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This number closes the seventeenth volume of the Review. An index will be published in the next number.
We hope the Empire Day number of the Review -with its appropriate selections-will prove interesting reading.
Mr. J. M. Swayne's Notes on Preserving Insects is unavoidably held over. To those teachers or pupils who are interested, and cannot wait for its appearance in the June number, a printed copy will be sent by sending a request on a postal card.
Hon. David Wark, over 100 years of age, and still attending to his public duties, and apparently in vigorous health /was recently presented by his
fellow senators of Canada with a fine oil painting of himself. The presentation was accompanied by felicitous speeches and good wishes.

The sympathy of all our readers will be extended to Chief Superintendent Dr. Inch in the domestic affliction he has been called on to endure. Although Mrs. Inch had been an invalid for many years and her death expected for some time past, the loss will be severely felt by the bereaved husband and the circle of friends who appreciated her many estimable qualities.

The April number of Acadiensis, a quarterly magazine devoted to the interests of the Maritime Provinces, and published by Mr. D. R. Jack, is specially devoted to Queens County, Nova Scotia. There are many beautiful illustrations from numerous photographs, and the descriptive articles are from the pen of that interesting writer, Mr. R. R. McLeod, of whom a handsome full-page engraving forms the frontispiece of the magazine.

We have received from Superintendent Dr. Alex. Anderson the annual report of the public schools of Prince Edward Island. Dr. Anderson has visited and examined schools in various parts of the Island, and his report of educational conditions is of great value. The apathy of rate-payers, irregularity of school attendance, low salaries and consequent scareity of good teachers are disheartening features. The 572 teachers employed the Dast year received an average of \$211.35 each. The highest salary paid to men was $\$ 820$ and to women $\$ 380$. The lowest was $\$ 180$ each. paid to thirtytwo men, and $\$ 130$ each, paid to thirty-one women. These salaries include the provincial grant (and supplements where given). The failure of the people to contribute toward the support of education is severely commented upon. While New Brunswick rate-payers pay ${ }^{\$ 7.91}$, Nova Scotian 8680 , the rate-payers of Prince Edward Island contribute onlv $\$ 2.14$ toward the education of each pupil enrolled. Such conditions lead to frequent change of teachers. "In not one school which I examined during the past year outside of Charlottetown did I find the same teachers as on my previous visit," says Dr, Anderson.

The ter-centenary of Champlain's exploration of the Bay of Fundy will be celebrated at Annapol's Royal, St. John, and on the St. Croix river by appropriate ceremonies during the week beginning the 2oth of June. The meeting of the Royal Society in St. John, the public gatherings at Annapolis, St. John and Calais, the addresses and proceedings in which many eminent men will take part, and the presence, which is expected, of ships of war of Great Britain, France and the United States, will lend impressiveness to the ceremonies. The June number of the Review will give some space to the historical aspects of Champlain's discovery.

## A Plan for Local Teachers' Institutes.

A combined institute of the teachers of Cape Breton and the adjoining counties of Antigonish and Guysboro, on a plan different from what is usually followed, has been proposed. Instead of the reading of papers and discussions thereon, the members of the institute will observe the teaching of classes of pupils during the mornings, on the subjects of the common school course, to be followed by discussions in the afternoons of principles underlying the methods observed in the morning. The institute will be held in late September, and the schools on both sides of the Straits of Canso-at Port Muıgrave, Port Hawkesbury and Hastings-will be utilized for the purposes of the institute. This excellent scheme has the hearty concurrence of Supt. A. H. MacKay. A committee consisting of Messrs. Macdonald, McKinnon and Macneil, the inspectors of the districts interested have the matter in charge. The government of Nova Scotia is willing to aid by providing a fund to assist in defraying the travelling expenses of $C$ and $D$ teachers.

This plan is somewhat similar to one proposed on a smaller scale by Inspector Mersereau at the Northumberland County Institute last year. It is a stimulus to the teachers, in whose schools the object lessons are given, to do their best; and the visiting teachers will be quick to assimilate the best and to catch the spirit of emulation. The Review has at times pointed out that the papers and discussions at our local institutes have become monotonous and threadbare; and though the proceedings are often enlivened by the teaching of lessons, yet this plan is not so practical as the one proposed, for the reason that the teacher and scholars are strangers to ẹach other.

## The Dominion Educational Association.

The meeting of the D. E. A. at Winnipeg a synopsis of the programme of which is given on another' page, is already attracting the attention of a large number of our readers. The meeting of the Dominion Exhibition at the same time and place, and the display of school work and school supplies, together with a visit to the rising city of Winnipeg, and possibly to the Pacific coast and intermediate places, should draw a great many teachers of Eastern Canada to the West during the approaching vacation.
We look forward to this meeting as one which will establish on a firm footing the Dominion Association and give it the permanence which it should possess. During its thirteen years of existence, its gatherings have not been as thoroughly representative of the teachers of the Dominion as one would like to see them. But this year the point chosen for the meeting is midway between the Atlantic and Pacific; the organization is now more complete, and better business methods have been adopted to secure a larger attendance and a more successful meeting; there will be a strong desire among Eastern teachers to see the Great West, and among many Western teachers to meet and consult with old friends from the East.

The educational value of the gathering cannot be overestimated. It will help to overcome provincialism in education; it will give teachers an opportunity to realize the greatness of Canada and the necessity of getting rid of narrowness and exclusiveness; it will tend to bring about a certain unity in educational affairs; it will bring together teachers of different schools and colleges, from dif. ferent provinces, and promote a closer and more sympathetic relation with each other.

## Champlain and DeMonts.

The New Brunswick Historical Society, at its meeting in St. John, May 3rd, I904, decided on the erection of a tablet in commemoration of the tercentenary of the discovery of St. John by the above named explorers. In order to give all desirous of so doing an opportunity of contributing to the cost, subscriptions to the above object, from any part of New Brunswick and elsewhere, in amounts varying from five cents and upwards, will be received by G. U. Hay, St. John, N. B., who has been appointed treasurer of the fund. Suitable acknowledgment of every contribution will be made in the daily press.
J. F. ARMSTRONG,

Chairman of the Meeting.

## the flag of the empire.

[In this lesson the Union Jack, or Caradian Ensign (which is the British red or blue ensign with the Canadian coat-of-arms in the field) should be spread oul before the class. If the school does not possess a flag, small ones may be obtained at a trifling cost, and one, made with colored chalks, may be placed on the blackboard. The prints ot flags which are appended, though not colored, may help to teach the lesson.]
Every boy and girl in the land must be quite familiar with the Union Jack, the national flag and the symbol of Britain's might and majesty among the nations. What a strange name for a flag? you will say. So it is ; but it is a name with a remarkable history and meaning.


In the first place notice its curious pattern. It is made up of crosses, some red and some white. Let us examine these one by one. The red cross in the middle with an upright and horizontal bar is the cross of St. George. Once upon a time, so the story goes, there lived a brave, fearless soldie, who saved his country from destruction by slaying with his own hand a terrible dragon which was then ravaging it. This brave man was honoured during his lifetime for his deed, and after his death he was regarded as a saint who would continue to watch over the welfare of the people. In this way St. George has been regarded as the patron saint of England. His flag, a red cross on a white ground was always carried in front of the army,

and the battle-cry, "St. George for Merrie.England," was often heard in the thick of the fight.

Looking at the Union Jack again another cross will be seen, a white one stretching from corner :o corner on a blue background. This is the cross of St. Andrew, one of the twelve apostles, the patron saint of.Scotland. Then inside this one is another, the same shape, but red on a white background. This is the cross of St. Patrick, a Christian apostle, the patron saint of Ireland. The union of these three crosses represents the union of England, Scotland and Ireland. Curiously enough in the time of the Crusades, the flag of St. George was familizrly known as the " Jack." Hence the name "Union Jack" means " union with the Jack," because in it the two other crosses are united with this one.

