order of machine guns will be delivered in November and that our gun will then be thankfully received and placed as desired. Now, will our gun be one of the number? After two months' regular appeals we have less than half the price of one gun. No doubt many of the teachers are contributing to other patriotic funds but this is *our fund* for teachers only. We sing "We'll never let the Old Flag Fall" and other such songs which should bring the question home to us. Are we doing our part to keep the flag flying? Let us examine ourselves and if we have not fully done our *duty* there is yet time. Contributions should be sent without further delay. All sums received will be promptly acknowledged through the press.

Truly yours,

H. C. RIEKER, *Treasurer.*

Kingston, N. B., September 24th, 1915.

A LEGISLATIVE HISTORY OF NEW BRUNSWICK EDUCATION.

1802—1847.

JOSEPHINE H. MACLATCHY.

"Whatever concerns my country interests me."
—PETER FISHER, "Sketches of New Brunswick, 1825."
(Continued).

As early as 1774 we find that "At the recommendation of the Lieutenant-Governor and Corresponding Committee, Mr. Porter is appointed schoolmaster at Cumberland with the usual salary (£10), which is to commence with his entrance upon his duty."¹ This Society had been organized in the early eighteenth century under the auspices of the Church of England and was an evangelizing as well as an educating force in the early British colonies.

The course of study in the S. P. G. schools was not elaborate. The teachers were charged "to teach the scholars to read truly and distinctly, also to write a plain legible hand, in order to the fitting of them for useful employments; with as much arithmetic as shall be necessary for the same purpose."² The aim of instruction was mainly religious. The schoolmasters were obliged "to well consider the end for which they were employed by the Society," viz., instructing and disposing children to live and believe as Christians. They were therefore to take special care of the manners of their children, both in schools and out of them; warning them seriously of the vices to which children are most liable; teaching them to abhor lying and falsehood; to avoid all sorts of evil speaking; to love truth and honesty; to be modest, gentle, well-behaved; just and affable, and courteous."³

The school hours were long. One teacher writes that his school was open from six to one in the morning, from two to six in the afternoon during the summer, from eight to one and two to five in the winter.

From the lists in the S. P. G. reports during this period some twenty-five of these teachers had schools in New Brunswick. The list for 1,800 included:

Maugerville, William Simpson.....	£10
Frederickton.....	£10

¹Report of the S. P. G., 1774, p. 10.

²Raymond, Op. Cit., *EDU. REVIEW*, 1893, Feb., p. 17.

³Ibid., p. 171.

Burton, Simeon Lugrien.....	£10
Kingston, Edward Finn.....	£10
St. Andrews, James Berry.....	£15
Gagetown, Samuel Morton.....	£10
Norton.....	£10
Sussex Vale, Jeremiah Regan.....	£10
Springfield, William Brasier Hayes....	£10
Westfield, Theodore Valteau.....	£ 6 ¹

The S. P. G. limited its educational efforts to Elementary Schools, resembling in this the schools of other religious bodies, namely, the Presbyterian Schools of Scotland, the Schools of the Dutch Reformed in Holland and the Lutheran Schools of Germany and Sweden. New Brunswick owes much to the pioneer school masters of this Society. They taught the schools of the province during the years when the settlers were too busy making homes to think of education, and the government unable to agree upon educational enactments.

CHAPTER II.

PARISH SCHOOL LEGISLATION 1802—1847.

Although His Majesty's Royal Instructions to Governor Carleton² had recommended "the Assembly to enter upon proper methods for the erecting and maintenance of schools, in order to the training of the youth to reading and necessary knowledge of the principles of religion"³; no educational provisions were passed by the Provincial Parliament until 1802. The first "School Law" of New Brunswick was most unpretentious, containing only the measures which had been proposed by the rejected educational item of the Appropriation Bill of 1793.⁴ Its form was simple, the plan of organization crude, the aid to each parish meagre, yet as the earliest educational enactment of the province the Act of 1802⁵ is worthy of consideration.

42 G. III, Cap. VI, Act of 1802.⁶

¹Taken from the S. P. G. Report of 1880.

²See Hannay's History of New Brunswick, Vol. I, p. 140.

³Copied from Dr. Raymond's "New Brunswick Schools of Olden Times," *EDU. REVIEW* (St. John) January, 1893, p. 150.

⁴See Ch. I of this paper.

⁵"It was the first act passed in New Brunswick for the establishment of common schools, and, although crude and imperfect, it marked a change in the feelings of the people toward education." Hannay's Op. Cit. p. 282.

⁶Copied from Dr. Raymond's Op. Cit. December, 1893, p. 114.

An Act for Aiding and Encouraging Parish Schools.

Preamble: Passed March 5th, 1802.

"Whereas, the education of children is of utmost importance to their usefulness in society; and whereas, the situation of many parents in the different Parishes of this Province renders them unable to procure for their children the benefit of instruction in reading and writing without aid of the Legislature."

I. Be it therefore enacted by the Lieutenant Governor, Council, and Assembly, that the sum of four hundred and twenty pounds (being ten pounds to each parish) be granted to the Justices of the General Sessions of the Peace in the different counties of this Province, to be paid by warrant of his Excellency, the Lieutenant Governor, out of the public treasury, in trust, for the purpose of encouraging and assisting the establishment of schools in the different Parishes of their respective Counties.

II. And be it further enacted, that the sum of ten pounds to each Parish hereby granted in trust to said Justices of the General Sessions of the Peace in each County, shall be by them with discretion apportioned and allotted to each Parish in such a manner as shall best assist in maintaining such Schools as may be already established or shall induce the establishment of other schools where they shall judge the same necessary.

III. And be it further enacted, that the said justices shall make report to the Lieutenant Governor, Council, and Assembly at the next meeting of the General Assembly how the monies hereby contemplated have been used.

