

PAGES

MISSING



A RAVEN MOTHER

From a painting by N. Wiesel.

The Educational Review.

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

While the ratepayers sometimes grumble at their school taxes any attempt to decrease the efficiency of the schools is met with a remonstrance by progressive people. A proposal, recently made by a trustee of schools in one of our principal cities to reduce the grades of the high school, was promptly "not considered."

The REVIEW's Supplement Picture for this month represents a good subject for Bird and Arbor Day. The justly angry mother, the nest above, the tearful boy with his bag of plunder tell the story.

Have teachers thought of making a school garden this spring? There are many schools which have grounds sufficient for the purpose.

Teachers may make many useful lessons out of the "Gleanings from the Canadian Forestry Convention," on another page.

The rewards for the rediscovery of the Passenger Pigeon are growing larger, as may be seen from Professor Lochhead's article on another page. Here is a tempting field for some youthful Columbuses.

On the page opposite will be found information about the Rural Summer School which opens in Truro July 12.

Teachers should begin to prepare their school exhibits for the Dominion Exhibition at St. John, N. B., from September 5 to 15. Fuller particulars will be given in the April REVIEW.

Let teachers begin to plan early for Arbor Day: to plant at least a few trees and do it well; to enlist the help of the children and parents; to make fresh the school house and grounds; to have a school entertainment; to see that the flag floats over well kept grounds. This will be a good preparation for Empire Day which follows. Loyalty should begin at home. To have clean, wholesome surroundings is to lay a good foundation for the teaching of patriotism.

The full instructions given to New Brunswick teachers under the head of "Official Notices" on

another page will be read with interest. In the Normal School where a cadet corps has been organized and where military drill and physical training are being vigorously carried on the students are beginning to show good effects by improvement in bodily health, increased vigour and a more erect carriage. With enthusiasm and training the teachers throughout the province will be able to show excellent results from these exercises.

Need of Industrial Schools.

A few weeks ago a little girl, eight years of age, was sentenced in one of our provincial courts to a term in the penitentiary for a petty theft. A sentence of this kind is demoralizing and shocking to the public sense. And yet what was the judge to do under such circumstances where guilt was clearly proved?

There is a great responsibility resting on society concerning children who have a feeble intellect and moral sense, whose habits are vicious because of improper training in the home, and who are brought up amid unwholesome surroundings. The public has a duty towards these children as clearly as it has to those for whom public schools are provided. An industrial institution or reformatory maintained by government and by private benevolence would relieve those who are called upon to administer the law to youthful criminals. Instead of sending them to gaol or the penitentiary to herd with hardened criminals they should be sent to a school where under proper restraints, away from the influence of evil home surroundings and the streets, they would be taught a trade and receive an education to fit them to lead honest and useful lives.

If children of vicious tendencies, from homes where there is little or no parental restraint, could be guided with firm but kindly hands over those years in which they are most susceptible of receiving good impressions, what a service would be rendered to the whole community!

Teachers' Pensions.

Nova Scotia has a fairly liberal pension scheme in operation for its teachers who have been in service for thirty years and upwards, and the New Brunswick government is about to pension the teachers of the province under similar conditions.

This step meets with the approval of the thinking class of people. No one will deny that teachers are insufficiently paid. While the cost of living has greatly increased in recent years, their salaries have not been augmented to any considerable extent. This is not just to a class of people who render a most important service to the public. If teachers had an income that would enable them to live respectably and with comfort, and to put by something from their salaries, they would reject the idea, as many do, of being pensioned. But often they have others dependent upon their scant earnings and then the struggle is a hard one.

It is the duty of all, especially those who live on a salary, to save something for a rainy day or for the time when their power of earning will inevitably grow less. It is a great comfort to have a bank account, however small, and to reflect that it is the product of sacrifice and self-denial. It is not everyone who can save, especially from small earnings. The habit of spending as fast as one earns is a habit that requires a great deal of firmness to resist. But it is firmness and self-denial that help to form character, and to dread anything that approaches dependence.

Technical Schools.

Nova Scotia has been making great strides in technical education during recent years. In addition to the splendid technical college opened last year in Halifax and designed to afford training in scientific and technical subjects, there are evening continuation schools scattered throughout the province, especially in the eastern portions. While the writer was in Sydney some weeks ago he was afforded an opportunity of looking into the work of these schools and he came away impressed with what he saw.

In previous years much money was spent in correspondence schools by those desirous of improving their technical and general knowledge. Now very little money is sent out of the province for this purpose. The technical or evening continuation schools are doing the work, in great part, and doing it better than can be done by the distant correspondence schools. It only remains to perfect this system in its details to make these continuation schools, of which about fifty were open in Nova

Scotia last year, of inestimable service to the young people of that province.

They are continuation schools in the sense that their aim is to help those young men and women whose early educational advantages have been slight, or who have been forced to leave school before gaining sufficient knowledge or mental discipline. They are practically free, for although a small fee or deposit is required on entrance to show that the pupil is in earnest (it may be purely nominal—a note of hand), this is returned to him if he makes a perfect attendance for the term, or a percentage of the deposit paid if he makes but a partial attendance.

Hundreds are availing themselves of these classes,—old men, middle-aged, young men and women. Many are thoroughly in earnest; some in half earnest, some are careless and indifferent, but the stimulus has been applied, and the good influence of these continuation schools is daily helping to transform the idle and indifferent into trained industrious citizens.

How many boys and young men throughout these provinces, too old to go to school, are spending their evenings in idleness or in the dissipation of frivolous or harmful amusements? The opportunity to attend such schools would be a turning point in their lives, Can an educational system be regarded as complete that does not give them such an opportunity?

Summer Schools.

There are two summer schools for the Maritime Provinces. These furnish such excellent courses for our teachers and students that they need not go abroad to make up defects in their scientific education. In fact these schools supply our needs so well that every year constantly increasing groups of earnest students are to be found eagerly seeking the advantages they afford to study the problems of science as applied to our every day work.

The Rural Science School which is now an annual institution conducted by the affiliated Agricultural and Normal Colleges at Truro, has rapidly become an effective influence in agricultural and scientific education in these provinces. On its staff are some of the best scientific and nature-study teachers of Canada; among its pupils are teachers, college students and those wishing to qualify for public school physical drill certificate. On completing the course the student receives a diploma which

entitles him to receive, at least in Nova Scotia, an increased government grant as teacher.

Leading educationists and agriculturists are asking that there be more teaching of agricultural science and nature-study in rural schools. In this they are in line with the people of Germany, Denmark, the United States, and other parts of the world, who are modeling their common school systems so as to give the people a better knowledge of and interest in the various industries. The Rural Summer School at Truro with its excellent staff and equipment of farm, laboratories, and fine agricultural country around, is in a fair way to meet requirements.

The Summer School of Science is an institution which for nearly twenty-five years has been anticipating a closer union educationally and otherwise, between the three provinces. In the course of five years it meets twice in Nova Scotia, twice in New Brunswick and once in P. E. Island, and receives small annual grants from the governments of these provinces. It has done excellent service in giving teachers a wider knowledge and greater appreciation of the geography, scenery and natural resources of our provinces. From its perambulating habit of meeting in a different place each year it has led to a closer association and acquaintance of teachers. Its course is less scientific and its session scarcely more than one-third of that of the school at Truro. If the governments of New Brunswick and Prince Edward Island could offer a few scholarships to teachers to take advantage of the more scientific course at the latter school, it would place the two schools on an equality, so far as government aid is concerned, and give a greater impetus to scientific agricultural education in these two provinces.

The Schools of New Brunswick.

The report of the Chief Superintendent of Education for New Brunswick for the year ending June 30, 1909, is very encouraging in tone and shows a gratifying increase in school attendance in comparison with former years. The report has been prepared by Superintendent Carter, although the work, except the inspectors' reports which cover the whole of the calendar year 1909, was done under the regime of his predecessor, Dr. J. R. Inch.

There was an increase of 39 schools during the term ending December 31, 1908, and 87 during the second term ending June 30, 1909. The increase

in the number of teachers for these terms was 41 and 81 respectively, and of the pupils 2,521 and 1,542. The proportion of the population at school was 1 in 5.34. The percentage of the pupils daily present was for the first term 62.53, and for the second 69.23—the highest in the history of the province. The increase in attendance was greater in the country than in the cities and towns. A small increase in the number of male teachers is noted, though not sufficiently marked to cause hopefulness.

The total number of teachers employed for the first term was 1,944, of whom 250 were males and 1,694 females, and for the second term 1,942; the ratio of males and females being 251 to 1,691, or 1 to about 6.7. The west country still attracts many of our best teachers, and as a consequence the supply in this province is not quite equal to the demand. More local licenses have been granted than is desirable, especially in the French-speaking districts. Better salaries must be paid to attract good teachers, and some districts, notably the City of St. John, are setting an example worthy of imitation by raising the salaries of teachers. "Ratepayers," says Mr. Carter, "are quite willing to pay more for luxuries and modern improvements of all kinds, but are very reluctant to have their tax bills increased, forgetting that education lies at the root of all progress."

The reports of Principal Bridges of the Normal School, of Inspectors and Trustees, of the Director of Manual Training, Mr. T. B. Kidner, of Dr. Hamilton, Supervisor of School Gardens, are all interesting reading, from which extracts might profitably be made if space allowed. The report is adorned with pictures of new school buildings and of manual training and domestic science rooms.

Reports to the Inspectors state that Arbor Day, 1909, was observed by 531 schools; 1387 trees and 504 shrubs were planted on school grounds; 659 flower beds made; and a general clearing up and improvement of the buildings and premises effected.

The Schools of British Columbia.

The report of the Superintendent of Education for British Columbia for the year ending June 30, 1909, shows a percentage of attendance of 69.97, the highest in the history of the public schools of that province. It will be seen that New Brunswick and British Columbia are close competitors in this

respect. A competition between east and west for future years might stimulate teachers and scholars to secure better results in school attendance.

The total enrolment in all the colleges and schools of the Pacific province was 36,227, an increase of 2,913 over that of the previous year. The number of boys was 18,659, of girls 17,568. The grand total days' attendance made by all the pupils enrolled was 4,960,653, an increase of 448,350. The average actual daily attendance was 25,350, an increase of 2,115, and the percentage of attendance as stated above. The enrolment in the branches of McGill University, established at Vancouver and Victoria, was 129,—77 boys and 52 girls. The enrolment in the high school for the year was 1809,—812 boys and 997 girls.

The report is clearly printed on fine tinted paper, and in typographical appearance is superior to what we are accustomed to see in the "blue books" of the Atlantic provinces.

Usage in School Flags.

The Board of Education of New Brunswick has approved and published a general plan for the use and salutation of the flag in New Brunswick Schools. The flag is to be raised on special occasions; which implies that whenever it flies the pupils will know the special reason for displaying it. By following this plan, the raising of the school flag will always be a matter of interest, not only to the pupils, but to others; and anniversaries that might otherwise be overlooked will thus be noticed. A boy should learn to show proper respect to the national flag at all times, and not only when called upon to salute it on the school grounds. For instance, he might be taught that when it is carried past him in parade he should halt or rise, and, unless in military uniform, should stand with head uncovered while it goes by. Every boy should know, too, that it shows a want of due respect to raise the flag before sunrise, or to leave it flying after sunset; and that when it is to be placed at half-mast, it should be raised to the top of the staff and then lowered to place, and raised again to the top of the mast before it is lowered for the night. And he should certainly be told that it is an insult to any flag to place another flag above it on the same staff.

J. V.

Early Earth Movements in Acadia.