You will read in your history that though Ireland became part of the British dominions as early as the year 1172, and Scotland in 1603, there was no complete union until the parliaments of these three countries were joined into one, which for Scotland and England was in 1707, and for Great Britain and Ireland in 180I. Since then the Union Jack has floated, as the national flag, over all fortresses and on all British ships of war. It has been carried into battle by the soldiers and sailors of the Empire, who are so jealous of its honour that they would, one and all, die at their posts rather than disgrace it by cowardice. It is also carried by merchant vessels to show they are British ships, and that Britain is ready to protect their interests in every part of the world.-Adapted from Macmillan's Globe Geographical Reader.

## The Union Jack.

It's only a small bit of bunting, It's only an old coloured rag,
Yet thousands have died for its honour And shed their best blood for the flag.

It's charged with the Cross of St. Andrew, Which, of old, Scotland's heroes has led; It carries the Cross of St. Patrick, For which Ireland's bravest have bled.

Joined with these is our old English ensign, St. George's red cross on white field, Round which, from King Richard to Wolseley, Britons conquer or die, but ne'er yield.

It flutters triumphant o'er ocean,
As free as the winds and the waves;
And bondsmen from shackles unloosened
'Neath its shadows no longer are slaves,

It floats o'er Cypress and Malta, O'er Canada, the Indies, -Hong Kong; And Britons, where'er their flag's flying, Claim the right which to Britons belong.
We hoist it to show our devotion To our King, to our country, our laws; It's the outward and visible emblem Of advancement and liberty's cause.
You may say it's an old bit of bunting, You may call it an old coloured rag; But freedom has made it majestic, And time has ennobled the flag.

St. George.

## Under the Three Crosses in Canada.

As Canadians see it (the Union Jack) waving above their schoolhouses, and on the ships or over their homes, they read in the crosses the stories which they tell, and remember that the deep red tones in its folds have been freshened and coloured by the heart-blood of Canada's sons, poured out for it in ungrudging loyalty on their own loved soil. The sons of the parent nations have carried it in many a far-off strife, but in their own island homes. "compassed by the inviolate sea," they sleep secure, and never had to fight beneath it in defence of native land. It is in this regard that Canadians can cherish this flag even more than they who first carried it, and their sons may now rightly wear it as their very own, for the Union Jack is so bound up with love of country, defence of home, and all that is glorious in Canada's history, that it is the flag of Canada itself. - Barlow Cumberland - "The History of the Union Jack.

Obedience is the health of human hearts: obedience to God; obedience to father and to mother, whn are, to children, in the place of God; obedience to teachers and to masters, who are in the place of father and of mother; obedience to spiritual pastors, who are God's ministers; and to the powers that be, which are ordained of God. Obedience is but selfgovernment in action; and he can never govern men who does not govern first himself. Only such men can make a state--Doane.

The Men to Make a State.-The willow dallies with the water, draws its waves up in continual pulses of refreshment and delight; and is a willow, after all. An acorn has been loosened, some autumnal morning, by a squirrel's foot. It finds a nest in some rude cleft of an old granite rock, where there is scarcely earth to cover it. It knows no shelter, and it feels no shade. It asks no favor, and gives none. It grapples with the rock. It crowds up toward the sun. It is an oak. It has been
seventy years an oak. It will be an oak for seven times seventy years, unless you need a man-of-war to thunder at the foerthat shows a flag upon the shore, where freeman dwell; and then you take no willow in its daintiness and gracefulness; but that old, hardy, storm-stayed and storm-strengthened oak. So are the men made that will make a state. -Selected.
The man who loves his land will strive to love his neighbor as himself. He will make every sacrifice in order that in his district and in his nation, justice, righteousness and equity may prevail. He will perceive clearly the relations of individual, family, community, party, sect and state, and will in his own practice cheerfully subordinate the lower to the higher interest. He will know and appreciate the struggles of the race and nation to secure personal. social, political and religious freedom, and he will count the retention and extension of that freedom as dear as life itself. He will reverence his flag and honour his King because they represent all that his forefathers have won, and all the dignity of the citizenship he now claims. He will cheerfully face danger, even at the risk of life, if his country is suffering oppression, or if wrong has to be righted somewhere.-Selected.

## Suggested Empire Day Programme.

Flags, pictures and flowers should be used in decorating the schoolroom.
Clergymen and other prominent men of the community should be enl'sted to give addresses on the Empire, and on subjects stimulating and instructive to the boys and girls.

Essays prepared by the older children should be read. (Many subjects are suggested in reading this and previous Emp?re day numbers of the Review).

Recitations by different scholars (consult the Review, especially the selections from our own authoys in the last year's numbers for appropriate recitations).

Have select stories from Canadian history read or recited. These are well told in the Review's series of Canadian History Readings, Short Stories from Canadian History by Marquis, and Miller's Biographical Stories.

There should be plenty of singing, simple, patriot'c and familiar songs, such as Rule Britannia, Maple Leaf Forever; Land of the Maple; Red, White and Blue: My Own Canadian Home. Selections from the "Old Time Songs," published in the Review during the months of last autumn, may be used with good effect. End, of course, with the national anthem.

## The Progress of the British Empire.

## (Selected from Macmillan's Globe Geography Readers)

This world-wide empire, an empire far beyond the widest dreams of any nation since the world began, this glorious inheritance which has been handed down to us, your inheritance and mine,What shall we do with it?

Shall we-will you when you grow up to man-hood-stand by, and support it, and hold it together, or shall we allow it to fall to pieces, and slip from our hands, as other nations before us have done with their possessions?

The British Dominions could be a self-supporting empire, for everything which each separate part of the empire needs can be supplied by the rest. As illustrations: Until comparatively recent times China supplied us with all our tea; to-day we buy very little tea from that country. In 1885 the coffee plantations in Ceylon were practically destroyed, and the cultivation of the tea-plant in that island was started as an experiment. It proved a great success, and about the same time tea-plantations were opened up in Assam, and they also flourished. The consequence is that now instead of buying our tea from China, we get the great bulk of it from Ceylon and Assam. This gives employment and trade to our own colonies.

Agoin we are to-day dependent to a large extent upon the United States for our raw cotton. But we are gradually developing large cotton-growing areas in our own tropical dominions. India and Egypt already grow immense crops of cotton; and many of the West India Islands, where the sugar trade has languished, are found to be admirably adapted for this crop, and so are Natal, and several more of our own African territories. The very finest grade of cotton, it is thought, can be grown in Lagos, superior in quality to any American cotton.
So is it with corn, meat, wool, and thousands of other articles. By trading with our colonies for these things, we give employment and wealth to our own people across the seas, while we on our part are able to supply their needs in the form of manufactured goods, and this keeps our people at home busy.
This trade between the component parts of the empire, however, raises many serious issues, issues far too weighty to discuss here. But to-day our statesmen of every shade and color, both at home and in the various colonies, are giving their thought and energies to this great question. Let us hope that result may be the consolidation, not the breaking up, of the empire. May the result of their deliberations be to make our people, both at home and in the colonies, more happy, contented and prosperous, so that wherever the Union Jack waves, Britons of every description may proudly echo the words of Tennyson:

Shall we not through good and ill Cleave to one another still? Britain's myriad voices call, "Sons, be welded each and all, Into one imperial whole,
One with Britain, heart and soul! One life, one flag, one fleet, one throne!" Britons, hold your own!