I assent to this Bill, enacting the same, and order it to be enrolled.

(Signed) THOMAS CARLETON.

This Act has historical as well as educational significance. The motive entertained by the law-makers in passing this Act was most commendable. In fact we have gained no truer interpretation of the value of education than that of its "utmost importance to the individual's usefulness in society." Education had not been disregarded by the people as it had been by the General Assembly, for the Justices were "to assist such schools as may be already established." The need of provincial aid was emphasized in the preamble. The Justices also were enjoined to use the Provincial Grant to induce "the establishment of other

schools" where such were necessary. The three educational principles which appeared in this act, namely, provincial aid¹ to education, an appointed board of local control, and the necessity of reporting to the legislature regarding the use of school money, persisted in varying degrees of elaboration throughout the legislation of this period. It will be of interest to note their development and the inclusion of other educational principles, from time to time in the legislation as the period advanced.

(To Be Continued.)

¹An interesting proof, that the grant offered by 42 G. III, Cap. VI, was made use of, was found by the present writer among the original papers of the House of Assembly

REPORT OF THE APPROPRIATIONS OF PARISH SCHOOL MONEY.

Received March 5, 1803.

Taken from an Extract of the Minutes of the General

1. Kingston. Sessions of King's County.	
James Place.....	£ 3 6s.
William Belcher.....	£ 3 6s.
John Wetmore.....	£ 3 6s.
<hr/>	
Making the whole.....	£10 0s.

being the sum granted to the Parish of Kingston.

2. Hampton.	
Elisha Sharp.....	£ 5 0s.
Upham.....	£ 2 10s.
Rufus Green.....	£ 2 10s.
<hr/>	
Making the whole.....	£10 0s.

being the sum granted to the Parish of Hampton.

3. Springfield.	
Thomas Connor.....	£10 0s.
<hr/>	
Making the whole.....	£10 0s.

being the sum granted to the Parish of Springfield.

4. Sussex.	
Samuel Sharp.....	£ 5 0s.
George Pifield.....	£ 5 0s.
<hr/>	
Making the whole.....	£10 0s.

being the sum granted to the Parish of Sussex.

5. Norton.	
John C. Hayes.....	£ 5 0s.
Jesse Hoyt.....	£ 5 0s.
<hr/>	
Making the whole.....	£10 0s.

6. Greenwich.	
Robert Donley.....	£10 0s.
<hr/>	
Making the whole.....	\$10 0s.

being the sum granted to the Parish of Greenwich.

7. Westfield.	
John Moore.....	\$10 0s.
<hr/>	
Making the whole.....	£10 0s.

being the sum granted to the Parish of Westfield.

THE FUNDAMENTAL PRINCIPLES UNDERLYING THE CHOICE OF STANDARD WEIGHTS FOR THE ELEMENTS.

BY JOHN WADDELL, B. SC. (LONDON) D. SC. (EDINBURGH).

Reprinted from *The Chemical News* of July 30th, 1915.

Students of chemistry, even after having worked at the subject for two or three years, often show the crudest and most vague ideas regarding the principles upon which rest the standard numbers for the different elements — the so-called atomic weights. Probably nine out of ten of them, if given the percentage composition of several compounds of two elements and asked to show that these compounds conform to the law of multiple proportion, will make use of the ordinary atomic weights in the proof. If the names of the elements are not given, the data are considered insufficient and the problem is unsolved. It is not realised that the law is a *statement of a fact of nature*, that the fact existed long before its discovery, and that the proof of the fact cannot depend upon any *arbitrary* value that we assign to the elements. Indeed, it is vaguely, if at all, realised that the numbers are arbitrary. Many students think that $\text{Cl}=35.5$ or $\text{Na}=23$ is as much a property of the substance, as that the former is a yellowish green gas of very irritating action on the mucous membranes, or the latter is a brilliant white metal lighter than water. It is with a view of helping students, and possibly teachers also, that this article is written.

The student learns that there are so-called chemical laws, the law of constant proportions, of multiple proportions, and of reciprocal proportions; but he learns them as isolated statements, and has no conception of their bearing upon the science of chemistry and of chemical theory.

It should be noted in the first place, that if the law of constant proportions did not hold, no calculation of chemical quantities would be possible. If one specimen of common salt contained one-third its weight of chlorine, another one-half, another one-fifth, or any haphazard amount, it is evident that the manufacturer would not know how much salt he would need in order to make a ton of chlorine. It is also evident that if a definite quantity of sodium, such as a grm. or an ounce, were taken as a standard and represented by a symbol which might be a square, or a cube, or a sphere, or a letter, it would be impossible to

represent a standard quantity of chlorine, since there is *no* standard quantity, the quantity of chlorine combining with the standard quantity of sodium varying in a fortuitous manner.

So, also, if water contained at one time eight, at another nine, at another ten times as much oxygen as hydrogen, it would be impossible to fix on *standard* quantities for *both* oxygen and hydrogen. If, then, the law of constant proportion did not hold, it would be impossible for us to have a set of standard quantities for the different elements.

But if the law of reciprocal proportions (sometimes called the law of combining weights) did not hold it would be equally impossible to compile a set of standard weights for the elements. Suppose, for instance, that one part by weight of hydrogen unites with seven parts by weight of oxygen and with thirty parts by weight of chlorine, but that thirty parts of chlorine unite not with *seven* but with *nine* parts of oxygen; it is evident that though the standards for hydrogen and chlorine may be taken as unity and thirty there is no standard possible for oxygen. Seven and nine would have equal claims, and the more numerous the compounds of oxygen examined the greater might be the confusion.