BY L. W. BAILEY, LL.D.

In an earlier chapter of this series it was stated that the rocks underlying the City of St. John and there described as representing an old beach, one of the oldest of which we have any exact knowledge (shown to be a beach by the fact of its being composed, like any other beach, of accumulations of sand and mud, in connection with which we find rill marks, rain marks, shrinkage cracks and the like, such as any modern beach displays, and also the remains of shells, Trilobites and other forms of life once tenanted those shores), instead of being now in the horizontal position which such origin implies, are tilted at

there can be little doubt that they are as old as the Cambrian era, possibly somewhat older. They are also of enormous thickness—estimated at from 7,000 to 10,000 feet—and therefore, if of littoral or shore origin, as their nature indicates, show that in order to make their accumulation possible, there must have been a corresponding sinking of the old sea-floor upon which they were deposited. Had the shores been stable the beds could not possibly attain a thickness greater than the depth of waters in which they were laid down, but with that shore and the adjacent sea-bottom slowly subsiding and the deposition continuous, the thickness attained would be limited only by the length of the subsidence and the abundance of supply. The cause of the subsidence is probably to be found



various and sometimes high angles with reference to the horizon. Such a position can have only one explanation. The once horizontal beds have been *uplifted*, and as the strata often incline in opposite directions from a common axis, they have been thrown into folds, sometimes only a few feet or yards in breadth, in other cases upon a much larger scale. They have evidently been subjected to mechanical pressure, and this must have been at right angles to the direction of the folds, just as would be the case with a book or pile of newspapers to which pressure has been applied upon the edges. Such a condition of things is a very general one among the older rocks, and is found in all parts of the world. It finds a fine illustration among the gold bearing rocks of the Atlantic coast of Nova Scotia, where also the folds are upon a scale of great magnitude. These rocks, like those of St. John, are hardened sand and mud beds, and though as yet they have failed to yield any fossils,

in the fact that the earth is a shrinking globe, that, once intensely heated, it has been losing heat through all time and thus constantly tending to contract towards its centre. In a cooling crust, just as in a drying apple, the surface tries to accommodate itself to its diminishing interior, and the only way in which this can be accomplished is by being thrown into folds, in other words into subsiding and relatively elevated ridges. This ridging of the earth's surface is on a large scale represented by the continents and seas, on a smaller scale by mountains and valleys, on a still smaller one by the folds into which, as I have said, nearly all the older rocks have been thrown. In the case of the Alps, a region of gigantic folding, it has been estimated that the strata composing them, if spread out flat, would cover an area more than three times that now occupied by the great chain, and in Nova Scotia a study of the rocks of the Atlantic coast belt, a picture of which is here given,

would lead to a similar result. It would seem that in almost all such cases great accumulation of sediments, with corresponding subsidence, always preceded extensive folding, and further, that as a result of the heat determined by the folding, or perhaps by closer approximation to the earth's heated interior, the buried strata became more or less softened and more or less changed in character, assuming more or less of a crystalline character and having developed in them crystalline minerals, such as garnet, tourmaline and the like. Such changes are known as *metamorphism* and nearly all very ancient rocks are metamorphic rocks, *i. e.*, rocks which have been altered or metamorphosed from their original condition. If the conditions are not favorable the rock may be only hardened, as when sandstones are converted into quartzites—the “whin” of the Nova Scotia gold miners—or show a tendency to split into parallel slabs transverse to the bedding, as when shales or ordinary mud beds are turned into roofing slates, or it may make the whole mass crystalline, as in glistening mica schists, full of garnets and other minerals, such as can hardly fail to attract the attention of the traveller about Yarmouth, Lockeport, Shelburne and other points of the Nova Scotia coast. When the metamorphism is extreme *granite* is the result, and not only do we find great masses of the latter in the Nerepis and other hills of New Brunswick, but also forming the core of the Cobequids and the backbone as it were of the Nova Scotian peninsula to the southwest of Halifax, the so called South Mountains. It will be readily understood also that in the case of upward bends, known to geologists as anticlines (*anti* and *clino*, *i. e.*, inclining in opposite directions) the top of the folds would represent the lines of maximum tension. There, if anywhere, the enormous strain would produce fracture, the severed beds would settle independently, and what are known as *Faults* would be produced. These faults, like the folds, are often of enormous extent, sometimes thousands of feet, and the smaller ones occur in great numbers. They are to be recognized by the want of correspondence in the rocks on either side of the dislocation; and having been originally empty spaces, into these were gathered the materials drawn by water or hot vapors from the surrounding beds, thus originating *Veins*. These veins often contain metallic minerals, ores of gold, zinc, lead or copper, and therefore are of

great interest to the miner. At thousands of points in the so called gold belt of Nova Scotia, veins of quartz, carrying gold and other minerals, are found, and from these have been obtained an amount of the first named metal fluctuating yearly between \$200,000, and \$268,000. Folds and faults are also of interest in other ways. They have had a marked bearing upon the determination of the physical features of the region in which they occur—the production of hills and valleys, the determination of water-sheds, the existence of lakes, the direction and character of streams and rivers. They also afford a means by which we can determine, at least relatively if not in definite years, the *time of mountain uplifts* or the elevation or depression of the land surface in relation to that of the ocean. For evidently if a horizontal or nearly horizontal sea-bottom is so squeezed that its deposits become crumpled and ridged as the result of lateral pressure, and then, after this has ceased for a time to operate, later beds are thrown down on the now folded and uneven surface, these will again be horizontal and will not conform in position to those on which they rest. This is what geologists call “unconformability,” and in any such case it is evident that the folding and faulting must have been subsequent in time to the accumulation of the folded beds but prior to that of the non-folded or horizontal beds which now rest unconformably upon them. Moreover, though earth movements, usually the cause of earthquakes, are probably at all times affecting the crust of the globe, it would seem that they were more intensive at certain periods than at others, and determining, as they naturally did, changes in the depths of waters, changes in the direction of marine currents, changes in the climate both of land and sea, they affected also the living creatures subjected to these influences, determining migrations of plants and animals, changes in their character, or, as happened in many instances the complete removal from the earth of entire groups of organic forms. Thus by the study of the physical revolutions of the earth and the concomitant changes in the character of its life, it becomes possible to divide the whole geological record into a series of chapters, or the earth's history into a series of ages, periods or epochs, each having its own distinctive features, and to determine the relative age of rocks wherever they may be found.

It only remains for us now, in connection with this subject, to refer to a few of the more important of these revolutions or times of physical disturbance, so far as they have been determining factors in the evolution of Acadia.

The first great period of disturbance was that which immediately preceded the Cambrian era and may therefore be called the Pre-Cambrian revolution. It would seem to have been the most important in the whole range of geological history, for it would appear to have been well nigh universal. Evidences of it are found in all continents and it was through its operations that the continents first attained stability and form. It was then that in America was uplifted the great tract of land which forms the axis of this great Canada of ours, the region north of the St. Lawrence and the Great Lakes, and which, as described in an earlier chapter, was the nucleus of this continent and the centre with reference to which all its future growth took place. It was then also that the Pre-Cambrian ridges of New Brunswick and Nova Scotia, already described, came into being, it produced the first land in Acadia, the islands, like those about St. John and in Cape Breton, around which were deposited the sands and clays of the Cambrian beach upon which we gathered the first forms of life in our last chapter. Through the physical and chemical changes which then took place originated those vast stores of mineral wealth which have made the Pre-Cambrian areas of Canada among the most remarkable in the world.

A second era of disturbance occurred between what are known as the Lower and Upper Silurian epochs, of which we shall learn more hereafter. It was especially important along the line of the St. Lawrence valley, and the Green Mountains of Vermont were one of its results, but its influence in Acadia is less definitely known.

A third, and one of great importance so far as Acadia is concerned, took place during what is known as the Devonian age, to be considered later, and is sometimes called the "Devonian Revolution." Among its results were the formation in New Brunswick of the Nerepis hills and the great granite range extending, though interruptedly, from the Cheputnecticook Lakes, near Vanceboro, to Bathurst, and in Nova Scotia, the production of the Cobequids and the South Mountains.

Fourthly, and lastly, there was a great series of

movements at the close of the Coal Era. This did not greatly affect New Brunswick, whose coal-bearing strata still lie, for the most part, nearly horizontal, but in Nova Scotia was the means of throwing these same strata into basin forms and of making the otherwise deeply buried coal beds accessible to the miner.

We shall have occasion to refer to the above revolutions and their consequences more fully in later contributions.

Nature Study Class.

BY WM. H. MOORE.

Our Eastern Thrushes.

Of the twenty-two species of thrush that are found in Canada only eight are met with in the Maritime Provinces. Some of the characteristics of this family of birds (*Turdidæ*) are: wing of ten primaries, the outer being very short; the legs medium length, the tarsus generally covered by one long scale in front, known as booted; tail of twelve feathers, about equal or shorter than the wing. Many colours are shown in the plumage of the Canadian representatives; and all our Maritime birds are sweet vocalists except the bluebird whose voice is rather uncultivated as compared with some of the brownish coloured thrushes.

Soon after this article is printed we may be on the lookout for migrating thrushes. The season has much to do with the movements of these birds. I shall not attempt to treat of these birds according to the dates of their arrivals. That would be very misleading as they do not come in regular order year after year. I will treat of them as they are classed by the American Ornithologists Union.

The Wilson's thrush or veery is distributed over the three provinces, Magdalene Islands, and as far west as western Ontario. They arrive here from the south during May and remain until September. I have found this thrush only along waterways of quite a size, such as streams of sixty feet and upwards in breadth, bordered with intervals with a goodly growth of willows and alders. The nest is placed on or near the ground and is composed of grasses, leaves, etc., and lined with rootlets. Three or four bluish-green eggs are laid. The call note is a low "twuck," but the male has a splendid sweet song which he pours forth ungrudgingly. Morning and evening and through cloudy days during the nesting season it is free to the passer-by.

The grey-cheeked thrush has been observed on the Magdalene Islands, and ought also to be observed on the mainland, at least sparingly during migrations. Bicknell's thrush, a variety of the grey-cheeked species, has been recorded from Yarmouth County, N. S.

The olive-backed thrush covers much the same range as the Wilson's, but is a bird of the forests instead of the riversides. This is a late arrival and probably the last of the eastern species to come north. These birds build pretty nests of twigs, leaf skeletons and moss, generally placed high in conifers and well out on the limb on which it is placed. Three or four greenish-blue eggs, spotted with dark markings, are laid usually about the middle of June. The song of the male is excellent and quite like that of the Wilson's thrush, yet there is a difference to one acquainted with both.

The hermit thrush comes north in April about the time the waterways are becoming cleared of ice and when the snow is about all off. They are probably the most abundant of our thrushes. Their habitat is the forests and bush-grown clearings. They build their nests on or near the ground well hidden beside some stump or rock or under the limbs of a small conifer.* Three or four greenish-blue eggs are laid and possibly two broods are reared some seasons.

The song of the hermit thrush is much praised by poetic nature students, as indeed it should be, for such tones are enough to make anyone give a thought to the singer, and wish to know more about the habits of this modestly coloured bird, commonly known as the swamp robin.

The American robin is the thrush with which most people are acquainted, and is due to arrive here from late March and remain until well on in November. A few have been known to stay in New Brunswick throughout the whole year. Robins are never at a loss for a nesting site. They build about human habitations, both inside and outside, in trees and bushes of various kinds, on stumps and rail fences. Grass and roots are used in the construction of their nests. From three to five greenish-blue eggs are laid and as many as four broods have been reared in one nest in a single season. The nesting season begins as early as late April and

*At Ingleside a few years ago a hermit thrush built its nest close by a path amid a mass of rock fern covering a boulder. So perfectly did its surroundings harmonize with the plumage of the bird that one always had to look closely to discover the nest when the bird was on.—EDITOR.

continues until the last of August or first of September.