What has the Canadian porton of the empire to contribute to these products? It has fish from its seas and mighty rivers, lumber from its forests, coal, gold and minerals from its mines, wheat from the great prairies of the Northwest, and lesser products of the soil. To give our school children an idea of the vast production of wheat, we quote from a recent article in the Canadian Magasine, by Dr. William Saunders, Director of Dominion Experimental Farms:
The total imports of wheat and flour into Great Britain in 1902 were equivalent in all to about 200 million bushels of wheat. Were one-fourth of the land said to be suitable for cultivation in Manitoba and the three Provisional Territories under crop with wheat annually, and the average production equal to that of Manitoba for the past ten years, the total crop would be over 812 million bushels. This would be ample to supply the home demand for 30 millions of inhabitants (supposing the population of Canada should by that time reach that figure) and meet the present requirements of Great Britain three times over. This estimate deals only with a portion of the West, and it leaves the large Eastern Provinces out of considerable altogether. From this it would seem to be quite possible that Canada may be in a position within comparatively few years, after supplying all home demands, to furnish Great Britain with all the wheat and flour she requires and leave a surplus for export to other countries. With a rural population on the western plains in 1902 of about 400,000 , over 67 million bushels of wheat were produced. Add to this the wheat grown in Ontario and the other Eastern Provinces and we already have a total of over 93 million bushels. These figures are full of promise for the future of Canada as a great wheat-exporting country.

Newton, ever a lazy chap, was lying asleep under a tree. His mother sauntered into the orchard anddiscovered him there. Awakening him forcibly, she said: "Ike, why don't you get a job or discover" gravity or something like that?"
" Mother," said the soon-to-be great man, "if gravity wants me, it knows where I am."
Ten minuter later an apple siruck him on the head.

This shows that all things come to him who waits.-Chicago Journal.

in the series of Canadian celebrities which the Review is now publishing, the names of those distinguished in poetry and prose have been given to its readers. It seems fitting in this, the Empire day number, to present a portrait and brief sketch of the Hon. George E. Foster, orator and statesman, with a few extracts from his public addresses. Mr. Fosier is a leader among public men in Canada, and his speeches in spirit and eloquence may be olaced w'th those of Joseph Howe of an earlier generation. While the gift of the poet and prose writer appeals
to us most in our moments of leisure, we yield a ready ear, when the spirit of action is upon us, to the orator, and allow ourselves to be swayed by his eloquence. Mr. Foster has this rare gift of eloquence. In many of his most impressive addresses he has reached a height that has called forth the unbounded enthusiasm of his hearers, and has caused them to feel that for greater occasions he had a reserve of greater power. He is clear, convincing and logical, appealing to reason rather than passion or prejudice. Faith in Canada and its pos-
sibilities, and a desire for a closer union of the parts of the British Empire are his favorite themes; and it is from his addresses on thiese subjects that a few extracts have been chosen for another page.
Hon. Mr. Foster's career is well fitted to stimulate the youth of this country to exertion. He has risen by his native force and ambition from one position to another, overcoming obstacles that lay in his way by patient industry and steady persistency:

Börn in Carleton County, September 3, 1847, his parents removed to Studholm, Kings County, where he received his early education. At eighteen years of age he entered the University of New Bruns. wick, matriculating at the head of his class and winning the Kings County scholarship. The writer remembers with what enthusiasm his course at school and college was watched by the youth of the county, and what a stimulus his zeal and push gave to others.

He graduated from the university at the age of twenty-one, taking the degree of B. A. and winning the Douglas gold medal for the best essay in English. He taught for several years-at Grand Falls, at Fredericton Junction, and afterwards in the Baptist Seminary and girls' high school, Freder:cton. In 1871 he became professor of classics in the University of New Brunswick, and spent a large portion of the following two years in studies at the University of Edinburg and Heidelberg. Later his alma mater conferred on him the degree of LL. D., and Acadia University honored him with the degree of D. C. L. In 1882 he was elected to che House of Commons, and his first speech commanded the earnest attention of that body, in which his ability, force of character, and power as an orator exerted for the eighteen years following a conspicuous influence.

## Extracts from Addresses by Hon. G. E. Foster,

## Peroration of an Address on Patriotism. Delivered at Lindsay, Ontario, 1899.

Yonder looking out from the wide threshold of the future stands a form, wonderful in beauty, excellent in strength and radiant with cheerful hope. The maple leaf wreathes her brow, at either side crouch the bear and the beaver, and from her shining shoulders falls in graceful folds the flag that for a thousand years has braved the battle and the breeze. She waves her wand, and straightway the keen bladed axe gleams in the sunlight, tall pines and giant hemlocks crash to the earth, and deepkeeled ships glide out from safe moorings to plow the billowy seas.
She gives the word, and pick and shovel, drill and compressor are piled with ceaseless energy, till, from the yawning pits, coal and iron and precious metals leap to the surface, and ask to be transmuted into force and wealth.

She speaks, and lo! plow and harrow, sickle and reaper, mellow the deep soil and shear the rich increase, till the creaking wains draw the harvests home, and the well-filled barns laugh with golden plenty.
She gives the sign, and lightnings flash along a thousand wires,-winged messengers to bear her slightest wish, mammoth engines whirl her bounteous produce over ten thousand miles of double shining steels,-winds blow and water flow to turn her vast machinery.
Again she speaks, and, in every hamlet, every c.ty, every hillside and every valley, school doors open wide, and merry trooping children with eager feet mount the steps of the temoles of knowledge, serve therein, and bear in no:sy happy groups the precious garnering home again. And yet once more on quiet Sabbath morns, when traffic's swirling tide retires before the holy calm, and clear toned notes from echoing belfries chime,-see! she drops. on bended knee, and with uplifted face and reverent closed eyes, whispers to heaven her faith :
"Our Fathers' God, in Thee we trust."
Who is this, and what is her name? and I answer, she who gave you birth. Who cradied your infancy, and now claims the devotion of your manhood, Canada,-lady of the shining snows and gleaming sunshine, daughter in her mother's house and mistress in her own.

## From a Speech given at a banquet to GovernorGeneral Lord Aberdeen on His Departure from Ottawa.

It has been often said, not so often now as some years ago, that Britain was growing decrepit and infirm, that her power was waning, and that the time was rapidly approaching when Macaulay's New Zealander should take his seat on Eondon bridge and survey the ruins of an empire greater than Rome had ever been. I deny the assumption, and I protest with all my heart against the inference. The expansive, the assimilative, the cohesive power of Britain is neither dead nor stagnant. The plastic crust from which in centuries past has burst forth that splendid energy that has ever and anon vivified the world has not stiffened to adamant. The typical vigor, the eruptive enterprise, the steady overflow of the higher life and potency are there still, and the march of empire is ever forward. To-day. her drum beat sounds on the far distant Pamirs, we hear the boom of her guns and see the flash of her steel in the rock passes of the Afridis. Her ban. ners gleam at Hong Kong and Wei-Hai-Wei, and her flag floats over the vast insular continents of the Southern Pacific. In the whilom Dark Continent bugle calls to bugle from Bulawayo in the south to Omdurman in the north, imperial outposts sentinel the Nile and the Niger, while cannon at Halifax and cannon at Esquimault, backed by $5,000,000$ loyal subjects, stand guard and sponsor for the foremost and best of her possessions. Who dares
to say that the Imperial eye is dimmed, the Imperial heart numbed, or that the irresistible might of her strong right arm is shattered. Rather do we affirm that the insular has become world-wide, that the merely national has broadened into the truly Imperial, and that the sphere of Br:tain's influence and the grandeur of her power are immeasurably advanced.