If the law did not hold it would not be possible, by knowing how one element united with each of two others, to predict how these two elements would themselves unite. An illustration is afforded by the case of alcohol, water and ether. Alcohol mixes in all proportions with water, and in all proportions with ether, but ether and water are far from mixing in all proportions. Water will dissolve a little ether and ether will dissolve a little water, the quantity dissolved by an equal amount of solvent being different in each case. A universe is conceivable where there would be no law of constant or of reciprocal proportions, and if such a universe were made up of different elements it would be impossible to have symbols as we now do for the elements.

It is because these laws are found to hold that the atomic theory is possible. Indeed, if there are atoms in the usually accepted sense the laws must hold. The converse is not necessary. It does not follow that because the laws are a correct statement of fact atoms must necessarily exist, any more than it would follow that because two solutions look alike and can neutralise an acid

they necessarily contain the same substance in solution.

But now, assuming the laws, how do we arrive at standard numbers for the elements?

The law of constant proportions refers to weight; *four grms.* of sulphur unite with *seven grms.* of iron. Shall we make the standard weight of sulphur four grms. and the standard weight of iron seven grms.? Or shall we make the standard quantity of sulphur unity and the standard quantity of iron 1.75? It would be possible to make either choice, and since sulphur and oxygen unite in equal quantities the standard quantity of oxygen would be four, or unity, according to the choice that we make.

On the other hand, the quantity of *iron* might be called unity, in which case the standard number for sulphur and for oxygen would be $\frac{4}{7}$. So we see the standard numbers will depend upon the elements we choose as the primary standard and the value we assign to the standard quantity of it.

But now we are confronted with the question whether either sulphur or iron is the best element to choose as the primary standard. If we consider first what elements are obviously unsuitable, it may be more easy to decide what are suitable. Obviously the very rare elements, such as radium, scandium, or praseodymium, are unsuitable because of their rarity and cost, if for no other reason. Obviously, also, any member of the argon group of elements is unsuitable, if for no other reason, because they do not form compounds with other elements. It is plain, then, that the element chosen as original standard must be plentiful and must form compounds with a number of other elements. It should also be possible to obtain it practically pure. The elements that form water have these characteristics, and these elements hydrogen and oxygen have both been chosen as the standard. Hydrogen has the advantage that it enters into combination in the smallest quantity of any of the elements, and so if the standard quantity of it is taken as unity the standard quantities of all the other elements will be greater than unity. Oxygen has the advantage that it combines with more elements than does hydrogen, forming compounds with nearly all the elements. Dalton chose to make hydrogen the standard. Berzelius made oxygen the standard. The value given to hydrogen was naturally unity. Berzelius chose to call the standard quantity of oxygen 100.

Since the quantity of oxygen in water is approximately eight times the quantity of hydrogen, if oxygen is taken as 100, hydrogen is approximately 12.5, and the number in the list of standard quantities for the different elements according to Berzelius's plan of making the standard quantity of oxygen 100, would be 12.5 times as great as those determined upon Dalton's basis. The standard of hydrogen equal to unity was considered most convenient and was generally adopted.

Now, if hydrogen were taken as unity, and if hydrogen formed one compound and only one with every element it would, theoretically at least, be very easy to determine numbers for the standard quantities of each of the other elements, it being understood that the law of *reciprocal* proportions holds good. But the fact is that hydrogen does not form compounds with all the other elements, and with many elements it forms more than one compound. The first difficulty can be got over. The standard quantity of calcium, for instance, could be arrived at if the quantity of oxygen which unites with unit quantity of hydrogen is known and the quantity of calcium with which this quantity of oxygen will unite. Suppose eight parts of oxygen unite with one part of hydrogen, and eight parts of oxygen unite with twenty parts of calcium, the standard quantity of calcium is evidently twenty.

(To be Continued.)

THE CURRENT HISTORY CLASS.

1. Where is the Murman Coast, and what is its importance to Russia?
2. "If the war were to end tomorrow, Germany would be the victor." Comment on this statement and trace Germany's conquests and losses on the map.
3. "The Battle of the Marne is the most decisive battle yet fought" (September 11). Why?
4. "The Germans have gained *no Sedan* (in Russia.) Their battles have all been *Pyrrhic Victories*. Explain the italicised phrases.
5. What is the only country in Europe that still recognizes the status of slavery?
6. Who are Dumba, von Bethman Hollweg, Viviani, Venizelos, Lansing, von Mackensen?
7. What do you understand by the following: Reichstag, Dual Monarchy, tactical defence, hegemony, autonomy, contraband of war?

HINTS FOR OCTOBER AND NOVEMBER.

BY THE EDITOR.

October brings us two days for special observance, Thanksgiving Day and Trafalgar Day, and it is a good time to consider our aims and methods in keeping these days. For it is not well to interrupt our regular routine or to substitute special lessons for the usual work, until we have some definite gain in view for such changes.

Special days should not be ignored in the school-room, but neither should they be made mere occasions for entertainment. However little time can be given to the observance it should be carefully planned for. Some definite knowledge should be gained, some principle instilled, some enthusiasm roused.

As Thanksgiving Day is a holiday, half an hour of the day before might be given to considering the reasons for its observance, and our duty concerning it. Start with the fact of the holiday, which is what most impresses the children. What other days are school holidays? Why are such days as Victoria Day made holidays? If the children do not quickly see that they are days of *remembrance*, remind them that the Jews were taught to keep the feast of the passover every year that they might *remember* all the days of their life the day when the Lord brought them forth out of the land of Egypt. (Deut. 16:1-4.) Then what are we to remember on Thanksgiving Day? Read Deuteronomy 16:13-15, or Psalm 104:13 and 14. As the harvest is reaped and the fruits gathered in every year, so every year we are to remember that they are God's gifts, and to give thanks to him.