The Greenland wheatear has been recorded by Mr. M. Chamberlain from Indian Island, N. B. Mr. Knight in his "Birds of Maine" says, "There are no Maine records of the wheatear that will sustain investigation."

The bluebird, the most brightly coloured thrush of the east, as described by John Burrows, has "the blue of the sky on his back, the red of the earth on his breast." The bluebird is most irregular in its spring migrations, the first being seen at any time from March until late May. They nest in hollow fence poles, bird houses and holes in trees. Like the robin they lay from three to five eggs but in colour lighter than those of the robin. The period of incubation varies greatly with the eggs of this species according to the time of year. In April eighteen days, and in June six days less were occupied in incubating. The early hatched birds also required more time in the nest than did those hatched later.

The song of the bluebird is insignificant in comparison with that of our other thrushes, consisting of a mellow three syllable call, with sometimes a few extra notes or twitterings. The bluebirds leave for the south about the middle of October, and like the other thrushes are more or less gregarious during the autumn migration.

March Nature Observations.

When does spring begin? What causes the change of seasons?

At what date during March are the days and nights equal? At what other time during the year are they of equal length?

Note time of sunrise and sunset every day; number of minutes' increase in the length of each day. How long do the days continue to increase in length?

When is the longest day of the year?

What tree-buds are swelling?

Secure twigs of trees growing about. Compare buds with regard to size, shape, color, texture. Note how protected.

Of what use is sap to the trees?

Describe the farming, lumbering, and maple sugar industries.

What animals are preparing to leave their winter quarters?

Describe the winter homes of bears, squirrels, turtles, frogs, and other well-known animals found in this country.

What are the earliest insects to be seen?

What are the earliest birds to return? Where have they spent the winter?

Correct English in the Lower Grades.—I.

BY ELEANOR ROBINSON.

The February number of the REVIEW contained a request that this journal would emphasize the importance of right methods in teaching English, especially from grade eight onward. The REVIEW fully recognizes the necessity for emphasizing this subject. It is undoubtedly true that "very few of the graduates of our schools go out with the ability to express themselves correctly either in speaking or writing their own language." But, in the writer's opinion, the defect in our teaching lies further back in the course than the eighth grade.

Bad habits of speech, if persisted in until a child's twelfth or fourteenth year, cannot be broken without more time and labour than the teacher can give; whereas these same faults, if attacked while a child is, as it were, still learning to speak, can be overcome with comparative ease.

Children of eight or nine will, moreover, write fluently and with pleasure upon any subject in which they are interested, and can be trained to correctness with extraordinarily little trouble. Constant practice will enable them to go on writing better and better as they get more knowledge and a bigger vocabulary. They need never come to the stage where boys and girls in their teens, not thus practised, are often found, when self-consciousness and awkwardness make them afraid to try to write, and render their attempts almost incredibly poor. In short, writing, like skating and dancing, must be learned before people are afraid either of falling or of making themselves ridiculous.

Because of the confidence of the writer that constant drill in correct expression should be begun as early as possible, the following set of papers is planned to meet the needs of teachers from the time that their pupils can read easy passages (*e. g.* the Second Reader) and plain script, and write short sentences without difficulty. No attempt will be made to deal with reading or the study of literature. While the two subjects should be made supplementary, methods of teaching, intelligent appreciation, and correct expression, need separate treatment.

The commonest faults that the teacher of English finds in children entering on their teens, are;—bad habits of speech; an *unduly* limited vocabulary; and an almost total lack of power to express in writing even simple matters of their

own knowledge. We shall deal first with bad habits of speech.

Speaking generally, no amount of practice in writing exercises, or learning rules of grammar, will cure faults of speech. Nor does nagging do much good, especially with younger children. The story of the little boy who wrote "Dear Teacher, I have wrote 'I have written' 100 times, and I have went home," is probably not much exaggerated.

Take one fault at a time. Begin with the one that is most glaring in your schoolroom. Tell the children about it, explaining the reason for the correct form, *if it is one that they can understand and apply for themselves at their present stage; e. g.* A child will readily see that "May I?" means "Will you let me?" and "Can I?" means "Am I able?" An answer such as "I really don't know. Can you?" to a question like "Can I sharpen my pencil?" will drive the lesson home. But the instruction that "shall" is used in the first person to express futurity, and "will" to express determination, must be postponed until formal grammar is studied, although the proper use should be taught by drilling.

The correct form having been suggested, and where possible, explained, an oral drill, with black-board work, should be given, and followed up by seat work on the same point. *Keep the wrong expression out of sight and hearing as much as possible.*

Simultaneous repetition is very useful. A class may be set to repeat, all together, a form such as "I don't, you don't, he doesn't, she doesn't," a certain number of times, or for a certain number of minutes, or, as an old teacher used to say "until further notice."

Enlist the children's interests on the side of conquering the bad habit, and this by reward rather than by punishment. In a school known to the writer, a class of little girls, after weeks of trying, have just obtained the promised reward—having a story read to them—for not once saying "Will I?" in five consecutive days. The interest has been keen, and the victory over that particular fault is probably final. If home influence can be brought to bear, so much the better. And by the way, it is as well to make sure that the children understand that the correct expression is for general use, and not merely a school convention, like standing when the bell rings, or folding papers in a particular way.

As for what mistakes to correct, every teacher knows best where her own class is weak; but perhaps every one of us has to struggle more or less against the misuse of the past tense and the past participle of strong verbs. Suppose your children say "I haven't saw," "I could have went," etc. Begin the lesson with a conversation. Ask such questions as the following, requiring a complete sentence for each answer:—"What do you see now? What did you see before school? where does he go every day? Where did he go yesterday? Where has she just gone?" etc. Put on the board the forms: "I see, I saw, I have seen, etc., and below, the following sentences:

I — it now.

I — it yesterday.

I — just — it.

He — there everyday.

He — there yesterday.

He — just — there.

Have the children dictate to you the proper words to fill the blanks. Then drill steadily, separately and simultaneously, on these sentences, first with the verbs before them, then with verbs erased.

The seat work may be varied to suit different stages. The more advanced pupils may write sentences of their own to show the correct use of the forms. Slower ones should have hektographed copies of sentences like those on the board, and either fill in the blanks with the proper verb, on the copy given, or copy the sentences, filling in the spaces, on their own paper.

For more backward children still, or where it is not advisable to set written work, use the following device. Hektograph the sentences on heavy paper and cut them up into separate words. (The covers of old exercise books are convenient for this.) Give each child a set of these in an envelope, and let him arrange the sentences on his desk.

Two or more regular lessons may be necessary on the same verbs, or it may be enough to review a little when taking up different ones. If any one mistake is conspicuously prevalent, try, by some such incentive as I have mentioned, and by appealing to the children's ambition, to banish it from the room.

Other common errors that should be attacked are: "There is" or "there's" for "there are." "He

don't" for "he doesn't." "I ain't," "they ain't." The difference between *shall* and *will*, *may* and *can*, can be taught as I have said, very early, by drilling. But any treatment of *lie* and *lay*, *sit* and *set*, should be postponed until there is understanding of a grammatical object, as also, I think, should lessons on the all too common mistake "She called Tom and I." But of course, the correct form should always be given and repeated, when a mistake is noticed.

Useful suggestions and drill exercises will be found in the following books:

"The Mother Tongue." Book I. Arnold & Kittredge. Ginn & Co., Boston. 50 cents. "Elementary English Composition." Huntingdon. The Macmillan Co., Toronto. "Language Lessons from Literature." Book I. Cooley. Houghton, Mifflin & Co., Boston.

DIRECTIONS FOR MAKING AND USING A HEKTOGRAPH.

A recipe for a hektograph was given only a short time ago in the REVIEW; but rather more detailed directions are offered, in hopes of inducing every teacher to possess herself or himself of this most useful tool.

Five ounces commercial gelatine; 24 ounces (a little more than a pint) glycerine; 18 ounces (a little less than a pint) water. Break up the gelatine and drop into boiling water, stirring constantly, as it easily burns. When entirely dissolved, add the glycerine. Boil for five minutes after the mixture has come to boiling point. Pour off into a pan, breaking any bubbles that may form.

Any shallow tin baking pan will do. This recipe makes a good filling for a pan 10x12. A cover is not necessary, though useful to keep out dust. Both ingredients may be had from the wholesale drug dealers for forty cents a pound, but not less than a pound will be sold. The ink is most important. The only satisfactory ink, in the writer's experience, is the Simplex, made by Lawton & Co., 30 Vesey street, New York. For the first copy, a fairly good quality of paper is desirable; for the duplicates, grocer's white paper, or any of the cheapest paper—un-glazed—obtainable, does very well. When the jelly is perfectly cold and firm it is ready for use. Write copy with a clean pen, and when dry lay it on the jelly, pressing it on evenly and closely. Leave for about two minutes, or longer if more than twenty copies are required. The copies are made by pressing the paper on the surface, removing almost at once. As many as one hundred copies can be taken from one impression. As soon as the copies have been taken off wash the surface with warm water and a sponge. Care should be taken not to use very hot water. All traces of ink need not be removed, unless the jelly is to be used again at once.

Bees don't care about the snow!

I can tell you why that's so:

Once I caught a little bee

Who was much too warm for me!

—Little Folk Lyrics.

More about the Passenger Pigeon.**Apt to be Mistaken for the Mourning Dove.****\$1,000 AWARD FOR FIRST DISCOVERY.**

W. LOCHHEAD, Macdonald College.

My last communication in the REVIEW regarding the offer of an award of \$300 for the discovery of a pair of nesting passenger pigeons, brought me letters from persons residing in British Columbia, Manitoba, Ontario and Quebec. All the correspondents stated that they had recently seen passenger pigeons and that they would have little difficulty in finding a nesting pair. These reports lead me to believe that the wild dove observed is, in most cases at any rate, the mourning dove, and not the passenger pigeon.

Let me make a few comparisons between these two species of pigeons. (1). The passenger pigeon is much larger, its length being sixteen inches, that of the mourning dove under twelve inches; (2). The colour of the rump of the passenger pigeon is a bluish-slate, that of the dove olive grayish brown; (3). The mourning dove has a small black mark below the ear; (4). The flight of the passenger is noiseless, that of the mourning dove is accompanied by a whistling sound of wings; (5). The lower belly of the passenger pigeon is white in both sexes, that of the mourning dove is cream-buff; (6). The notes of the passenger pigeon are a series of coo-coos, much faster and less plaintive than those of the mourning dove; and (7). Passenger pigeons always build their frail nest of sticks on the branches of trees, and seldom or never on or near the ground, as is the habit of the mourning dove. Both birds possess tails that are pointed and widely tipped with white or grayish-white.

When passenger pigeons were numerous they nested in large colonies and migrated in immense crowds, but now it is believed that on account of the terrific destruction of these birds a generation or so ago they now (if any exist) nest in isolated pairs and perhaps in regions distant from their former range. Mourning doves are less gregarious and migratory. In winter, when food becomes scarce, they approach the farm and feed among the poultry with the sparrows and other winter birds, and if undisturbed they appear as gentle as domestic doves. They may have three or four

broods in a season. Southern Canada seems to be the northernmost limit of their range.