From a Speech on Canada and the Empire ar the National Club Dinner, Toronto,

## February 25th, 1899.

In singing that grand old national anthem, "Goil Save the Queen," there are three things of which I desire to remind you: The first idea is of our Queen, with her years of honours, her kindly heart and with the weight of honour and dignity which has gathered round her from every clime and people in the known world.

More than that, she is the Queen of an empire around which for 1800 years there has been gathering a continuous wreath of glory and honour and progress, together with the forces of civilization and freedom unequalled in any other nation in the world's history
l'hen, again, "God Save the Queen," sounds differently and plays differently upon the hearts and sentiments of the man who knows the history of that great empire, andwho can see its great family spread out before him; and as year after year the march of that empire goes on, the significance of the grand old anthem which has endured so long, and will endure longer, sinks deeper into the heart of every public-spirited citizen.

## Oratory.

Real oratory is a child of truth and ardour. Falsehood is fatal to its birth, and coldness clips its wings and hinders all effective flight. The soul must be at white heat and cry to be delivered of its message, and the message must proceed from the verv throne of truth, and appeal for response to the deepest feeling of the auditors. Oratory delights in broad lines and bold imaginery; it dislikes the tangling strands of small issues and dry detail.
The mental eye of the orator must see with perfect clearness the thing he wishes to describe, or he can never adequately represent it to his hearer; he must feel its absolute truth and urgency before he can stamp its burning importance upon his auditors. The real orator cannot be a bad man; the ring of his coin must be genuine. The eternal mint of truth utters no spurious metal. The mission of the orator has not ended. So long as truth lives and men feel, so long as there is place and scope for him.

- Cánadian Magazine.


## The Flag of Britain.

We are indebted to the Earl of Meath, through the courtesy of Dr. J. R. Inch, for a copy of the verses set to music, which it is proposed shall be sung on May 24th, or the day previous thereto, in all the schools throughout the Empire.

Flag of Britain, proudly waving Over many distant seas,
Flag of Britain, boldly braving Blinding fog and adverse breeze.

Chorus,-
We salute thee, and we pray
God to bless our land today.

Flag of Britain! wheresoever Thy bright colors are out-spread, Slavery must cease forever, Light and freedom reign instead.

## Chorus.

Flag of Britain! 'mid the nations May it ever speak of peace, And proclaim, to farthest stations, All unworthy strife must cease.
Chorus.

But if duty sternly need it, Freely let it be unfurl'd,
Winds of heaven then may speed it To each quarter of the world.
Chorus.
Love of it, across the waters Passing with electric thrill, Binds our distant sons and daughters Heart to heart with Britain still.
Chorus.
Regions East and West united, All our Empire knit in one;
By right loyal hearts defended, Let it wave beneath the sun. Chorus.

Copies of this song may be obtained from A. J. S. Maddison, 32 Charing Cross, London, S. W. Price two pence.

The proposal to change the name of Hudson Bay to "Canadian Sea" does not seem to meet with much favor. The historic association that clings to the present name makes it appropriate even though the body of water is the " Mediterranean sea " of Canada.

## Drawing - No. Vil.

F. G. Matthews, Truro, N. S.

Cones and Pyramids.
These figures should present no difficulty to the student, if the drawing of the square, circle and hexagon be thoroughly understood. The main point to remember is that the apex stands in a perpendicular line over the centre of the base. .

The cone has quite a lot in common with the cylinder, and a great deal that applies to the drawing of either will serve as rules for the drawing of more difficult objects, such as vases, and other things that may be considered to be made up of modified cones and cylinders. Figs. 35 and 36

show the cone in several positions, but it will be noticed that there is one feature common to the construction of all. As with the cylinder, the axis of the cone is apparently a continuation of the minor axis of the elliptical end, and is at right angles tc the major axis which it bisects. In the first case where the cone is upright on its base, the long axis of the ellipse is horizontal. This line $a b$ should be drawn first. Bisect it and draw a line at right angles to it, producing it upwards indefinitely. T. get the apparent width of the ellipse is now a matter of greater difficulty, as, the cone being solid, the back portion cannot be seen. At first, while the student is studying the figure, a chalk line may be drawn around the base on the board on which it stands, and the cone removed for a while, until the proportions of the axes of the ellipse have been obtained, and the cone can then be replaced. With a small amount of practice, however, the student will soon be able to judge the proportions, by holding the pencil horizontally, between the eye and the figure, along the line of the major axis, and gauging the amount of curvature to be seen below the pencil. After getting the proportions of the axes, draw the ellipse. To obtain the apex, compare, by the use of the pencil, $a b$ with $b c$. Mark off $c$, and draw lines
from $c$ tangential to the ellipse. These lines will not touch the ellipse exactly at the points $\dot{a}$ and $b_{\text {, }}$ which are the ends of the long axis, as may be seen by referring to some of the other figures, where the sides appear to touch the ellipse at some distance from the long axis. In lining in the drawing, the front portion of the ellipse only is shown, and care should be taken that the sides join naturally to the curved bottom, avoiding a common tendency to show sharp points at $a$ and $b$. In Fig. 35, $b$ and $c$, the cone is shown lying on its side. When the cone lies so that the lines from the apex are seen in full, the base will appear either as a straight line, or a very narrow ellipse. When the base is turned broadly towards the observer, very little of the length of the cone can be seen, as the apex has been thrown farther back, and in the drawing will appear further from a horizontal line drawn through the nearest point of the ellipse. The commonest source of error is for the student to forget these two facts: The rounder the circular end appears, the shorter the length; and the farther away must be the far end of the solid.
The best method of drawing the cone in these positions is to get the direction of the axis of the cone. Across this line at right angles to it, and bisected by it will be the major axis of the ellipse. After obtaining the proportions of the axes, draw the ellipse. The apex can be fixed by comparing $c d$ with $d f$, or $d e$, whichever is more convenient. All that remains is to join the apex to the ellipse with lines tangential to the latter. If the whole of the base cannot be seen, the whole ellipse should nevertheless be drawn in the rough sketch, so that the tangents may be drawn properly.


Fig. 36 shows the cone tilted in three positions. The construction is as before. In $b$ and $c$ note the foreshortening of the vertical height.
Fig. 37 shows the drawing of a square pyramid in an upright position. In this case it would be well to approximately fix the points $f, c$ and $b$ to ensure that the drawing will be well balanced and proportioned on the paper. Next obtain the point
$a$. and by means of the pencil judge the angles formed by $a b$ and $a c$. Cut off $a b$ and $a c$ proportionately, and complete the base as in Fig. 9. Join the corners and obtain the centre $e$. From this point

raise a vertical line-that is, a line parallel to the sides of the paper, not a line perpendicular to any of the lines in the base. Compare the distance $c b$ with that from $b$ to $f$, and complete the solid by drawing lines from $f$ to the four corners of the base, the back lines, of course, not showing in the finished drawing.

The hexagonal pyramid, Fig. 38, is more d:fficult, because so many of the base lines are hidden. No definite rules can be given, but if the student has thoroughly studied the hexagon in a variety of positions, he can, by fixing three or four of the points. as $a, b, c$ and $d$, imagine the remainder, and then by

following the directions given for drawing the hexagon, these points will help to correct one another. After completing the hexagon, raise a perpendicular (as before, parallel to the sides of the paper) from the point where the diagonals of the hexagon cross one another, and on this mark off the point $f$ by comparing $d b$ with $b f$. All that remains is to join the apex to the points of the hexagon.

The square pyramid and hexagonal pyramid in other positions should be left until a future period, when sloping planes will be dealt with.

Count that day lost whose low descending sun.
Views from thy hand no worthy action done.