By whom is Thanksgiving Day appointed? By the Governor General. Ever since 1879 it has been proclaimed every year. Then it is a day to be observed by the whole nation. To give thanks for our blessings is the duty of each one of us, but on the national Thanksgiving Day we are to remember especially the blessings that we share with all Canadians, our *national* blessings. Let the children name them. Thanksgiving for harvest comes first; that is why the day is set at this time of year. But they will think of others, especially in comparing the condition of our country with that of others at this time. The mere mention of France and Belgium will remind them of the peace and prosperity within our borders, and our ability,

as a nation, to help those who are homeless and helpless. The courage and devotion of Canadian soldiers, doctors, chaplains and nurses is much to be thankful for.

Suitable Bible readings besides those already named, are Psalms 147, 100, 115, 118, 107, 104; St. Luke 17:11-19. The lesson should close with the singing of the national anthem.

Trafalgar Day comes on October 21st, and surely this year, if never before, some formal acknowledgment should be made of what we owe to our greatest national hero, and also of the safety secured to us by the British fleet.

In other countries, notably in the United States, the lives and examples of great men are constantly kept before the young people. We do little to draw our children's attention to our heroes. Can we think it unnecessary? Reverence, admiration, idealism, are not too common among us. These feelings are not foreign to Canadians, but too often latent.

"The best eulogy of Nelson" says Southey, "is the faithful history of his actions." His life should be made familiar to all English speaking children. He was not perfect. He had grave faults; but hear what his American biographer says of him:

"Sharer of our mortal weakness, he has bequeathed to us a type of single-minded devotion that can never perish. As his funeral anthem proclaimed, while a nation mourned, 'His body is buried in peace, but his name liveth for evermore.'

Wars may cease, but the need for heroism shall not depart from the earth while man remains man, and wrong remains to be redressed. Wherever danger has to be faced or duty to be done, at cost to self, men will draw inspiration from the name and deeds of Nelson."—*Mahan*.

He compelled the admiration of his enemies. The Spanish Admiral Gravina, who was mortally wounded at the battle of Trafalgar, said on his death bed, "I am going to join Nelson, the greatest hero the world has produced."

Suggestions for studying Nelson's character will be found in the "Notes on School Readers," on another page. A suitable Bible reading for the day is the following from the book of Ecclesiastes:

Let us now praise famous men, and our fathers that begat us.

The Lord hath wrought great glory by them through his great power from the beginning.

Such as did bear rule in their kingdoms, men renowned for their power, giving counsel by their understanding, and declaring prophecies.

Leaders of the people by their counsels, and by their knowledge of learning meet for the people, wise and eloquent in their instructions;

All these were honoured in their generations, and were the glory of their times.

There be of them, that have left a name behind them, that their praises might be reported. Their bodies are buried in peace; but their name liveth for evermore. The people will tell of their wisdom, and the congregation will show forth their praise.

The following selections are appropriate for the blackboard:—

We can have the highest happiness, such as goes along with being a great man, only by having wide thoughts, and much feeling for the rest of the world as well as ourselves.—*George Eliot.*

Let us now praise famous men. Ecclesiastes 44:1.
Thine island loves thee well, thou famous man.
The greatest sailor since the world began.—*Tennyson.*

Not once or twice in our rough island story
The path of duty was the way to glory.—*Tennyson.*

There are so many things wrong and difficult in the world, that no man can be great — he can hardly keep himself from wickedness — unless he gives up thinking about pleasure or rewards, and gets strength to endure what is hard and painful.—*George Eliot.*

November 1st is All Saints' Day, and the day before is All Saints' (or All Hallows') Eve, commonly called Hallow E'en.

Children should be taught the meaning of the name and made to pronounce it properly. They will be interested to know that from very early times people have believed that they could see into the future by practising certain rites on Hallow E'en. The poet Burns, in his *Halloween* tell us how the night was kept in Scotland in his time. Nuts and apples are always eaten, and a common name for the Eve is "Nut Crack night."

A STRANGE LANGUAGE.

I have a little neighbor whom I very often meet.
He wears a coat of reddish fur at home and in the street.
We often stop to have a chat on sunny winter days.
His manner's very pleasant — but I can't tell what he says.

I think he talks about the woods, and how the beechnuts taste,
And how he loves the breadcrusts that I'm rather apt to waste,
And how he wishes spring would come — but there! I must confess
I cannot understand a word, and so I have to guess.

My sister studies German and my brother studies Greek,
But those are not the languages that I should care to speak,
For none of all their lexicons can make it clear to me
Just what that little squirrel means by "Chk!" and "Chir-r-!"
and "Chee!"
—*Selected.*

TEACHERS' INSTITUTES.

The teachers of Northumberland, Gloucester and Restigouche Counties, New Brunswick, met in a united session in the Court House at Bathurst, on Thursday and Friday, September 23rd and 24th, with the President, Inspector G. W. Mersereau in the chair. Dr. W. S. Carter, Chief Superintendent of Education, Mr. R. P. Steeves, Director of Elementary Agricultural Education, and Mr. Fletcher Peacock, Director of Manual Training and Domestic Science, addressed the meeting on the first day. At the public meeting on Thursday, addresses were made by Dr. Carter, Mayor Michaud and others; the school children sang patriotic songs, accompanied by a local orchestra.

Papers were read during the session by Miss Marion Winton on Primary Reading, Mr. W. C. Haines on History, Mr. H. H. Stuart on Civics, Mr. F. A. Hourihan on English Composition, and the subjects dealt with were discussed by the teachers.

Dr. Carter spoke of the importance of preserving the minutes of County Institutes as a contribution to local history, and the Secretary for Northumberland County reported that their records from 1878 were intact. Director Steeves reported that there are now between seventy and eighty school gardens in New Brunswick, Northumberland County leading with fifteen.