It is a matter for congratulation that the most influential papers of Canada are taking much interest in the plan proposed by Colonel Kuser and Dr. Hodge to save the passenger pigeon. School journals are also asking their teacher readers to interest the scholars under their charge in the search for the bird. For the coming spring and summer no better Nature Study could be undertaken by teachers than the study of birds, including a quest for the passenger pigeon.

Dr. Hodge reports that local volunteer offers of awards of \$100 each have been received for Michigan, New York, Massachusetts, Pennsylvania, New Jersey, Connecticut and Illinois. Who will be the first to offer awards for our Canadian provinces? Mr. John E. Thayer most generously offers five awards of \$100 each for the five most likely States or Canadian Provinces from which no local offers have been secured by April 15th. More than this, Mr. John P. Childs adds \$700 to Colonel Kuser's award for first nesting pair, and also offers \$500 for subsequent finds. So the person who first makes the discovery will receive \$1,000 and the local award as well.

Such an offer ought to stir every school boy and girl this summer to roam the woods in search of the passenger pigeon.

Waiting to Grow.

Little white snowdrop, just waking up,
Violet, daisy, and sweet buttercup!
Think of the flowers that are under the snow,
Waiting to grow!

And think what hosts of queer little seeds—
Of flowers and mosses, and ferns and weeds—
Are under the leaves and under the snow,
Waiting to grow!

Think of the roots getting ready to sprout,
Reaching their slender brown fingers about
Under the ice and the leaves and the snow,
Waiting to grow!

Only a month or a few weeks more,
Will they have to wait behind that door;
Listen and watch for they are below—
Waiting to grow!

Nothing so small or hidden so well,
That God will not find it, and very soon tell
His sun where to shine, and His rain where to go,
To help them to grow!

—Sel.

Tree Planting.

By PERCY J. SHAW, Agricultural College, Truro, N. S.

The chief object of Arbor Day is to interest the children in trees and to impress upon their minds the value of forests to the welfare of the nation. To this end they should be led to discover something about forests by their own efforts, and if possible they should have something to do with trees. Much of educational value, and incidentally of useful information, may be taught in connection with the planting of a few trees on Arbor Day.

Some time before Arbor Day arrives, attention should be called to the importance of forests as a source of wood which is used in so many ways, and as a reservoir for water which it catches when there is an abundance, and gives out gradually to the streams later when there otherwise would be a shortage. The special conditions of the forest should be noticed, such as the canopy, the carpet and the atmosphere of its own. Its use as a home for birds and other wild animals might also be pointed out.

Attention should be drawn to the planting of trees around houses, and the object of such planting. Trees are planted here to please the eye or to afford protection from the hot sun in summer or cold winds in winter. The deciduous trees, as maple, birch, elm, ash, poplar, etc., are chiefly used for shade, and the evergreens as spruce and pine for shelter. A good arrangement of these trees is one which helps to form a picture with the building as the central object and the trees forming the background and framework. In the Arbor Day planting the trees will naturally follow the boundaries of the school ground, and be in straight lines if these boundaries are straight. But if shrubbery is planted, three rules of landscape art are useful. Keep open centres, plant in masses, and avoid straight lines. Flowers will look well around the borders or the basement of the building, but should not be put in formal beds in the centre of the lawn.

Most trees for Arbor Day planting are obtained from the forest, usually they are selected and dug by the older boys of the school. Notice and account for the difference between the forest tree and the same species growing in the open. In which case is the character of the tree best shown? The size of maples usually selected for planting is from one to one and a half inches in diameter

at the butt, and from eight to twelve feet in height if they have been crowded in their growth. A good size for evergreens is from eighteen to twenty-four inches in height.

The trees should be dug with care, leaving the main roots eight or ten inches in length and without breaking or splitting them from the trunk. The roots should not be allowed to dry. This can be prevented by covering them with damp bags or with moist sphagnum moss as the trees are dug. If the trees are not to be planted for a day or two after being dug they should be heeled-in, or the roots well covered with fresh earth, near the school ground until the time of planting. The same care should be exercised to keep the roots from drying up when the trees are being planted as at the time when they were dug.

Before planting, the tree should be pruned by shortening any long roots to about the same length as the others, cutting the ends from below upward and outward, and leaving smooth cut surfaces, and by shortening the main trunk, if a maple, to six or eight feet in length, and taking off any large branches, leaving a few small twigs, if there are any, to help form a new top.

The reason for taking off so much of the top may be readily understood when it is borne in mind that over half of the root system of the tree has been lost in the transplanting, and that the part which is left has not yet formed a union with the soil. New fibrous roots must be formed before the root system can take up nourishment from the soil, and even then it cannot push out the same number of buds as the original roots could. Hence the top must be cut back to balance the roots.

The hole should be dug somewhat larger than is required to admit the roots, and the tree should be planted two to three inches deeper than it stood in the forest. This extra digging loosens and pulverizes the soil in the vicinity of the new roots and favors their development. When a tree is planted a little deeper than it stood before, the root system is placed in moister soil, but it should not be planted too deep. Which soil is moister, the forest soil where the tree grew or the soil of the school ground? Why?

In digging a hole for a fruit tree it is usual to place the top soil in one pile and the subsoil in another. Then in replacing it a shovelful or two of surface soil is first put in the bottom and the

remainder is filled in around the roots, the subsoil being put in last. What is the object of this?

The fine earth should be well worked in around the roots with the hands if necessary, and when the hole is nearly filled the earth should be tramped down, but not made too hard. An inch or two of loose earth should be placed on top. It is not necessary to water the trees when they are planted, but it is a good plan to mulch them with straw, leaves, chip dirt, or any similar material which may be available.

What is the object of tramping the earth around the roots? Of putting loose earth over this? Of using a mulch? Why do gardeners make the earth firm over a row of seeds? Why do they stir the surface soil in the garden rather than water their plants? Plan some experiments which the pupils may perform with chalk boxes of soil and scales to answer these questions.

If the tree planting is done as it may be, it will lead to experiment observation and reasoning, and incidentally give the pupils some useful information.

A Word Game.

The following is a little device that has been found very helpful in teaching the correct use of certain words. Take for example *there—their*. Make two large circles on the board and call them forts. In one circle write the word *there* and in the other circle the word *their*.

Have the pupils give sentences using one or these words or both, then pass to the blackboard and put a mark in the circle where the word is found. If the pupil uses both, the mark must be placed in the circle where the word is found that is first used in the sentence, for instance: *Their hats are over there*. Each fort receives a mark but the circle marked *their* receives the mark first. Each mark represents a man, and the children become intensely interested for they are anxious to know which fort will have the most men. Have on a sideboard an oblong which will represent a prison or perhaps a hospital for the wounded men, which means the errors.

Any word may be used with the same results.—*Primary Education*.

There was a little schoolma'am
Who had this curious way
Of drilling in subtraction
On every stormy day—

"Let's all subtract unpleasant things,
Like doleful dumps and pain,
And then," said she, "you'll gladly see
That pleasant things remain."

—*St. Nicholas*.

Gleanings from the Canadian Forestry Convention.

Fredericton, February 23, 24.

By G. U. HAY.

The protection of forests means the preservation of agriculture, fish, birds, game, and an equable flow of streams.

The forest is the great play-ground of the people, where the tired may restore their vigour, where the sick may be made well and where sufferers from tuberculosis may be cured.

The timber supply of the United States at the rate at which it is now being used will last twenty-five or thirty years. If at the end of that time they have to depend on Canada, the supply from our country would serve but for seven years.

It is a mistake to suppose that Canada's forest wealth is either great or inexhaustible. Outside of British Columbia, and the eastern provinces there are few forest-producing areas.

If forests at the sources of rivers are cut down the tributary streams become great torrents in the freshet season, carrying away fertile soil in the mad rush of waters. In the summer season these streams are either dry or scarcely navigable.

Unless a permanent forest reserve is established on the eastern slope of the Rocky Mountains to protect the head waters of the rivers that flow through the provinces of Alberta and Saskatchewan, the fertility of the soil in these provinces will be greatly lessened.

Destructive floods and corresponding dried up water courses are not confined to eastern countries. Such conditions are appearing in the United States and Canada. The country along the Grand river, Ontario, is but one example of the devastation and ruin that may be caused by cutting down the forests at the sources of our rivers. Instances without number, surely approaching this state of things, may be seen everywhere throughout the Maritime Provinces.

More lumber has been destroyed by fire than by the axe. One speaker from Quebec stated his belief that the destruction in that province by fire had been *ten times* greater. Probably the latter estimate is nearer the truth, when we consider the permanent loss of soil, increase of tree weeds, etc., caused by great forest fires.

The white pine as a timber tree is gone, the tamarack is gone, and the spruce is going.

The best place for a school of forestry is in the woods. Set aside at least 1,000 acres for the purpose and train the students on the ground. This is a practical idea worthy of consideration. Harvard University has such a school.

In Nova Scotia no settler is allowed to set fire to clear his land without obtaining leave from the fire-ranger of his district.

In rare cases, it is said that the sun shining on glass, trees rubbing together, lightning unaccompanied by rain have caused disastrous forest fires.

The frequent causes of forest fires are from the carelessness of settlers in setting fires, from fishermen and campers-out, from burning over blueberry barrens, and through sparks from locomotives.

Railways should use electric power in running through forest-bound regions. Sufficient power may be generated from the Grand Falls, N. B., to run the Grand Trunk Pacific trains from the seaboard to Quebec City. What more reasonable project could there be than to use our water powers for the protection of our forests?

Some railway corporations are alive to the importance of fighting fires and protecting our forests, others are not. A double force of men should be kept along the forest bound portions of railway tracks.

Norway maintains a large number of men for fighting fires. In summer her soldiers are distributed over the country for this purpose. (Could not Canadian soldiers be scattered throughout the forest areas of Canada to fight fires? It would benefit the country and themselves).

Birds have been the preservers of our forests from time immemorial in keeping down insects, and in pruning the trees.

The red spruce, not the black spruce, is our timber tree. The latter is a slender variety growing in swamps, with its branches clustered chiefly near the top.

Canada owns forty per cent. of the water power of the earth.

The average timber trees of our forests require a hundred years to make a diameter of a foot or more at the base.

White pine was once so abundant on the Miramichi that the banks of that river and its tributaries were fringed to the water's edge with this noble tree.

All the mature trees of our forests ought to be utilized at once for lumber.

Tree plantings in open grounds not only serve for ornamental purposes but they also protect the soil, increase its moisture and its covering of snow, and act as wind breaks.

In Germany no tree is allowed to be cut without having upon it the mark of the chief forester or his agent. There is considerable difference between this and the license allowed to tree-cutters in this country.

Cutting pulpwood is beneficial to forests under restrictions which allow using tops, defective trees and thinning out thick undergrowths.

Settlers should not be allowed to take up lands suitable only for forest growth. In Nova Scotia and Ontario such lands are now being gradually bought up by the government and replanted with trees, or the young growth upon them cared for and protected.

In setting fire to a clearing burn *against* the wind not with it.

In planting trees on large areas it has been found useful to scatter the seeds on the snow; also for the sower in walking along to stir the ground with his foot, drop the seed, cover it slightly with earth, and press down firmly.

When Father Takes me for a Walk.

When father takes me for a walk
It makes me glad all day,
He puts his hand in mine and says,
"Now, captain, lead the way."

I take him to the chipmunk's hole,
To ponds where fish are thick;
And where the big boys dig for bait,
He whittles me a stick,

And makes a willow whistle, too,
That we take turns to blow.
We scatter petals in the brook
And wonder where they go.

Then, when we're tired, we start for home
And talk of lots of things—
Why mother has such cuddly ways,
Why birds and bees have wings.