## AMERICAN RAVEN (Corvis corax).

R. R. McLeod.

My readers who reside in the Maritime Provinces of Canada, live within the limits where ravens may be seen at large. Southward of us, in the United States, east of the Mississippi, they are rare visitors
People who do not care to "consider the lilies how they grow," are not likely to know a raven from a crow. Both species are large birds, both are black, and utter harsh noises, and many other things,-that much knowledge suffices in most instances.

Those who care to know more, will have no great difficulty to avoid any confusion in properly identifying them. In the first place, the raven is a quarter larger, than the crow; it is two feet in length; the feathers of the throat are pointed, and the plumage is lustrous, with purple burnishing.

The raven is rather a solitary bird in our region. Usually they are found in pairs. or threes. They do not " caw" like crows, but utter hoarse croaks, and lugubrious long-drawn ou.t "oo's" in their " hollow bills."

Crows prefer to live near the haunts of man, where they can dig up the seed corn, and eat the ripe ears, and find worms and beetles in the newplowed fields, and dead horses, and various other dainties known to the black brotherhood in feathers.

There are two species of ravens in America. The white-necked, of the Southwestern States, is smaller than the American raven of our region. The white is concealed by the outer plumage. The species under consideration here is very like the European raven, that is much smaller.

Such a bird as this was sure to get itself interwoven with song and story. A giant among his feathered kindred; of superior intelligence, with unsocial habits; of dismal croaks and cries; a bold maurader among his kind, with a keen taste for blood that made him a camp-follower and fierce feaster on the battlefields.

The first creature to get out of the Noachian ark was a raven, and it appears to have been so well content to escape, even without a mate, that he concluded to take his chances abroad and wait till the clouds rolled by and there was dry land once more.

Some five hundred years ago, before English poetry had gotten on its (poetic) feet, a writer unknown to fame, related this incident:

[^1]A stede to sett upon somewquar,
Upon the water soon he fand
A drinkled beaste there flotard
Of that fless was he so fain
To ship come he neur againe."
When Elijah, the prophet, was in hiding, his food was brought night and morning by divinely directed ravens. If anything in feathers could find something to eat, they were the birds for the work. The greatest miracle was the restraint put upon their own greedy appetite, that prevented them from devouring all they secured. An artist painted Elijah partaking of lobsters the ravens had brought him, and these crustaceans were red, as only boiled lobsters are. When the critic pointed out this incongruity, the ready-witted painter replied, "So much the greater the miracle that they were ready cooked."

In the Book of Job we read: "Who provideth for the raven his food? when his young ones cry unto God, they wander for lack of meat."

Shakespeare has it that the raven: " Tolls the sick man's passport in her hollow bill, and in the shadow of the silent night, death shakes contagion from he: sable wings."

The poet here but gives the popular estimate of this innocent creature, that figured on the private banner of the old Vikings, who held it in high estimation for wisdom, insomuch that Odin, the chief deity, is sometimes in the Sagas termed " the God of Ravens," and it was held that two of them, " Munin" and " Hugin," were his special attendants. We all know this bird of the famous poem, of Poe, that "perched and sat and nothing more." except to say " nevermore" to every request of the unfortunate poet.

Dickens introduces a talking raven in Barnaby Rudge, and he is made to declare on all occasions "I'm a divel," and lives up to his declaration.

Dear old Gilbert White, in his Natural History of Selborne, has a good word to say of this much maligned bird; here is the incident as he sat it down. "In the centre of this grove, on the Blackmoor estate, there stood an oak, which though shapely and tall on the whole, bulged out with large excrescence about the middle of the stem. On th's e pair of ravens had fixed their residence for such a series of years that the oak was distinguished by the title of "The Raven Tree." Many were the attempts of the neighboring youths to get at this eyre: the difficulty whetted their inclinations, and each was ambitious of surmounting the arduous
task, but when they arrived at the swelling, it jutied out so in their way, and was so far beyond their grasp, that the most daring lads were awed, and acknowledged the undertaking to be too hazardous, So the ravens built on, nest upon nest, in perfect security, till the fatal day arrived in which the tree was to be leveled. It was in the month of February, when these birds usually sit. The saw was applied to the butt, the wedges were inserted into the openings, the woods echoed to the heavy blows of the beetle, or mallet; the tree nodded to its fall, but still the dam sat on; at last, when it gave way, the bird was flung from her nest, and though her parental affection deserved a better fate, was whipped down by the boughs, dead to the ground."

Our raven is too shy a bird to keep to her nest under such circumstances. She would be up and away before a blow was struck on her nesting tree. In the Southwestern and Western States, they are numerous, and once followed the herds of bison to feed on the unfortunates that were gored to death, or died of disease, or were left by the insatiable hunters who have almost exterminated them.

While they are bold robbers of nests, and even dangerous to very young lambs, they are not properly birds of prey. A neighbor of mine had a fine flock of half-grown chickens, and day by day they grew less in number. She kept a close watch, and saw a raven walk out of the grass in his most genteel fashion and join the bunch of hens without creating any alarm among them; once on this confidential footing, he picked up in his strong bill his choice of chickens, and got safely away.
" How many toes has a cat?" was one of the questions asked of a certain class during examination week; and simple as the question appears to be, none could answer it. In the emergency, the principal was applied to for a solution; and he, also, with a good-natured smile, gave it up; when one of the teachers, determined not to be beaten by so simple a question, hit on the idea of sending out a delegation of boys to scour the neighborhood for a cat. When this idea was announced, the whole class wanted to join in the hunt. Several boys went out and soon returned successful. A returning board was at once appointed and the toes counted, when, to the relief of all, it was learned that a cat possesses _toes, _on the front feet and _at? on the hind feet. Now how many toes has a cat?

## Shore-Line Development.

## L. A. DeWolfe.

With the approach of summer vacation many a tired teacher looks ahead to a month's recreation at the seashore. Many teach there throughout the year, and perhaps have found it so cold and bleak for half the year that even summer's charms can scarcely offset winter's inconvenience. Too many find life at the beach more monotonous than they had anticipated. The first day is delightful, but after that, everything is old. They have seen all that is to be seen. Such unfortunates need widen their range of vision. They have looked long enough through smoked glass; why not take a glance at our world in the strongest light possible?

Nature's book is always open, but no chapter has so much crowded into small space, and yet so clear and varied, as the chapter one reads on the seashore. In the water itself are sea-animals and plants whose habits and relation to all other animate nature afford material for long study. Then there are the shore plants, the sea birds, and all the life of neighboring woods and fields; of freshwater ponds near shore; and of small brooks that tumble over some cliff.
But fascinating as the study of animate nature is, let us see what we can get from the inanimate. I look at the sand and the pebbles. Although I have examined them a hundred times before, I can seldom resist the temptation to pick up a worn stone, in which I can see more than an instrument of cruelty to operate upon an innocent bird or an inquisitive squirrel. I admire its beauty. I reflect upon the varied changes through which its constituent particles have passed since first they cooled into a solid crust over the condensing and contracting nebulous mass, which separated itself from the rest of the universe, and, after the eruptions and upheavals of countless ages, has become the habitable globe upon which we walk and read the records of the past. Neither can I help speculating upon the probable future of this pebble-its being ground to sand; scattered by water; deposited in different beds again to become hard rock; again broken and figuring as parts in dozens of pebbles upon some future shore that will follow lines now lying deep under water, or, perhaps, upon the high interior of our continent.