On Friday evening the people of Bathurst entertained the teachers very pleasantly in the Court House. An informal programme of music and recitations was carried out and refreshments were served.

About 150 teachers attended the meetings. The following officers were elected for the different counties for next year:

Northumberland County — President, Mr. John D. Keane; Vice-President, Mr. W. L. Bunnell; Secretary-Treasurer, Mr. H. H. Stuart. Additional members of Executive, Miss Lottie E. Underhill, Miss Edna F. Fraser.

Gloucester County — President, Inspector J. F. Doucet; Vice-President, Mr. Theodore Lejeune; Secretary, Miss G. Duguay. Additional members of Executive, Miss Helene Delagarde and Miss Stout.

Restigouche County — President, Mr. J. B. Carr; Vice-President, Miss Hazel Lingley; Secre-

tary, Miss Jessie Currie. Additional members of Executive, Mr. R. G. Mowatt, Miss Marion Winton.

The Institute for York and Sunbury Counties held its most successful session in Fredericton on September 23rd and 24th, over 200 teachers being in attendance. The opening of the St. John Valley Railway made it easier for some to be present than in former years. At the first session addresses were made by the Mayor of Fredericton, Dr. H. V. B. Bridges, Inspector O'Blenes and Mr. Fred. C. Manning, President of the Institute.

Among the subjects discussed were the Teaching of Latin, Reading and Geography, and the new Nature Lessons Course.

The officers elected for the ensuing year were: Mr. W. M. Burns, Fredericton, President; Mr. Elmer Close, Nashwaaksis, Vice-President; Miss Ella L. Thorne, Fredericton, Secretary-Treasurer; Miss Agnes Burns and Miss Blanche Ebbett, additional members of Executive.

THE LAST BUCCANEER.

The winds were yelling, the waves were swelling,
The sky was black and drear,
When the crew with eyes of flame brought the ship without a
name
Alongside the last Buccaneer.

"Whence flies your sloop full sail before so fierce a gale,
When all others drive bare on the seas?
Say, come ye from the shore of the holy Salvador,
On the Gulf of the rich Caribbees?"

"From a shore no search hath found, from a gulf no line can
sound,
Without rudder or needle we steer;
Above, below, our bark, dies the sea-fowl and the shark,
As we fly by the last Buccaneer.

"To-night there shall be heard on the rocks of Cape de Verde,
A loud crash, and a louder roar;
And to-morrow shall the deep, with a heavy moaning, sweep
The corpses and wreck to the shore."

The stately ship of Clyde securely now may ride,
In the breath of the citron shades;
And Severn's towering mast securely now flies past,
Through the sea of the balmy trades.

From St. Jago's wealthy port, from Havannah's royal fort,
The seaman goes forth without fear;
For since that stormy night not a mortal hath had sight
Of the flag of the last Buccaneer.—*Macaulay.*

[FOR THE REVIEW.

HISTORY.

The subject of history has a prominent place in our school course, and our teachers, from year to year battle with it with varying results. Some successfully awaken a really vital interest while others quite as successfully destroy all love for the subject.

The teacher who sits down and hears a recitation in history out of the text-book may succeed in implanting a few bare dates and names in the child's mind, but very little real history will be found there at the end of the year.

The teacher must be both interested and interesting. She must know a great deal more about the subject than is to be found in the text-book. Several books of reference should be at hand, and maps, pictures and newspaper clippings are invaluable. Have the best pictures that can be obtained and make sure that the children know how to use them. Pictures of noted men and women, ancient castles, battlefields, battleships and vessels of various kinds, churches, abbeys, early inventions, are all interesting and instructive. These may be pasted in the school scrap-book or classified and kept in envelopes to be passed round when needed.

According to our school course we start Grade VI British History with the Roman Conquest, and Canadian History with the Eriksons and down the ages we come, hand in hand; but that doesn't mean that we must teach everything in the text-book order and nothing else. While teaching important events in Canadian History keep in mind the condition of affairs in England at the same time, and *vice versa*.

Where were we in English history when Canada was discovered? What important events had taken place in England before that time? What hindered the early development of Canada? Which kings and queens of England were especially interested in discovery and exploration? Questions such as these can easily be taken up with the class work.

In the lower grades, history is taught by means of pictures and stories, and most children love it; so we conclude that the misuse of the text-book is largely responsible for the "dry" history lessons that we hear so much about.

Our first text-book lessons are on the conquests of Britain,—Roman, English, Danish and Norman. Take these up, one at a time, and then compare

them. Maps are a great help here. Have the pupils draw them, one for each conquest as it is studied. Take the first map; mark the conquered territory with dates of conquest:—The Roman wall, one or more of the chief Roman roads, and some of the chief towns: Londinium (London), Eboracum (York), Mancunium (Manchester), Deva (Chester), Dorovernum (Canterbury), etc. The story of the Great Roman Wall, the building of the Roman Roads and the Roman Place-names in Britain will all come in here. Why the Romans came to Britain; the Great Leaders who took part in the Conquest, and the Effects of the Occupation are all important and should be studied.

When the English Conquest has been taught, compare the effects of the two.

The first, simply a military occupation of Britain; the second, a displacement of Britons and a settlement of English in their place. In the first, a more civilized people conquered a less civilized race, and brought Christianity to the country; in the second, a less civilized people conquered a more civilized race and swept away every trace of Christianity. These and several other points may be compared.

Then the Danish and Norman Conquests may be taken up and treated in much the same way. Much can be learned about the appearance, dress, religion, and mode of warfare of these people from pictures and stories, but what we want to *remember* is what has *lived* out of the past, from these early times.