And father talks of business, too
And asks me my advice.
Now, wouldn't you, if you were there,
Think walks like that are nice?

—The Young Idea.

Talks for Arbor Day.

Teachers may begin to arouse an interest in Arbor Day by giving short talks on our native trees and the uses of the different kinds of wood. The pupils, if encouraged to make inquiries in their homes and through the neighborhood, will help to make these lessons interesting, and they will feel that they have a share in the work.

What are the uses of the leaf? The leaf has been compared to a mill where all the raw material obtained from the soil and the air are changed into plant food. The sunlight is the power; the leaf-green in the cells is the machinery; the crude sap and carbon dioxide the raw materials; starch, sugar and other organic substances are the manufactured products; oxygen and water vapour are waste products. This mill (in the leaves of grass, grain, trees and other plants) is doing the world's work in providing food, not only for plants but for man and other animals.

Essays and Stories for Arbor Day.

Tell the story of a tree from the time the seed is planted until it grows to be a great tall tree with branches. Note the difference in its branches if it grows in the forest with many others, how much more useful for lumber it is if all the lower branches have died for want of light when they were young.

Let the pupils write stories of beech-nutting days; rambles in the forest; camping out in the woods; visit to a maple-sugar camp; excursion to a lumber camp in winter; why the old settlers held the tree as an enemy; why the beech has been described as the "best dressed" tree of the woods; why the white birch is called the "Lady of the Woods;" and many other like topics will present themselves to the teacher who thinks and plans.

Drawings for Arbor Day.

Many of the parts of evergreen and deciduous trees are good subjects for free-hand drawing: Beginners may draw the leaf-clusters of the different pines; small twigs of hemlock, cedar, spruce or fir; cones of the different evergreens and the seeds if any can be found; twigs of alder, birch, willow and the arrangement of buds and catkins upon them. These are easily drawn, and if done as true to nature as possible will familiarize pupils with the characters and difference in our trees.

What Trees to Plant.

Do not select a tree from the forest or thick woods for planting on Arbor Day, but rather from open grounds or pasture lands. The reason is obvious; a tree accustomed to the shade will not readily grow in the open. In transplanting a tree keep it in the same relative position. Tie a bit of string on a branch facing the south before removing it, and that will remind the planter to put it in the same position in which it has been accustomed to receive its light.

Red maple trees have been the ones most commonly planted on school grounds in years past. They have not grown well because this tree is usually of slow growth when transplanted and does not recover its vigour as quickly as the rock or silver-leaved maple. The latter grows quickly especially on moist rich ground.

The white ash, black ash and green ash are trees that will grow readily if the soil be moderately good and not too dry. The elm is a tree that grows rapidly if the roots can obtain abundant moisture. The Juneberry (Amelanchier) and the mountain ash are showy small trees in their blossoms, leaves and fruit. They attract the birds. The poplars and willows are ready growers, the latter especially as they may be grown from slips or cuttings. The poplars have a bad habit of spreading from underground runners. The silver-leaf poplar (abele) is a quick-growing tree with handsome foliage and its habit of spreading is not to be feared—on school grounds.

Plant small trees with good roots, not tall trees from the forest, that will be mistaken for fence stakes on the school grounds in after years.

Three Rabbits.

Three little rabbits sat up in a row,
Three little long-eared rabbits, you know;
Such funny wee rabbits you never did see,
And they said with their pink eyes turned toward me:

"We like to have fun, we do, yes, we do;
We jump and we skip and we run fast, too,
But *you*, oh, you naughty, you cruel man,
You just try to shoot us whenever you can.

We never have done you the least bit of harm,
We bite off the weeds on your big, broad farm;
We never have hurt you in any way,
So then do not shoot us, we pray, we pray."

—Sel.

The Children's Page.

RECITATIONS WITH ACTIONS.

Jack Frost.

- (1) Jack Frost peeped in at the window
- (2) One cold, cold winter day,
- (3) He wanted to pinch the fingers
- (4) And nose of little May.
- (5) But May was eating her breakfast
Of hot new milk and bread,
- (6) So he said, "I must wait and catch her
- (7) When she comes outside instead."

Jack Frost waited in the garden

- (8) Till May came dancing along,
- (9) Wrapped in her furs so warmly,
And singing a little song.
- (10) And she bounded along so lightly,
And never once had a fall,
- (11) And smiled in his face so brightly,
- (12) Jack Frost could not catch her at all.

- (1) Make two circles by joining each thumb and forefinger; place these around the eyes and peep through them.
- (2) Cross the arms over the chest, and shrug the shoulders as if cold.
- (3) Show these.
- (4) Point to this.
- (5) Stand in position.
- (6) Raise the forefinger as if to emphasize what is said.
- (7) Point to the outside.
- (8) Extend the hands in front, droop them, and move them quickly to and fro.
- (9) Stroke jackets and pinafores with both hands.
- (10) Repeat action 8.
- (11) Look up and smile.
- (12) Shake the head and look pleased.

A Nest in a Pocket.

- (1) A little bird went to and fro
Once in the nesting season,
And sought for shelter high and low,
Until, for some queer reason,
She flew into a granary.
 - (2) Where, on a nail suspended,
The farmer's coat she chanced to see;
And there her search was ended.
- The granary was in a loft,
Where not a creature met her;
- (3) The coat had hollows deep and soft—
Could anything be better?
 - (4) And where it hung, how safe it was,
Without a breeze to rock it!
Come, little busy beak and claws,
Build quick inside the pocket!
 - (5) Three speckled eggs soon warmly lay
Beneath the happy sitter;
Three little birds—O joy!—one day
Began to chirp and twitter.
Until—ah, can you guess the tale?
The farmer came one morning,
 - (6) And took his coat down from the nail
Without a word of warning!

- (7) He put the coat back carefully:
- (8) "I guess I have another;
So don't you be afraid of me,
You bright-eyed little mother.
I know just how you feel, poor thing,
For I have youngsters, bless you!
There—stop your foolish fluttering—
Nobody shall distress you."

- (1) Imitate fluttering by moving the raised hands.
- (2) Point upwards.
- (3) Dip hands into folds of the dress or into pockets.
- (4) Shake the head, and sway the hand backwards and forwards.
- (5) Show three fingers.
- (6) Show the action by standing on tiptoe, and extending hand as if to unhook something from a high nail.
- (7) Look astonished, as if what had been taken in the hand were an object causing wonder.
- (8) Reach, standing on tiptoe, as if to replace it.

Fanny's Robin.

- (1) A ruddy robin used to come
 - (2) The orchard boughs among,
And at the early spring time dawn,
Awake me with his song:
 - (3) "Come little girl, (4) the sun is up,
(5) And looking round for you;
The currant bush has decked itself
(6) With strings of pearly dew;
 - (7) And round about the cherry tree
The buds begin to blow,
 - (8) So you must tumble out of bed
To see the pretty show."
 - (9) The robin built his nest of sticks
(10) Up in the tree so high,
That kitty did not find it
(11) Till the little birds could fly.
 - (12) Says Kitty, "Tell me where you live,
I'd like to make a call."
 - (13) But Robin made a bow and said,
(14) "I'll show you not at all."
Cock Robin saw a little worm
(15) Come climbing up the tree;
 - (16) Says he, "My birdies would be glad
To have you dine with me."
The worm desired to be excused,
But all excuse was vain;
 - (17) I do not think that little worm
Will ever dine again.
- One autumn morning, ere the sun
(18) Above the hill-tops rose,
Jack Frost came creeping round the house,
(19) And pinched the Robin's toes.
Says Robin, "If Jack Frost has come,
'Tis time I went away."
- (20) So off he went where all the year
The summer breezes play.
- (21) But when Jack Frost had gone again,
(22) And April's plenteous showers
(23) Had spread the fields with velvet green,
Thick-set with golden flowers,

The Robin broke the morn once more
With voice like trumpet-blow:

- (24) Come! tumble, tumble out of bed
(25) And see the pretty show!"

(1) Stroke the chest with both hands to indicate the position of the robin's red feathers. (2) Extend the arms in front, droop the hands, making them even with the shoulders. (3) Beckon with the hand. (4) Point upwards to the sun. (5) Turn the head, as if in search for something. (6) Raise the right arm, droop the hand and move it around the head. (7) Repeat action 6, but describe a larger circle. (8) Repeat action 3. (9) Place the two hands together with the palms upwards, to imitate the shape of the nest. (10) Point upwards. (11) Imitate the action of flying. (12) Raise the forefinger of the right hand, as if to call earnest attention. (13) Let each one bow. (14) Shake the head. (15) Raise the left arm, and imitate creeping with the right fingers, which start from the bottom and slowly reach the top. (16) Stand in position. (17) In lower tones, shaking the head slowly. (18) Repeat action 4. (19) Point to toes. (20) Imitate the action of flying. (21) Stand in position. (22) Raise the arms, droop the hands, and lower them to imitate rain falling. (23) Extend the arms, place the hands with the palms downwards, and move them over a large surface, to indicate the extent of the fields. (24) Beckon with the hand. (25) Spread both hands as if to call attention to the surroundings.—From "Recitations with Actions."—Roxbury Pub. Co., N. Y.

A March Finger-Play.

The birds are flying to the north;(1)
Gray clouds float over heaven's blue arch;(2)
The trees are bending in the wind;(3)
What month is this?(4) 'Tis March.(5)
The kites are tugging at their strings;(6)
High, high above our tallest larch;(7)
The girls are playing jump the rope;(8)
What month is this? (4) 'Tis March.(5)
The dust goes whirling by in clouds;(9)
The first pale flowers reward our search;(10)
No month in all the year more dear
Than windy, dusty, gusty March

MOTIONS.

(1) Hands raised above head and swept to the north to imitate flight of birds. (2) Hands moved in opposite direction very slowly for floating clouds. (3) Arms raised high for branches. Body swaying as trees in the wind. (4) Girls speak alone. (5) Boys speak alone. (6) Make believe hold string with kite tugging at it. (7) Point up. (8) Motion of jumping rope. (9) Hands whirled over and over. (10) Motion of picking flowers.—*Primary Education.*

"How iss your boy Fritz getting along in der college?"

"Ach! He is halfback in der football team and all der way back in his studies."—*Boston Globe.*

Three Little Trees.

(Recitation for a tiny girl. Three other children stand near—as the trees—laughing, whispering, telling secrets, clapping hands, etc., in pantomime.)

Way out in the orchard, in sunshine and breeze,
A-laughing and whispering, grew three little trees.

And one was a plum tree and one was a pear,
And one was a rosy-cheeked apple tree rare.

A dear little secret, as sweet as could be,
The breeze told one day to the glad apple tree.

She rustled her little green leaves all about,
And smiled at the plum, and the secret was out.

The plum told in whispers the pear by the gate,
And she told it to me, so you see it came straight.

The breeze told the apple, the apple the plum,
The plum told the pear, "Robin Redbreast has come!"

And out in the orchard they danced in the breeze,
And clapped their hands softly, these three little trees!

—Selected.

Handkerchief Salute.

In my second and third grades so many pupils came to school without a handkerchief I conceived the idea of having a salute. Directly after devotions and morals I say, "All ready for handkerchief salute." They are laid on desk while those who have none come to the front, writing their names on the board, where they remain until they bring one, which is usually the next session, when they erase. At the word "Salute," all are fluttering in the air. If there are those too soiled, the owner raises his hand instead.