Looking up from the pebble. I see the sinuous coastline stretched serpent-like before me. Its bold headlands, whose strata preserve, it may be fossil
plants and animals of millions of years ago, withstand the waves' attack. Its sheltered coves afford refuge to the fisherman's boat. Here, the beach is narrow and rocky ; there, broad and sandy. Breakers show where the water is shallow. At one place low sandy islands appear; at another, high rocky ones. Landward, parallel valleys and ridges extend into the interior. Occasionally one finds a swamp close to the water's edge. Or a small pond, shut off from the rest of the ocean, rises and falls with the tide. Why is this coastline just as it is? Was it always this way? Will it remain so? A few summer days could well be spent answering these questions. To do so, one should formulate a theory based upon the facts already observed, and then move about to find more facts that will either corroborate or destroy this theory.

The fundamental law of shoreline growth is, that a crooked shore tends to straighten itself. Then why do we find it crooked? If there had been no upheavals, depressions, or oscillations of any kind since our present continents first emerged from the sea, we should now have practically straight shorelines. But elevations and depressions have taken place, and after each considerable one of these, a new cycle of growth begins. To grasp the significance of this, let us suppose a long period of rest during which the sea breaks upon the same coast, wearing away the cliffs and carrying the debris off shore, where it is spread out on the sea bottom. It cannot be carried out far beyond the limit of wave action, which is probably at a depth of forty or fifty feet. When no more material can be carried off shore, it is carried along shore until the bottom is made smooth. While material continues to wear from the cliff, the water at last must tend to become shallower, until finally the waves spend their force upon the débris instead of upon the foot of the cliff. After this stage is reached, frost and floods attack the top of the cliff more energetically than waves attack the bottom, until, after a long period, the once steep banks have become sloping land continuous with the slope under water. The distance to which this slope extends inland depends much upon circumstances, the detail of which would occupy too much space for this article. To take a simple case, however, let us suppose the land to be suddenly elevated after a considerable period of rest; remain in this position for a period, and then become depressed. This would bring us to the stage in which we now find our own coast of Eastern America, and to which I shall pay particular attention.

When the land became elevated, the smooth seabottom made a straight shore line. But rivers whose former mouths would now be some distance inland, must cut their way to the sea; so that the smooth plane becomes dissected in proportion to the size and windings of the rivers, and the height to which the land had risen. Brooks flow into these rivers, until in time the whole subaerial surface becomes very uneven. In the case of our own country and Europe, these river-valleys were deepened by glaciers. Finally this period came to an end. The land sank, and the sea rushed in to flood the valleys. It is estimated that in comparatively recent geological time, the coast of Eastern America has sank over one hundred feet. The aspect immediately after sinking would be that of an extremely uneven shoreline. River-valleys became bays, while ridges of hills became either projecting headlands or long narrow islands, according to the height and the amount of erosion before depression. The Bay of Fundy is an example of a drowned river-valley. The rivers now flowing into it were once tributaries of the river that is lost. Doubtless the streams now flowing into Passamaquoddy Bay once entered the ocean as a single river. Or, instead of increasing the number of rivers, by making former tributaries become streams, depression may unite rivers that were once separate. For example, Shepody Bay and Cumberland Basin unite to form Chignecto Bay. These no doubt once remained independent to a much greater length; or again, Chignecto Bay and Minas Basin unite to form the Bay of Fundy. The Strait of Canso is an example of a valley completely drowned, leaving the Island of Cape Breto: on one side. Big and Little Bras D'or are also completely drowned river-valleys, leaving the islan 1 of Boulardarie between them, which, before drowning, was a low mountain with a valley on either side. Besides the betrunked and the united rivers, depression is proved by shore swamps. These swamps were formed by the filling of an inland lake, but depression has brought the shore-line to them, so that they are no longer inland. If we look for evidence of change of land level, and learn to recognize it when we see it, we have learned a very interesting lesson. We know now why some of our bays contain so many islands. We should always account for their shape and position.
This article is introductory to the more important one of next month.

## Our Common Warblers.

E. C. Allen, Yarmouth, N. S:

With the exception of the thrushes, there seems to be no family of our land birds that is less observed than the warblers, notwithstanding the fact that we have at least a score of species, many of which are dressed in the most conspicuous colors. However, the fact that they are small sized (being considerably smaller than the English sparrow), weak voiced, and have a tendency to keep within the deepest woods, no doubt has much to do with their remaining unobserved, except by those who go to seek them in their native haunts.
Nearly all of these birds arrive in this locality from the tenth to the last of May, and depart for the south during the first week in September. This is only a general rule. I have found two marked exceptions. Many of the myrile warblers (Dendroica coronata), which seems to be the most hardy species of the family, stay with us throughout the winter, even braving such a winter as the last, and the yellow palm warbler (Dendroica palmarum hypochrysea), as it generally breeds north of Nova Scotia, naturally passes through here earlier in the spring and later in the fall than the main army.
Probably the most familiar species is the yellow warbler (Dendroica aestiva), or common little "yellow bird" that builds its woolly nest in rose bushes, honey-suckles, and elsewhere about our lawns and gardens. The upper parts are of greenish yellow, while the lower parts are of a much brighter yellow, with faint reddish-brown streaks. The female has these streaks much fainter, or entirely wanting.
Another common member of the family, the female of which closely resembles the yellow warbler, is the Maryland yellow-throat (Geothlypis trichas). This little bird is generally found among low growths of the swamps, and in the bushes along the road-sides. It has a great liking for alder growths, so much so that in some places I have heard it called "alder bird." A fair look at the male will distinguish him from all other warblers. Upper parts dark olive green, much darker than those of the yellow warbler. Throat a very bright yellow, and other under parts yellow, except near the tail, where the yellow fades to white. No streaks on the under parts as on the yellow warbler, and a very conspicuous black mask passing across the forehead, through the eyes, and well
down to the sides of the neck. The female lacks this mask, but the plain yellow under-parts, and the darker back will serve to distinguish her from the yellow warbler.
The myrtle warbler, mentioned above as a permanent resident, is also frequently seen in the open. It is often seen hovering up and down the sides of buildings, examining the crevices under the shingles and eaves for spiders. While thus seen, it may easily be recognized by its bright yellow rump. There is also a yellow spot on each side of the breast, and a less noticeable spot of the same color on the crown. The back is streaked dark blue and black, and the under parts, except the throat, streaked black and white. The throat and patches on the under side of the tail are plain white.

On entering the woods, one will be almost sure to observe among the upper branches of the evergreens a warbler of the following description: Upper parts greenish yellow, changing to bright yellow on the sides of the head. Wings gray, with two very distinct white wing bars, and tail gray, with much white in the outer feathers. The male has a black patch which covers the whole throat and breast, and extends in streaks along the sides. The rest of the under parts are white. The coloring of the female is similar, except that the black patch is very indistinct. This is the black-throated green warbler (Dendroica virens), and is one of the most common species. The yellow cheeks, black throat patch, and the great amount of white in the tail will serve to distinguish it from any of the other warblers.
There is also a black-throated blue warbler (Dendroica caerulescens) which I have seen here but once. It is blue-gray above, has a large white spot in the wing, and the black throat and breast patch with the white belly as in the black-throated green.

I have found the black-and-white warbler (Minotilla varia) fairly common in our woods. The name is almost description enough, as anyone seeing the bird would naturally call it a black and white warbler. The head is very prettily marked with alternate bands of black and white, the upper parts and sides streaked with black and white in a rather indefinite fashion, and the belly is entirely white. A little brown is shown on the sides of the female. It is a low living bird, being found creeping about the lower branches and trunks of the trees, after the manner of the woodpeckers. Its call may
be represented by the syllables " ke-chee, ke-chee, ke-chee," repeated about five times.