After the conquests we come to a line of Norman kings established on the English throne. Ten thousand Norman landowners had displaced ten thousand English landowners. Strong central government was introduced. The Witan was transformed into the Great Council. The House of Lords had its origin in the Great Council sitting without the lesser barons. Facts such as these furnish good topics for classdiscussion. The Norman kings were distinguished for their greed. How did each obtain his revenues? What relation were the other kings to William the Conqueror? Name the most important events in each reign and give brief description of each. How did the Plantagenets come to get the crown?

At the close of each line of kings have the children note the condition of England at that time, and compare it with the last line; make a list of the great writers of the age, and the noted

men; and draw a map to illustrate any changes in England's possessions, either by war or treaty.

Some good books for teaching both British and Canadian history are:

1. "Britannia History Reader," The Copp Clark Co., Ltd., Toronto.
2. "Fifty Famous Stories Retold," American Book Co., New York.
3. Hannay's "History of Acadia," J. & A. McMillan, St. John, N. B.
4. "Stories from English History," by A. J. Church, M. A., The MacMillan Co., 66 Fifth Ave., N. Y.
5. "Child's History of England," Dickens. (For teacher's use.)
6. "England's Story," Tappan and Saul, Morang Educational Co., Ltd., Toronto.
7. "Britain and the Empire," Putnam, Morang and Co., Toronto.
8. "History of Canada," Gammell, W. J. Gage & Co., Ltd., Toronto.
9. "Story of the Maple Land," Young, The Copp Clark Co., Ltd., Toronto.
10. The "Highroads of History," Series published by Thos. Nelson & Sons, 95-97 King St., East, Toronto, now comprises twelve volumes. This series has been described as "The most remarkable set of school books ever published," and it certainly does whet the appetite for history. Catalogues will be sent on application.

Besides the many good history-story books an encyclopaedia will be found very helpful. "The Everyman's Encyclopaedia"—12 volumes—is neat and handy, and quite sufficient for the needs of the average school. Bound in cloth, it may be had from J. M. Dent & Sons, for \$3.60 plus the express charges. The children should have access to the encyclopaedia at all times, and a good plan is to have them make a note of some important facts about each subject found.

The other reference books may be used in many ways. Most children love story telling. Sometimes it is a good plan to let one or more pupils in a class have the books to read in school after their other work has been finished. Then, take a few minutes and have some one tell to the class the story he has read.

Another way is to use the history story for a composition exercise. The story may be read to the class by a pupil, or by the teacher, if she prefers to do it, and then told by different pupils in their

own words. If this is done one day, the same story may be written at another time.

If a child has been present every day with well-prepared work, he may be allowed to take a book home on Friday night, to be returned to the reading table on Monday morning. This encourages regularity in attendance, industry in school-work, and arouses an interest in reading.

In the books mentioned above, you will often find the same story told in several different ways, or several stories about the same person. The children enjoy reading them outside and telling them in class. The stories of our heroes and heroines never wear out, and the question, "What would you have done in the same place?" often brings out many thoughtful and unexpected answers.

It is wonderful how much the small boys and girls know about the present war, and they like to compare the past generals, battles, guns, etc., with those of to-day. One of Alfred the Great's admirers (a small boy of eight) said, "Please, teacher, I bet Alfred could have licked the Kaiser."

The rainy day recess is a good story-telling time. Allow the children to sit or stand about, free and easy, as they choose. Just now, of course, they nearly all want to tell present day war stories. Do not allow the horrible night-mare stories to get into your school-room. Describe some brave act of one of our officers or men, or tell something you have read about aeroplanes, submarines, torpedoes, etc., and see what they know about these things.

In conclusion, let me suggest, that teachers who have found other and better methods for arousing an interest in history, will send them to the REVIEW, so that we may all profit by their experience.

Has the summer left thy heart
That which passes show, the art
Like wise Nature, to prepare
From the Past a Future fair?

—Henry Ellison.

Straight and swift the swallows fly
To the sojourn of the sun;
All the golden year is done,
All the flower-time flitted by.

—John Payne.

A LITTLE CHILD'S THANKS.

A very little child am I,
Yet I can thankful be
To our kind Father who has sent
Such wondrous things to me.

For fruit and flowers, rain and shine,
And skies of deepest blue;
The twinkling stars that light the night,
The frost and pearly dew.

For songs of birds, and rippling brooks,
And fairy things that fly,
And all the creatures of the woods
That shyly pass me by.

I thank Him for all things so fair,
Around me and above;
But most of all I thank Him for
A heart with which to love.

—Primary Education.

Sailor, what of the debt we owe you?
Day or night is the peril more?
Who so dull that he fails to know you
Sleepless guard of our island shore?
Safe the corn to the farmyard taken,
Grain ships, safe upon all the seas—
Homes in peace and a faith unshaken,
Sailor, what do we owe for these?

—Times.

THE SATURDAY PLACE.

A House is where you eat and sleep
And all your books and treasures keep;
But oh, Outdoors is where you play
And where it's always Saturday!

—Mary Carolyn Davies, in the October St. Nicholas.

OCTOBER.

Yet shall the blue-eyed gentian look
Through fringed lids to Heaven,
And the pale aster in the brook
Shall see its image given —

The woods shall wear their robes of praise,
The south wind softly sigh.
And sweet, calm days in golden haze
Melt down the amber sky.—Whittier.

No warmth, no cheerfulness, no healthful ease,
No comfortable feel in any member,
No shade, no shine, no butterflies, no bees,
No fruit, no flower, no birds, no trees,
No-venber!

—Hood.

BIBLE READINGS FOR OPENING EXERCISES.