A talk occasionally upon the cleanliness of the air passages, and the reason for breathing through the rostrils, is in place. Clean handkerchiefs are very much in evidence these days, and they are very happy to display them. It is an education outside of text-books, but I claim fully as important.—*Primary Education.*

One day a visitor was making the rounds of a friend's place, being in charge of the friend's young daughter of ten, who acted as a guide. "This tree seems to be loaded with apples," observed the visitor indicating a particularly fine specimen. "Yes, sir," assented the child, "father says this is a good year for apples." "I am glad to hear that," said the visitor. "Are all your trees as full of apples as this one?" "No, sir," explained the girl, only the apple-trees."—*The Delineator for March.*

Visitor.—What have you in Arctic literature?
Librarian.—Cook books and Pearyodicals.—*Brooklyn News.*

A Song of Hope.

Robin! in the leafy wood
 Piping loud and oft,
 Robin! by the meadow brook,
 In the apple-croft,
 Trilling low and soft:
 Tell us why such songs you sing—
 Are you calling back the Spring?
 Dreary Winter first must come
 When the birds are dumb.

Slow between its grassy banks
 Runs the silver Team,
 And a few late Autumn flowers
 Droop their heads and seem
 In a golden dream:
 Swallows flit from cottage eaves,
 Sadly fall the dying leaves,
 Only you are gay and strong,
 Singing all day long!

Piped the Robin lustily,
 "All things show God's praise
 When the Earth is young and glad
 In a thousand ways;
 But in darker days,
 Lest of music there should lack,
 Robins never turn their back,
 Each puts on his scarlet vest,
 Caroling his best!

"When the glistening snowflakes fall,
 When the flowers are dead,
 Ere the gallant Crocus dares
 Lift his royal head,
 I shall come instead!
 Singing softly in your ear,
 Songs of precious things and dear—
 Fuller life and fairer scope,
 And fresh Springs of Hope!"

—Christian Burke.

Forcing Twigs.

March is a good month for the study of buds. This can best be carried on by forcing twigs in the schoolroom. Try to get as many different kinds as possible, and place the branches on the nature study table in bottles. Lilac, willow, beech, and horse-chestnut branches and others will give material for interesting observation. It might be well to have a few branches that the children do not know, and perhaps they will recognize the kind of tree as the leaves appear. The branches for forcing should be cut long, at least a foot-and-a-half. Have the children note as they study the specimens whether the buds are opposite or alternate. Is there a difference in the size of the buds on the same branch? Do you know whether there is any difference between blossom buds and leaf buds? The twigs brought in in March will serve for many interesting nature lessons before Arbor Day.

A Parable.

A gaunt, long-stalked geranium spread its scanty leaves lightward. It grew in a schoolroom jardiner. It was bent in an unsightly fashion, and the beauty-loving teacher, perceiving this, consigned it to oblivion in a corridor closet; but it drooped and pined so pitifully that, seized with remorse, she replaced it in a sunny spot, and in time a growth of tender green concealed the ungainly stalk. There was a human life, too, in that schoolroom, the bodily presence of which was more than usually unprepossessing. The young feet were crippled, the ears protruding, the hair coarse, the face painfully thin and featureless.

One day, a spelling lesson was in progress. No less honored a visitor was present than a superintendent.

It was the custom at the close of the lesson, to call forward a child to spell all the words for correction. Looking into the faces of her little flock, the teacher caught in the colorless eyes of her most unprepossessing pupil, a wistful, eager look. She hesitated. Well she knew the shuffle of the crippled feet, the hiss in the peculiar voice. Moreover, the child had intellectual qualities to match. Yet, happily for the weal of that young life, she risked it. He spelled, and because miracles never cease, he spelled every word correctly.

The superintendent spoke a word of praise, and there came into the child's face a light which showed that that day there blossomed in an arid spot a new hope.—Mabel E. Hotchkiss.

How shall I stimulate interest and attention in my school? This is the question many a well-meaning and worried teacher is asking herself. It is a question that will suggest various methods; but years of experience as a teacher have convinced me that the best way to secure and hold the attention of any class is to be so full of the lesson that the recitation period is far too short to teach it. The teacher who is interested in the lesson never has much trouble in holding the attention of her class. Bring the very best it is possible for you to bring to the schoolroom. Bring enthusiasm, cheerfulness, love, and a thorough knowledge of your subjects, and you will not meet an inattentive spirit among the boys and girls it is your privilege to teach.—A Teacher.

On the Training of Teachers.

There has been too much bothering about methods and too little application to substance. The girls spend too much time on learning *how* to teach what they *do not know*, so that the stalwart young man evades and avoids the sentimental methods, the superficial studies, the devitalizing reading, that has obtained too much in our school teachers' circles. Our teachers have sacrificed science, literature, mathematics to the *art* of teaching, the framework necessary to the examinations and promotions. Bright and brave young men avoid teaching in its humbler phases for the same reason as they avoid the preacher's task, because it has been so allied with the high thinking and virile studies of the age.

We have not in the past hesitated in taking the immature girls, whose culture is in a very vealy stage, and given them a chance to show what is in them. Why not do the same to the young boys? Give them a chance to do as the great strong men of this nation used to do—render splendid service to the public, impart some of their boyish strength to the children while they were on their way to their ultimate work, which may or may not be in the public schoolroom. In trying to elevate the work of the teacher into a profession we have overdone it. It has become too rigid, too perfunctory. We have lost the spontaneity and the inspiration of it.—*Jenkins Lloyd-Jones.*

HOW TO STUDY HISTORY.—As to subjects for reading, I recommend in general all kinds of books that will give you real information about men, their works and ways, past and present. History is evidently the grand subject the student will take to. Never read any such book without a map beside you; endeavor to seek out every place the author names, and get a clear idea of the ground you are on; without this you can never understand him, much less remember him. Mark the dates of the chief events and epochs; write them; get them fixed in your memory—chronology and geography are the two lamps of history.—*Carlyle to his nephew.*

Lund's Mental Arithmetic will be sent to any pupil preparing to enter the Normal School next term for twelve cents a copy, during March and April, by applying to C. E. Lund, Sackville, N. B.—*Adv.*

Nature Puzzles.

Why do most of the Chinese people have to walk? Because there is only one Cochin China.

Why do birds in their little nests agree? Because they'd fall out if they didn't.

There's a garden that I ken,
Full of little gentlemen;
Little caps of blue they wear,
And green ribbons, very fair.—(Flax).

From house to house he goes,
A messenger small and slight,
And whether it rains or snows,
He sleeps outside in the night.—(The Path).

He has a round face as round as can be,
He smiles down at you and he smiles down at me;
And, though he should hide 'neath a curtain so gray,
He'll peep out at you on the next pleasant day.

(The sun) (The storm clouds)

I often see a silvery boat
Upon the evening sky afloat.
(The crescent moon)

They tap upon the window,
Run races down the pane,
They dance in all the puddles,
They're merry sprites, 'tis plain;
Sometimes they crowd together
And make a pool so fine,
Or race along the gutters
In one long winding line.
They have a merry frolic
On any stormy day,
But, when the sun comes shining
They quickly stop their play.
(The raindrops)

About Trees.

What kinds of trees can you tell from the bark? What kinds from the leaves? How many are natives of your neighborhood? What kinds are growing in your school yard? Make a list of native evergreens growing in your locality, also deciduous trees? What native trees bear nuts? What trees or shrubs have their blossoms in catkins? What trees produce winged seeds? What trees and shrubs are most common in your neighborhood? Which grows best along the banks of streams? What cone-bearing tree is not an evergreen? Teachers may make subjects for short essays or stories from the above.

The Skies in March.

Directly overhead in the March sky is the constellation Gemini, which can be easily identified from its two principal stars, Castor and Pollux. Nowhere in the sky are two equally bright stars as near neighbors. Auriga with its bright star Capella lies in the Milky Way, northwest of the zenith. Farther to the north is Cassiopeia's chair. Arcturus in the east may easily be found by following the curve of the handle of the Dipper. Sirius and the beautiful constellation of Orion, "sloping slowly to the west," are still the cynosure of all eyes as they were in mid-winter. The red star Aldebaran forming a part of the Hyades is in the constellation of the Bull (Taurus). Mars passes through this constellation during the month and fairly rivals Aldebaran in colour and brightness. He remains in sight till after 11 p. m., and should be carefully noted as it is in his vicinity that Halley's comet may be observed next month.

Venus is morning star, rising about 4 a. m., and is well worth the effort of rising early to see her. Indeed, there is no difficulty about seeing her in broad daylight—if the sky is really clear—except that of knowing where to look for her. On the morning of the 16th the crescent moon will be a good guide, as Venus will lie about five or six degrees nearer the sun, and about two degrees above the line joining them.

Jupiter is in opposition on the 31st, and is visible all night long. He is a splendid object to the naked eye, and a fascinating one in even the smallest telescope, through which his four large satellites can be seen without difficulty, unless indeed some of them should be behind or in front of the planet.

Saturn is an evening star, setting about 8 p. m. in the middle of the month. Uranus is in Sagittarius, rising about 3.30 a. m. at the same date. Neptune is well observable in Gemini. To identify him, however, one needs either a detailed star map or a telescope large enough to show his disk; that is, six inches or so in aperture.

The moon is new at 7 a. m. on the 11th, in her first quarter at 10 p. m. on the 17th, and is full at 3 p. m. on the 25th. In her circuit around the sky she passes Saturn on the 13th, Mars on the 16th, Neptune on the 19th, and Jupiter early on the morning of the 26th.

At 7 a. m. on March 21st the sun crosses the

celestial equator, passing over the point in the heavens called the vernal equinox, or "first point of Aries," and in almanac language "Spring commences."—*Condensed from Scientific American.*

Concert Work.

There is a little value in concert work, but very, very little, and there should be but a small amount of it in any school. Only the bright ones take part in it and the rest mumble along in a most irresponsible, inattentive way. Teach a poem in concert, for instance, to get the swing and expression, but seldom have it said in concert again. It takes no longer to have each child say a stanza in turn, and the poem is rehearsed and you are sure that they know it and know the right words.

Spelling in concert is utterly valueless. Only last spring while visiting a school I was compelled to listen to nearly twenty minutes in concert work on the day's spelling lesson. Two minutes before the gong struck for close of school the teacher began to call individually upon the children to spell the same words with the result that I knew was inevitable—scarce a child could spell a word correctly. A little concert work is all right, but reduce it to its lowest terms.—*Primary Education.*

Perhaps the greatest joy one can have in arithmetic is to solve a problem and then go back over it and prove the answer. The reason the proof gives us such pleasure is because we like to be self-reliant; and here is another "by-product" of arithmetic—self-reliance. If we prove our work we do not need to be told it is correct, for we rely implicitly on ourselves. After we do this many times and become used to solving one sort of example we reach that happy stage where we would attack any problem of that particular species with the utmost confidence—and all because we have become self-reliant.—*Journal of Education.*

The new Commission of the Conservation of Canada's Resources, of which Hon. Clifford Sifton is president and James White secretary has begun work energetically. It has adopted resolutions urging that in future no unconditional titles to water-powers throughout the Dominion should be given, and that every grant or lease should be subject to the following conditions: (a) Development within a specified time; (b) public control of rates; (c) a rental with the power to revise the same at a later period. The Commission has also expressed its opinion against the proposal to dam the St. Lawrence, or to the export of power at Fort Frances.

REVIEW'S QUESTION BOX.

A. C. HAYFORD, Principal of Schools, Freeport, N. S.—Upon trying to make a printing pad after the guide published in your paper a short time ago, I found that it worked admirably. But for a time I was at a loss to get the right kind of ink. So I took an indelible lead pencil, dissolved as much of the lead as possible in a small amount of water, and upon trying it after the directions furnished found that it would print fairly good copies, quite faint but easily made out. I have since tried dissolving the same lead in alcohol, and find that it works much better.