Sooner or later, the rambler in the woods will come suddenly upon a beautiful little bird having the whole head and upper parts black, and gorgeous patches of bright flame color on the tail, wings and sides of breast. This is the American redstart (Setophaga ruticilla), and is considered by many who know it to be the most beautiful warbler we have. Nor is it unmindful of its beauty, for instead of flying from branch to branch, as most birds do, it has adopted a butterfly-like mode of flight, fluttering and floating about with widespread wings and tail, showing its bright colors off to the best advantage. In June, 1903, I was fortunate enough to witness a pair of these birds building in a low shrub, on the bank of a small stream in this county, and on visiting the locality a few days later, found that the nest contained four eggs.
The magnolia warbler (Dendroica maculosa), a very common woodland spec.es, may be recognized by the following marks: "Black back, gray crown, bright yellow rump and throat, heavy black streaks on the breast and sides of the otherwise bright yellow underparts, and white patches above the eyes and on the tail.

The distinguishing marks of the chestnut-sided warbler (Dendro:ca pennsylvan:ca), a bird not at all common in this country, are a dark mottled back, bright yellow crown, white cheeks, and white under parts, with the exception of the chestnut streaks along the sides, from which it takes its name. As far as my observations go, I have found it an inhabitant of young hardwood growths.

Besides those described above, I have found the yellow palm warbler common during the fall migration, its plumage at that time much resembling that of the yellow warbler, but having heavier brown streaks on the breast and small white patches near the tips of the outer tail feathers; and have seen on one or two occasions the Nashville warbler (Helminthophila ruficapilla), blue gray and olive green above, and under parts yellow throughout; the mourning warbler (Geothlypis philadelphia) with a large dark blotch on the breast; and the pretty Canadian warbler (Sylvania canadensis), with gray upper parts, and yellow breast crossed by a necklace of black spots.

Zeal and duty are not slow;
But on Occasion's forelock watchful wait.

## An Active Educational Society.

The Educational Society of Western King's held its final meeting of the season at Victoria Hall Berwick, on Friday evening, April 29th. Such previous meetings of the society as had been held in Berwick had received scant attention from the parents and rate-payers of the section, and those who had the interests of common school education at heart felt their enthusiasm somewhat dampened by this seeming neglect. But the founders of the society were not of the sort that would allow discouragement to repress their energies, so in arranging for the final meeting it was resolved to present an array of attractions which would "compel them to come in." Mr. J. W:llis Margeson, principal of the Berwick school and president of the society, worked indefatigably to make the affair a success, and he was ably seconded by a number of the members. Fortune smiled upon their efforts, and when the evening of meeting came the hall was filled with a representative assembly of Berwick's citizens. Nor were the outlying sections unrepresented-persons being present who had come a distance of fifteen and twenty miles.
The speakers of the evening were Messrs. A. H. MacKay, LL. D., superintendent of education; Dr. J. B. Hall, of provinc:al normal school, Truro; C. W. Roscoe, M. A., inspector of schools; George B. McGill, pr:ncipal of the MacDonald consolidated school, Middleton; Ernest Robinson, principal of Kentville academy; Rev. W. P. Raymond, and Rev. John Phalen. Each of these gentlemen spoke interestingly and instructively, and all were listened to with the deepest attention. Many school-children were present, and their conduct was praiseworthy in the highest degree. It must have been a pleasure to any speaker to address such an audience; it was equally a pleasure for an audience to listen to such speakers. The vocal music, with which the addresses were interspersed, formed not the least attractive feature of the exercises. Mr. J. Willis Margeson, the president of the Educational Society, presided in graceful and modest fashion, and to his tact and energy the success of the evening was largely due.

The Educational Society of Western King's was formed in the month of September last, when the teachers of the district met in Berwick schoolhouse to perfect an association for the advancement of educational interests in the western portion of the county. N. A. Osborne was chosen president; J.

Willis Margeson, vice-president; and Bertha M. Franey, secretary. It was arranged to hold meetings fortnightly in the different school sections, a programme being prepared at each meeting for the one next ensuing. The topics selected were all of interest, and included such subjects as music, English composition, history, arithmetic, geography, shorthand, writing, morals, civics, teachers' salaries, relation of parents to school, the school and its surroundings, errors and imbecilities of the press, etc. All of these subjects gave rise to interesting discussions, in which the general public, as well as the members of the society, took part. Mr. Frank Huntington, of the staff of the Berwick Register, attended these meetings from the first, and became a member of the society. He took great interest in the proceedings, furnishing detailed reports for his paper, by which means these discussions obtained a wider notice than they otherwise would.

The most of the meetings held were well attended by the public, desp.te the severity of the past winter. In the month of January the officers for the ensuing three months were elected, viz. :J. Willis and Bertha M. Franey, Secretary. The society will Margeson, president; Emma Best, vice-president, resume its regular meetings after the opening of the schools in the autumn.

## Berwickian.

## Berwick, May 2, 1904.

[An interesting record of what may be accomplished by a local association when it goes to work in the right way.-Editor.]

## Making a Man.

Hurry the baby as fast as you can,
Hurry him, worry him, make him a man.
Off with his baby clothes, get him in pants,
Feed him on brain foods and make him advance.
Hustle him, soon as he is able to walk,
Into a grammar school; cram him with talk.
Fill his poor head full of figures and facts,
Keep on a-jumping them in till it cracks.
Once boys grew up at a rational rate,
Now we develop a man while you wait.
Rush him through college, compel him to grab
Of every known subject a dip and a dab.
Get him in business and after the cash,
All by the time he can grow a mustache.
Let him forget he was ever a boy,
Make gold his god, and its jingle his joy.
Keep him a hustling and clear out of breath
Until he wins-nervous prostration and death.
-New Orleans Picayune.

## A School Experiment.

The following, from the New York Tribune, shows how ten rural schools were united into one. The good results attained should rouse the attention of every thoughtful man and woman interested in the improvement of country schools:
The township of Aurora is a strictly farm town in Northern Ohio. Scarcely a head of a family but lives upon a farm, and its few retired citizens are chiefly farm owners. The township is five miles square, and, all told, numbers a population of 650 of all ages. Within its limits were ten district schools, with an attendance of from six to forty pupils each. It became evident that they were not attaining the desired aim and end of a good education, and though there was an honest endeavor to get the best teachers, and far above average prices were paid, there was a lack of interest and a low àverage attendance. Then the idea of centralizing the schools was brought forward, and was tried by degrees, merging the ten schools into six, then into four, and each experiment seemed to approach more nearly the sought-for end. Then the plan was tried for a year of uniting the ten schools, and halls and rooms were rented. The result more than met expectations. As soon as the pupils were graded, and a system of promotion was inaugurated, the keen interest of pupils began to manifest itself in a more eager attention to studies, with a purpose to get into the class above. Best of all, that spirit of clannishness observed in the district associat:on gave way to a true democratic spirit of good fellowship and comradeship, and the boy from the corner of the township was recognized as the equal of the merchant's son.

A superintendent was hired, who has proved himself a practical teacher, the two assistants and the tutor have proved their worth, and each and al! have the conficence of their pupils. A course of study has been marked out that on graduation admits the diploma holder to enter the freshman class of either of three of the leading Northern Ohio colleges. The average attendance of the o!d district plan was about sixty-five per cent, while under the centralized plan it reaches over ninetyfive, which is evidence that the new plan "draws."

## 'ROUND TABLE TALKS.

L.-In your March edition, page 262, you give an exercise to "write down five odd figures to add up and make fourteen." Also that "the questioner must be careful to say figures not numbers." Is it possible for a figure to be odd in an arithmetical sense. A figure is only the symbol of a number. Is one a number?