1. Psalm 90.
2. St. Luke 12:16-21.
3. Psalm 46.
4. St. Luke 12:35-48.
5. Isaiah 25:1-9.
6. St. Luke 15:1-10.
7. Psalm 145:8-19.
8. Acts 27:9-20.
9. Acts 27:21-36.
10. Acts 27:37-44.
11. Proverbs 17:1-20.
12. I Corinthians 13.
13. II Samuel 15:13-23.
14. I Peter 2:11-17.
15. II Kings 6:8-23.
16. Acts 16:25-34.
17. Psalm 103:1-18.
18. St. Luke 14:1-11.
19. St. John 4:46-53.
20. Psalm 34:1-10.

WHO, WHAT AND WHERE

Search Questions for Competition.

Questions appear in each issue from October to March. Marks are given for correct answers, and in April a small prize is awarded to the winner of the highest marks. Answers to each month's questions are given in the following issue.

The competition is open to all readers of the Review. All answers must reach this office not later than the first of the month. Number your answers. Sign with a pseudonym.

MISCELLANEOUS.

[All to be answered from the works of one author.]

1. Who had "no other care than dispensing music to mortals?"
2. Who had seen and known two angels on earth, and what were their names?
3. Who are:—Sandalphon, Thangbrand, Chispa, Nahma, "the Poet paramount," "the poet of the dawn."
4. Where was (a) "Every house an inn where all were welcomed?" (b) A tent left standing to preserve a bird's nest?
5. When were Sandwich and Romney, Hastings, Hythe and Dover all alert?

When asked "What are the five great races of mankind?" a Chinese student gave the following answer: "The hundred yards, the hurdles, the quarter-mile, the mile and the three miles."

THE REVIEW'S QUESTION BOX

[To ensure answers in any issue, questions should reach this office not later than the twentieth of the preceding month. Correspondents desiring answers by post must enclose stamps.]

E. W.—The Canadian address of the Cassell Company, publishers of "The Battle Glory of Canada" is 55 Bay Street, Toronto.

M. H.—1. The federal union of the Empire of Germany includes twenty-six states of which Prussia is much the largest and most powerful. The direction of political and military affairs is vested in the king of Prussia, who bears the title of Kaiser. He declares war (subject to the Federal Council), makes peace, enters into treaties with other nations, appoints and receives ambassadors, and promulgates laws. The legislative bodies are the Bundesrat or Federal Council, representing the individual states, and the Reichstag or Diet of the realm, representing the German nation. The sixty-one members of the Bundesrat are appointed for each session by the governments of the respective states, Prussia appointing seventeen. The 397 members of the Reichstag (236 from Prussia) are elected for a five years' term by universal manhood suffrage. All laws for the Empire must receive the votes of an absolute majority in both houses and be promulgated by the Emperor.

2. The Governor-General represents the king in Canada. He is commander-in-chief of all military and naval forces of the Dominion. He appoints the lieutenant-governors, and the judges, and can commute sentences of the court. He assembles, prorogues and dissolves parliament. His assent is necessary to all bills.

The President of the United States is commander-in-chief of the army and navy. He can grant reprieves and pardons. With the consent of the senate, he appoints ambassadors, consuls, judges of the Supreme Court and other officials and makes treaties with foreign powers. Bills are submitted for his signature, but his veto is not final.

The President of France proclaims laws passed by both houses, and ensues their execution. He selects a ministry, appoints to all civil and military posts, and grants pardons. He makes treaties and receives and appoints foreign ambassadors.

CURRENT EVENTS.

After falling back for five months before the advancing armies of the central powers, the Russians have again taken the offensive all along the lines. This may be due in part to the increased strength of the Russian armies, which, probably, are now better supplied with ammunition, and partly to the withdrawal of German troops for use elsewhere. There has been severe fighting in France, where the French now have three million men at the front, and the British one-fourth as many; but there has been no decisive engagement on either front. Both French and British have made small advances, and have held their ground well against counter attacks; and it is believed that this is the beginning of the movement which is to drive out the invaders if Great Britain and her colonies can furnish the additional strength which is required. Meanwhile there has been little change in the situation along the Italian front, but very important events are taking place in the Balkan peninsula. Bulgaria has definitely formed an alliance with the Germans and Turks, and British and French forces have been landed in Greece for the protection of Serbia, which is threatened by a German army on the north and a Turkish and Bulgarian army on the south. There is but a distance of thirty-five miles between Hungary and Bulgaria, at the narrowest part of the Serbian territory; and it is the supposed intention of the Germans to penetrate the mountain regions near this part and so establish connection with Turkey. What action will be taken by Greece and Roumania is as yet undecided; but they will probably join with Russia and her Allies for the defence of Serbia.

The inducement for Bulgaria to join the Austro-German alliance is said to have been that she shall have Constantinople and all of Turkey-in-Europe, while the Turks shall have as their recompense Egypt and all Northern Africa, and a large part of the Russian dominions in Asia, thus bringing nearly all the Mohammedan countries of the world into the Turkish Empire. This does not agree with the former presumption that Germany wanted Egypt and Asia Minor for herself; but perhaps that is an after consideration.

The Turkish government is deliberately killing off the Armenians, who are Christians. A quarter of a million have escaped by crossing the Russian frontier, but perhaps half a million have been slaughtered in their villages or driven into the wilderness to perish, and the slaughter is still going on. These facts are well authenticated, and the United States government has made a formal protest to the Turkish government, threatening the severance of diplomatic relations if the persecution does not cease.

A new service has been introduced in the French army, that of travelling laboratories to combat the effects of German poisons.

An Italian engineer has found a method of holding an object motionless in space by means of electric currents.

The Chinese Council of State has advised President Yuan to call a national convention to decide whether China is to be a republic or a monarchy.

The United States has recognized the new government of Hayti, and assumed a financial protectorate over that boisterous country. There are indications that a similar recognition, without the protectorate, will soon be extended to the Carranza government in Mexico.