By means of the printing pad I am enabled to get over a large amount of writing which if I had to write it all out would take a great deal of time. I am very glad that it was published. Here I might say that I always look forward to receiving the REVIEW with a good deal of pleasure. I have taken it for some time and always enjoy reading it. I wish you every success.

Mr. John Dearness of London, Ont., suggests that indelible pencil dissolved in water and alcohol, from 25 to 75 per cent., will serve as a substitute, but is not in his experience nearly so satisfactory or so cheap as hektograph (transfer) ink. But Mr. Hayford's experiment, he adds, is interesting, showing that a resourceful teacher will find a way to overcome a difficulty. His method was for him a good nature-study lesson. Miss Robinson gives some additional information on another page about making a hektograph which may help our correspondent and others. The REVIEW thanks him for his good wishes and his kindly expressed appreciation.

B. B.—1. What is the height of Mount McKinley? When and by whom was it discovered? 2. Who was Sir Roger de Coverley?

1. McKinley Mount, or Bulshaiia, in Alaska, is 20,464 feet high, the highest peak in North America. We do not know the name of its discoverer. 2. Sir Roger de Coverley is a fictitious character whom Addison used in his papers in the "Spectator" to illustrate the character of a kind-hearted, simple-minded and eccentric old English country gentleman.

SUBSCRIBER.—Please inform me, from what publishing company, I may purchase a copy of Dawson's Acadian Geology.

This work was published in 1868, by MacMillan & Company, London, (Halifax, A. & W. MacKinlay). The book is now probably out of print, but a copy may perhaps be obtained by applying to A. & W. MacKinlay, Halifax, or to J. & A. McMillan, St. John.

CURRENT EVENTS.

More than one and a half million white egrets were killed for their plumes in Venezuela in one year. This was in 1898; and the annual slaughter has now fallen to one-sixth of that number because of their scarcity. Unless effective protection comes in time to save the bird, it will soon be extinct in South America.

An international conference recently held in London has recommended to the governments concerned to construct by international co-operation a world map on the uniform scale of one to a million; that is, ten kilometers to a centimeter, or about sixteen miles to the inch. Uniformity will be observed in the indications of natural features, and in the designations of boundaries, railways, cities and the like. The Roman alphabet is to be used and rules have been adopted for the translation of names, which are to be those authoritatively employed by the country where the place is found; thus Vienna will be Wien; Leghorn, Livorno; Florence, Firenze, and so forth. Such a co-operative enterprise should prove a new bond of brotherhood among the nations.

The great comet known as Halley's Comet will soon be visible to the naked eye, and will make its nearest approach to the sun on the 18th April. It is thought that the earth will pass through the tail of this comet about the middle of May; but, as the tail is more rare than any vacuum we can produce in our laboratories, it is not probable that it will have any noticeable effect upon our atmosphere. Halley, an English astronomer, a friend of Sir Isaac Newton, was the first to discover that comets, or some of them, move in a definite orbit about the sun; and he predicted the return of the one which bears his name.

A French investigator points out that the ancient Persians, Chaldeans and Assyrians seem to have completely tamed the lion, and used it in hunting other animals, as we now use dogs. The house cat, he thinks, was first domesticated by the Chinese.

Windmills are coming into use in Scotland as a means of supplying electric power.

Electric cars run by storage batteries are now used on one of the street railways in New York.

We have, it seems, not yet heard the last of the canals of Mars. One astronomer claims not only to have seen them again, but to have seen a new one; thus proving to his satisfaction that they are artificial and that the planet has inhabitants. These Martians, of course, if they exist, are far beyond human beings in their powers, if not in their intelligence, for no engineering work that men can do would be visible in Mars.

The story of a certain Runic inscription found in Labrador, mentioned in last month's Current Events, is an acknowledged fiction. Such an inscription, however, is to be seen at Yarmouth, N. S., recording a visit of later date; and the history of the Icelandic discoveries in America in the eleventh century is well known to students. It has generally been supposed that the Vineland of the

Norsemen must have been on the New England coast, as they would not have found grapes growing farther north. Prof. Fernald has good reason to believe that their "wineberries" were not wild grapes, but probably the rock cranberries, which are very abundant in Labrador. From this and other evidence he concludes that our cold and lonely Labrador may be the site of Wineland the Good.

Fighting continues in Nicaragua, with the general results apparently in favour of the revolutionists. The sympathy of the United States authorities is openly in their favour, and it is not improbable that the matter will lead to some sort of an excuse for interference and the occupation of the country by United States forces. Gen. Zelaya, the ex-president, has gone to Spain, where he has stated that the revolution was deliberately planned by the United States for the purpose of getting control of the country, so that they may build an inter-oceanic canal there for their own use, to the exclusion of other powers. This is almost incredible. It might be very undesirable to the United States to have a second canal across the isthmus, if it were to be open to the ships of other nations so as to afford competing route for trade; but one inter-oceanic canal at a time would be enough for even the United States government to build.

A fire in a Pennsylvania coal mine has been checked, after burning for upwards of fifty years and destroying about twenty-five million dollars worth of coal.

Madame Curie, the discoverer of radium, is said to have discovered another substance far more radio-active than radium itself. Meantime another French scientist is raising the question of whether radium really exists. His idea is that radio-activity results from some unknown chemical combinations in which the comparatively common metal barium is the chief constituent.

It is thought that the future supply of material for paper making may come from the bamboo jungles of the tropics instead of from northern forests. A Japanese company in Formosa is engaged in making paper from bamboo.

Mohammed Abdullah, known as the "mad mullah" of Somaliland, is again on the war path, and has destroyed a native town, the inhabitants of which were under Italian protection.

Dr. Charcot, of the French Antarctic expedition, has returned, having been very successful in his explorations, though he met with many hardships. He found new land, which he supposes to be a part of the Antarctic continent, and charted its coast for a hundred and twenty miles. His scientific observations were conducted with the greatest care, and will be of value.

The United States will send out an expedition to take possession of Wilkes Land in the South Polar regions; which is not surprising, as the land was first discovered by the United States naval officer whose name it bears. It is more surprising to learn that there is a bill before their senate to provide for annexing the Spitzbergen group to the United States. These islands have been claimed by both Russia and Norway, and were discovered by Dutch sailors in 1596.

It is finally decided that another Antarctic expedition will be sent out from the United States with the special object of trying to reach the South Pole. Capt. Robert Bartlett, the Newfoundland mariner who had charge of the steamer Roosevelt in the Peary expedition, and who, with the exception of Peary and Henson and their Eskimo companions, has been nearest the North Pole, will be in command of the ship. The leader of the expedition is not yet named.

Colonel Roosevelt, former President of the United States, is returning from his African hunting expedition, he and his companions having killed thousands of animals, of course in the interest of science.

Late advices indicate that the Emperor of Abyssinia is still living, and that his physician has been dismissed for attempting to poison him.

The Chinese authorities are taking a census of Chinamen living in Canada, the object being to determine how many representatives the Canadian Chinese may send to the Chinese provincial legislatures.

The most surprising news of the last month has been that of the arrival in India of the Dalai Lama of Thibet. It will be remembered that he fled from Lhasa, his capital city, a few years ago, on the arrival of the British expedition under Col. Younghusband; and that he visited Peking with a great retinue later, to make formal submission to the Chinese government. The Dalai Lama is the temporal ruler of Thibet; the religious head, regarded by the Thibetans as an incarnation of Deity, being the Tashi Lama, who lives at Shigatse. Dr. Sven Hedin describes the latter not as a divinity in human form, but as a man who in goodness of heart, innocence and purity approaches as nearly as possible to perfection. The Dalai Lama is evidently a man of different mould. He has been deposed by the Chinese government on a charge of preparing for revolt, and fled to India on the approach of Chinese troops that were sent to occupy Lhasa and enforce submission.

Official reports show that the total number of aliens admitted into the United States within the last seven years, most of them coming from southern and eastern Europe and western Asia, is over a million more than the total population of New England at the last census.

Within the last two years, the two greatest pulp mills in the world have been established in Newfoundland. They are situated at Grand Falls and Bishop's Falls, respectively; and each plant will employ about three thousand hands. The paper on which the London Times is printed will hereafter be made of Newfoundland pulp.

The boy scout movement organized in Great Britain by Gen. Sir R. S. Baden-Powell will be extended to all parts of the empire.

The latest publication of the Dominion Geological Survey office is a complete catalogue of the birds of Canada.

The Royal Geographical Society of Great Britain and the Royal Geographical Society of Italy have presented medals to Peary and Bartlett, as leaders in the Polar expedition which, whether it actually reached the North Pole or not, went farther north than any previous explorer had gone, with the possible exception of Dr. Cook.

SUMMER SCHOOL OF SCIENCE

FOR THE ATLANTIC PROVINCES OF CANADA.

THE TWENTY - FOURTH ANNUAL SESSION WILL BE HELD AT
Liverpool, N. S., July 13th to August 3rd, 1910.

In the School prominence is given to Nature Study and Physical Culture. All the Physical Sciences required in the Schools of the Maritime Provinces are taught at the Summer School.

Ten (10) scholarships of from \$5.00 to \$20.00 are offered for competition.
Liverpool offers many attractions of climate and scenery for a Summer School.

The school is an inexpensive one.

Calendars of the school can be had on application to the Secretary,

J. D. SEAMAN,

63 Bayfield Street, Charlottetown, P. E. I.

It has been generally supposed that Commander Robert E. Peary, as he was styled, is a civil engineer attached to the United States navy with the rank and title of commander; but a proposal in the United States congress to honour him as the discoverer of the North Pole has incidentally brought from the secretary of the navy a statement that he has no claim to the title whatever, as he does not hold and never has held the rank of commander in the navy. It has also brought an unexpected demand that he should submit his records of the supposed discovery to the Danish geographers who pronounced Dr. Cook's records insufficient, or to some other disinterested body of scientists, for examination. The United States minister to Denmark, who has recently returned from Copenhagen, believes that while Dr. Cook's proofs were inadequate to show that he had reached the pole, they show that he was honestly mistaken in supposing that he had done so. Commander Peary, to use his assumed title, is, no doubt, equally honest; and his records might be more convincing.

It is, perhaps, unfortunate for the schoolboy of the future that these two distinguished Americans should bear names which may be readily confused with those of English explorers of an earlier day; the name of Peary, whose real name is said to be Perry, being so much like that of Sir Edward Parry, the first to use boats and sledges in Arctic explorations; and that of Cook, whose real name is Koch, like that of the famous English navigator, Captain Cook.

In the University of Melbourne, Australia, there is a man named Grayson, who, with a machine of his own invention, can rule parallel lines so fine and so close together that one hundred and twenty thousand of them go to the inch. The Royal Society has just published an account of his work.

Before long all the British states and possessions in the Pacific will be linked together by wireless telegraph. High power stations will be erected in Australia, New Zealand and Fiji, and medium power stations in the New Hebrides and other groups.

The newly elected parliament of the United Kingdom is in session, but the government's majority is rather uncertain, and another election within a few weeks is not at all improbable. It is not expected that the House of Lords will agree to any radical changes in its constitution without another appeal to the people.

The Argentine government has sent a large number of the Anarchists who were convicted of making disturbances in Buenos Ayres to Tierra del Fuego, where they will be allowed to govern themselves, with as much lawlessness as they like, provided they do not disturb those who wish to live under a settled government.

A few years ago the writer found himself on Easter Sunday at Banff, in the Rocky Mountains. It was early in April; but close to patches of snow bloomed the beautiful Anemone patens, or Pasque-flower, or Snow-drop, as it is called there. In the little church that he dropped into a vase filled with these harbingers of spring stood on a table in front of the reading desk. The young minister preached on the miracle of the resurrection. No reference was made to the beautiful flower before him which illustrated a miracle of returning life and growth to the frozen earth.

Webster's New International Dictionary, combines the Encyclopedia with the wordbook. The compactness and accuracy of its definitions are labor-saving for the teacher.

The total number of scholars in residence at Oxford under the Rhodes Bequest during the Academic year 1908-9 was 179. Of these, 78 were from the Colonies of the Empire, 90 were from the United States, and 11 from Germany.

SCHOOL AND COLLEGE.

Mr. A. S. MacKenzie, teacher, died in February at his home in New Glasgow, N. S. The *Pictou Standard* says he had been for thirty-five years a school master in Pictou County and was a man of estimable character.

The Teachers' Institute for Annapolis and Digby Counties, N. S., will be held in the Academy Hall, Digby, on Wednesday and Thursday, March 23 and 24. A very full and excellent programme has been arranged for the occasion.

Mr. G. W. Dill, Ph. B., is principal of the Hantsport, N. S. high school, grades 9, 10 and 11.

The Toronto school board has abolished home work in all classes below the senior third grade, except spelling in the junior third and senior second.

The Teachers' Institute of Cumberland County, N. S., will hold its twentieth session at Parrsboro, March 23 and 24. The programme for the meeting is full of good things and a profitable session is looked for.

Preparations are being made to celebrate in May the fiftieth anniversary of the University of New Brunswick under its present name and standing.

His Grace the Archbishop of Halifax, in addressing the pupils of St. Mary's Girls' school of that city a few days ago made particular mention of their polite and graceful deportment and said, as quoted from the *Recorder*, that nothing was of greater importance than a polite and gracious manner in a young girl; or indeed in any one. His Grace accentuated his meaning by quoting the touching little poem, The Golden Keys:

A bunch of golden keys is mine
To make each day with gladness shine,
"Good Morning," is the golden key
That unlocks each day for me;
When evening comes, "Good night" I say,
And close the door of each glad day.
When at the table "If you please"
I take from off my bunch of keys.
When friends give anything to me
I use the little "thank you" key.
"Excuse me," "beg your pardon," too,
When by mistake some harm I do;
Or if unkindly hurt I've given,
With "forgive me" key I'll be forgiven.
On a golden ring these keys I'll bind,
This is its motto, "Be ye kind."
I'll often use each golden key
And so a happy child I'll be.

RECENT BOOKS.

The *Exercises in Arithmetic*, arranged by Professor Thorndike of Teachers College, Columbia University, a set of five paper-covered books costing eight cents each, place before the pupil his examples without the necessity

of copying the figures. The "exercises," it is claimed, relieve eye-strain and save the time of teacher and pupils. But manual dexterity may be sacrificed to rapidity.

The *German Verb Blank* is a means of obtaining a complete mastery by conjugation of all verbs in that language. It may be used for first and second year classes or for grammar review of more advanced classes. (Board back, 36 pages, price 35 cents. Ginn & Company, Boston).

A revised edition of Montgomery's *Leading Facts of American History* has been published, containing much new material. The type, illustrations and maps are new, the form is changed, and no effort seems to have been spared by the author and publishers to make this the best text-book on the history of the United States yet published. Mr. Montgomery is the historian for school boys and girls. His style is simple, striking and entertaining. He knows what to tell and how to tell it. (Cloth, pages xiv+400+xcviii, illustrated; price \$1.00. Ginn & Company, publishers, Boston).

The plot of Heyse's *Anfang und Ende*, one of the most charming of the author's shorter novels, is laid in German territory. The style and diction of the tale is so simple that it is well suited for early reading in the class room. The notes and vocabulary are adapted to the grade of beginners in German. The German questions intend to furnish a basis for some conversation on the text. The English exercises are so arranged that they enable the teacher to drill thoroughly the German idioms of the text. (Cloth, 119 pages, price 35 cents. Ginn & Company, Boston).

Schiller's *Jungfrau von Orleans* will long remain favorite reading for all younger students of German literature, because of the warmth of its diction and its purity of theme. In the present edition much care has been taken, in both the notes and the vocabulary, to render the play profitable for the less-informed student. The introduction aims to interpret Schiller simply and clearly, and to wish to study him more, and know him better. (Cloth, XXXV+334 pages, price 70 cents. Ginn & Company, Boston).

There are few days in the course of a year that do not bring the anniversary of some noteworthy record of British valour and achievement throughout the Empire. *The Empire Day by Day*, provides a record, compiled by Frank Wise, of those days nearly equal in number to the days of the calendar year, on which some important event happened. This reminder of events is a good thing to have. (Paper, price 25 cents. The Macmillan Company of Canada, Toronto.)

The new 1910 Edition of that indispensable booklet 5000 Facts About Canada, compiled by Frank Yeigh, is now ready. The popularity of the publication is shown by its sale of nearly 50,000 copies, not only in Canada, but through the Empire, and indeed the world. The 1910 edition contains a large percentage of new matter, under such heads as—agriculture, mining, banking, trade, railways, wheat growing, education, religions, etc., while a new feature is a budget of Empire Facts. (25 cents a copy. The Canadian Facts Publishing Co., 667 Spadina Ave., Toronto).

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N. B. School Calendar, 1910.

- March 24th—Schools Close for Easter Vacation.
- March 30th—Schools open after Easter Vacation.
- May 18th—Loyalist Day, (Holiday in St. John City.)
- May 24th—Victoria Day.
- May 25th—Examinations for Teachers' License, (French Department.)
- May 31st—Last day on which Inspectors are authorized to receive applications for Departmental Examinations.
- June 10th—Normal School Closing.
- June 14th—Final Examinations for License begin.
- June 18th—Annual School Meetings.
- June 30th—Schools close for the Year.

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Magazines.

Besides a good selection of articles, short stories and poems, *The Canadian Magazine* for March contains two special articles on a very important phase of the transportation problem as it affects the Great Lakes. The first deals with the Welland Canal and the other with the Erie Canal.

The March *Century* is full of interest from its many attractive and novel articles. There is a ringing poem on The Capitol, by Julia Ward Howe, a counterpart to the Battle Hymn, and three In Praise of Poetry, by Richard Watson Gilder, its late editor.

Recent numbers of Littell's *Living Age* have contained the following articles: Germany's Real Attitude Toward England, a temperate, fears-allaying essay; Canada and the Navy; Milton and His Age; History and Literature, urging the claim of literature to be heard as a witness in the court of history, where the material has been largely inscriptions and legal documents.

OFFICIAL NOTICE.

Agreement

RE PHYSICAL TRAINING AND MILITARY DRILL IN PUBLIC SCHOOLS OF THE PROVINCE OF NEW BRUNSWICK.

(1). The New Brunswick Educational Authorities will enforce more generally their existing regulations which prescribe the practice of Physical Training in all public schools, and will further adopt a system of physical training uniform with that of the other provinces of Canada suitable to the age and sex of the pupils, and will encourage the formation of cadet corps and rifle practice among the boys of suitable age, on the understanding that the Militia Department on its part will:—

(a). Provide competent instructors, at convenient places and seasons, in order to enable teachers, both those now employed in New Brunswick and those under training for such employment to qualify themselves to carry out physical training, until such time as the Provincial Authorities are prepared to undertake this duty themselves, and will also

(b). Provide a course of instruction at, or under the supervision of, a Military School of Instruction, to qualify all male teachers, who so desire, to instruct cadet corps.

(c). Also grant an annual bonus to such qualified teachers as actually instruct a cadet corps in advanced military drill and rifle shooting, provided the cadet corps passes a satisfactory inspection, and the teachers make themselves eligible for the bonus by becoming members of the Militia, either by obtaining commissions in a regiment or by becoming members of the Corps of School Cadet Instructors.

(2). The system of Physical Training adopted should

be such as to lead on naturally, without change to the system of drill in force for the Canadian Militia. The Syllabus of Physical Exercises for British Elementary Schools, with such modifications as may be necessary, will be followed. The instruction given in the schools will be such as is suitable to the age and physical condition of the pupils.

(3). As regards the instruction in physical training of the teachers already employed, there appear to be four centres, at or near which a sufficient number of teachers are employed to enable classes to be formed and carried out in the afternoon or evenings without interference with the ordinary day's work, viz: Fredericton, St. John, Moncton, Chatham and possibly a fifth at Sussex or Woodstock, or such places as may be able to assemble forty or more teachers requiring the instruction.

(4). For the benefit of the large number of teachers working out of reach of these centres, it was agreed that such instruction might best be provided during the summer vacation, either at a vacation school held at some central place in the Province, or at the Summer School of Science of the Maritime Provinces, wherever held.

(5). In order to provide for the instruction of those students who are qualifying to become teachers, a course in physical training will be provided at the Normal School, Fredericton.

(6). The Militia Department will provide, until such time as the Provincial Authorities are prepared to undertake this duty themselves, the instructors required, dates and places being settled by agreement with the Education Department of New Brunswick.

(7). At the end of each course in physical training, an examination will be held by the Department of Militia and to those competent to instruct in physical training in the public schools, a certificate Grade "B" will be issued.

(8). In future the Education Department will, before granting a teacher's license, require a Grade "B" certificate of physical training.

(9). The Education Department will, within four years from the close of the present school year, give an opportunity (as in 3 and 4 above) for all teachers who have been licensed without the certificate of Grade "B" (physical training) to obtain this certificate, so that no school need be without a teacher competent to give the prescribed physical drill effectively in all the departments of the school.

(10). The course of instruction to enable male school teachers to instruct cadet corps in advanced military drill and rifle shooting will be conducted either at, or under the supervision of, Military School of Instruction.

(11). The certificates granted to those who pass a satisfactory examination will be called a Grade "A" (Military) and will represent competency to instruct in both physical training and advanced military drill including rifle shooting.

(12). The Militia Department will grant to those male teachers who attend an Infantry School of Instruction and obtain a Grade "A" certificate, the same transport

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and allowances as are paid to officers of the Militia for similar attendance.

(13). The Militia Department will pay the annual bonuses, referred to in Paragraph 1, to those teachers who hold Grade "A" military certificates and are members of the Militia, as mentioned in Paragraph 1, (c), and who actually instruct a cadet corps belonging to the school. The annual bonuses will be paid upon the certificate of an Inspecting Officer of the Militia that the instruction imparted is satisfactory.

(14). The Militia Department will draft a syllabus of the work required to be done by a cadet corps in order to entitle a teacher to the annual bonus.

(15). The amount of the bonuses to be paid by the Department of Militia and the minimum number of boy members necessary to enable a cadet corps to be formed, will be fixed after discussion between the Department of Militia and the Education Department of the Province.

(16). The Militia Department will be prepared to

supply for the use of cadet corps,—belts, caps (if desired), a proportion of arms and ammunition, and, in addition, drill books for the more advanced training. Uniforms, if worn, must be supplied by the schools themselves.

(17). The Militia Department further agrees to provide a Provisional School of Instruction at the University of New Brunswick, Fredericton, should the Senate of the University so desire, to enable those students in the junior and senior years to obtain a Grade "A" (military) certificate, provided allowance is given for this work as an optional subject on the University Arts' course of study, and provided a sufficient number of students elect to undergo this training.

Approved by a Committee appointed by the Board of Education.

W. S. CARTER,

Chief Superintendent of Education.

Education Office,
Fredericton, Feby. 21, 1910.

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