Stefansson, the Canadian explorer who was given up as lost, is not only alive and well, but has been living in comparative comfort in the Arctic regions. He has found in the Arctic Ocean a mountainous island about a hundred miles north of Prince Patrick Island. There was an abundance of caribou and other game to furnish food for his party. This new land lies about a thousand miles due north of the mouth of the Coppermine River. The explorer has chartered the "Polar Bear," a schooner which he found on the Arctic coast of the mainland, to take the place of the "Karluk," which was lost in the ice; and, with Herschell Island as his base of operations, will make further explorations before his return.

SCHOOL AND COLLEGE.

The Normal School of New Brunswick opened on September 1, with the largest classes in its record. Three hundred and twenty-seven students were in attendance. The teaching staff remains unchanged.

The University of New Brunswick re-opened on September 20th, with a freshmen class as large as usual. The other classes are somewhat smaller than in former years, owing to the number of enlistments among the students.

Professor Robert Newton, Director of the Agricultural School at Woodstock, N. B., has resigned his post, to take a Lieutenant's Commission in the 34th Battery, now mobilized at Kingston, Ontario.

A. J. Brooks, Inspector for Kings and Queens Counties, N. B., now Lieutenant Brooks of the 55th, has been doing admirable service at recruiting meetings in St. John and other parts of the province.

Mr. Bertram Campbell of the staff of the Florenceville Consolidated School, has enlisted in the 64th.

George R. Anderson, B. A., of the Class of 1915, Mount Allison, has been appointed teacher of French and Latin in the Didsbury High School, Alberta.

Mr. Russell Irving Garton, B. Sc., has taken the new chair of biology at Mount Allison. Professor Garton was formerly instructor in biology at Wesleyan University.

Mr. A. B. Brooks, former principal of the Apohaqui, N. B., Superior School, has taken the corresponding post at St. George, N. B.

Red Rose Tea

"is good tea"

There has been a change of staff at the Grammar School at Fredericton Junction, N. B. Mr. H. Titus is the principal and has as assistants Miss Florence Clark and Miss Zella Hartt.

Miss Hazel Belyea is in charge of the school at Gaspereau Station.

Miss Iva Yerxa, a former teacher in St. John, who has lately returned from South Africa, is now on the staff of the Centennial School in St. John.

Mr. C. M. Lawson, late of the St. John High School staff, is one of the officers who has gone to France with the 26th New Brunswick battalion.

The Hampton, N. B., Consolidated School re-opened after the summer holidays with 212 pupils enrolled.

The report of the treasurer of the Alumnae of the St. John High School shows that during the past year the society had given \$400 to patriotic funds.

The children in the Sydney, N. S., schools have lately contributed over \$150 to the N. S. Children's Ambulance Fund.

After the meeting of the Ontario Association for the promotion of Technical Education, at the New Technical School in Toronto, it was recommended that a memorial be presented to the Dominion Government calling for extensive encouragement of Technical Education by way of Federal Grants. Prof. Sexton of the Nova Scotia Technical College is one of the committee appointed to draft the memorial.

At the Conference of Medical Health Officers held in Truro, N. S., September 7th, subjects of more especial interest to teachers were "School Hygiene" discussed by Dr. Walker, M. H. O., Truro, and "Medical Inspection of Rural Schools" by Dr. S. A. Fulton, M. H. O., Truro.

The College of Agriculture has done nobly in the way of enlistment of students and instructors for service in the Canadian overseas forces. Amongst the instructors are B. H. Landells, B. S. A., Professor and Lecturer in Drainage, Surveying and Field Agriculture, enlisted as Sergeant with the McGill University Corps; Mr. C. A. Good, Assistant Entomologist and Lecturer in Zoology, and Mr. W. J. Bird, Assistant Dairy Superintendent, who are preparing to enlist, the one with the Guelph Agricultural Corps, and the other with the New McGill Corps now being formed. The enlisted students total thirty-one.

Professor J. W. Roland of the Nova Scotia Technical College staff has resigned and his place is taken by Mr. Frederick R. Faulkner, B. Sc., lately of Vancouver, B. C., but a native of Truro. Prof. Faulkner received his education at Colchester Academy, Acadia University, and the Massachusetts Institute of Technology.

Colchester Academy, in charge of Principal Davis and a large staff, has its largest enrolment of students on record, 269.

Miss Jean Peacock has been appointed instructor of Domestic Science at Mount Allison. Miss Burgess takes Miss Peacock's place in the schools of Sussex and Hampton, N. B.

Among the districts where successful school fairs have been held this autumn are Middle Coverdale, Bass River, McQuade's and Blackville, in New Brunswick, and Truro, Windsor and Mapleton, in Nova Scotia.



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New Brunswick School Calendar

1915-1916

1915. **FIRST TERM.**
 Thanksgiving Day (Public Holiday).
 Dec. 14th.—Examinations for Class III License begin.
 Dec. 17th.—Normal and Public Schools close for Christmas Vacation.
1916. **SECOND TERM.**
 Jan. 3rd.—Normal and Public Schools open.
 Apr. 20th.—Schools close for Easter Vacation.
 Apr. 26th.—Schools re-open after Easter Vacation.
 May 18th.—Loyalist Day (Holiday for St. John City only).
 May 23rd.—Empire Day.
 May 23rd.—Examinations for Class III License begin.
 May 24th.—Victoria Day (Public Holiday).
 May 24th.—Last day on which Inspectors are authorized to receive applications for Departmental Examinations. Reg. 38-6.
 June 5th.—King's Birthday observed (Public Holiday).
 June 9th.—Normal School Closing.
 June 13th.—Final Examinations for License begin.
 June 19th.—High School Entrance Examinations begin.
 June 30th.—Public Schools close for the term.

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