In the puzzle given in the Review ,the expres sion "odd figures" is merely a contraction for " figures representing odd numbers." In arithmetic the word "one" is as much a number as " three" or any other number.
M. M.-Kindly factor:

$$
-16 c^{3}-\frac{1}{32} a^{3}+\frac{1}{108} b^{3}-\frac{1}{2} a b c .
$$

$$
\begin{aligned}
& \text { Using formula: } \\
& \qquad \begin{aligned}
a^{3}+b^{3}+c^{3}-3 a b c=(a+b+c)\left(a^{2}+b^{2}+c^{2}-b c\right.
\end{aligned} \\
& \qquad \begin{array}{r}
-c a-a b),
\end{array} \\
& =2\left(-8 c^{3}-\frac{a^{3}}{34}+\frac{b^{3}}{216}-\frac{a b c}{4}\right) \\
& =2\left\{\frac{b}{6}-\frac{a}{4}-2 c\right\}\left\{\frac{b^{2}}{36}+\frac{a^{2}}{16}+4 c^{2}+\frac{a b}{24}+\frac{b c}{3}-\frac{a c}{2}\right\}
\end{aligned} .
$$

P.-A body is thrown up with a velocity of 100 feet per second; at the same instant another is dropped from a point 200 feet high; where will they meet and with what velocities will they be moving at that time. (Question 56, chap. xi, Eaton's Mathematics).

Let $x=$ space passed over by falling body.

$$
y=" \quad \text { " " " ascending body. }
$$

$$
\begin{gathered}
\text { Then } x=V t+\frac{1}{2} g t^{2}=0+\frac{1}{2} g t^{2} \\
\text { And } y=v t-\frac{1}{2} g t^{2}=100 t-\frac{1}{2} g t^{2} \\
\because \quad x+y=200 \\
\therefore 0+\frac{1}{2} g t^{2}+100 t-\frac{1}{2} g t=200 \\
100 t=200 \\
t=2 \\
\text { Then } x=0+\frac{1}{2} g t^{2}=64.4 \\
y=135.6
\end{gathered}
$$

Final velocity of descending body

$$
=V+g t=0+64.4=64.4 ;
$$

of ascending body $=v-g t=100-64.4=35.6$.
A Subscriber.-A traveler walks a certain distance; had he gone half a mile an hour faster he would have walked it in four-fifths of the time; had he gone half a mile an hour slower he would have been $21 / 2$ hours longer on the road. Find the distance. (Hall \& Knights' Elem. Alg., chap. xiv, Ex. 27).

Let $x=$ dist. he walks
And $y=$ miles he walks per hour

$$
\frac{x}{y}=\text { time he takes to walk } x \text { miles. }
$$

$$
\text { Then } \frac{x}{y+\frac{1}{2}}=\frac{4}{5} \text { of } \frac{x}{y}
$$

Divide by $x ; \frac{1}{y+\frac{1}{2}}=\frac{4}{5 y}$
From this we get $y=2$.
Again, $\frac{x}{y-\frac{1}{2}}=\frac{x}{y}+2 \frac{1}{2}$
By substituting 2 for $y$ we get $x=15$.

SUBSCRIBER.-A merchant who used as his private mark the word precaution, makes a web of silk, "cost price"-p. ta, "selling price-r. ea." After giving a customer a reduction of 25 cents per yard what per cent. of proit does he make? (Exam. Paper, No. iI, Ex. 4, p. 66, Academic Arith.)

$$
\begin{aligned}
& \text { p.ta }=\$ 1.75 \\
& \text { r.ea }-\$ 2.35 \\
& \$ 2.35-\$ .25=\$ 2.10 \\
& \$ 2.10-\$ 1.75=\$ .35 \\
& \text { Gain on } \$ 1.75=\$ .35 \\
& \text { " " } \$ 100=\frac{\$ .35 \times 100}{1.75} \\
&=\$ 20 \text { or } 20 \%
\end{aligned}
$$

L. D.-If 6 men and 2 boys can reap is acres in 2 days, and 7 men and 5 boys can reap 33 acres in 4 days, how long will it take 2 men and 2 boys to reap 10 acres? (Hamblin Smith's Arith., p. 271, Ex. 116).

30 men and 10 boys can reap 130 A . in 4 d And 14 " " 10 " " " 66 A. " 4 d
$\therefore 16$ men can reap 64 A . in 4 d .

$$
\begin{array}{ccccccc}
\text { And I man } & " & " & 4 \text { A. } " & 4 \mathrm{~d} . \\
" & \text { I } & " & " & I & A . & \text { I d. }
\end{array}
$$

Also 6 men and 2 boys reap 13 A . in 2 d .

P.-Three inelastic balls whose weights are respectively 5, 7 and 8 tbs., lie in a straight line; the first is made to impinge on the second with a velocity of 60 ft . per second; the first and second to impinge in the same way on the third; find the final velocity. Ex. 60, chap. xi, Eaton's Mathematics.
The momentum of first ball before impact is $60 \times 5=300$.

Since there is no change in momentum, the final momentum is 300 . After the two impacts the weight that is moving is $20 \mathrm{lbs} .(5+7+8)$.

Therefore final velocity $=300 \div 20=15$.
J. M. offers the following solutions of the problem in the March Review: "Mary is 24 years old. Mary is twice as old as Ann was when Mary was as old as Ann is now. How old is Ann?"
(1) Mary's age now=24. Ann's age now= $x$ then $=x$.
" " then=12
Therefore, $24-x=x-12$.
$x=18$. Ann's age now.
I $r$ (2) $x=$ interval. $12+6=24-x$, from which is obtained $x=6$.

Therefore $12+6=18$, Ann's age.
The first, which seems to be the clearest solution, will, it is hoped, settle this much vexed question.

## CURRENT EVENTS.

The chalk pits in Kent, a few milés from London. which, strange to say, have until now remained unexplored, prove to be an extensive series of underground chambers formerly used as dwellings and places of refuge by the prehistoric inhabitants. Not until last year was their real character suspected. They were excavated by the ancient Britons after the introduction of iron tools; and were skilfully planned for convenience and defence. Experts are now examining them, and we shall soon know more about them.

All the chief Siberian towns have free public libraries. That at Irkutsk contains five thousand volumes, and that at Tomsk about four thousand.

It is not true that intellectual work is a relief from physical work, or vice versa. This is one of the conclusions reached by a French investigator, after years of careful experiment on the relation of fatigue to work. He also finds that a man has a greater capacity for average work than for either intense or feeble work-that is, that the total amount of work done before exhaustion is greater. Fatigue is hastened by all excessive accomplishment, so that in a given period of labor the total quantity produced will be increased when intervals of rest are introduced, especially when short resting intervals are frequent.

It is claimed that copper may be satisfactorily tempered by slowly heating to a certain temperature, and sprinkling with sulphur during the heating, and cooling in a bath of blue vitriol. The process is patented. Hardened copper is sought not so much for providing instruments with cutting edges as for a case hardened surface to resist changes from exposure.
By careful experiments in hybridization, a wellknown California fruit grower has produced a new fruit, combining the qualities of the plum and the apricot. Many distinct novelties produced by such experimental work prove, of course, to be not worth perpetuating; but this, to which the absurd name of plumcot has been given, promises to be an excepfion.
The president of Mexico has approved of a two cent postal rate between Mexico and Canada
The British operations against the Mad Mullah in Somaliland have ended with the defeat of the Mullah and his escape into Italian territory.
No further news of importance has been received from the British expedition in Thibet, but we are learning more of the conditions in that comparatively unknown region. Even the official representative of the Chinese government, to which the Thibetans acknowledge some sort of allegiance, does not dare approach the capital, it appears, without an escort of soldiers at least as numerous as that of the British expedition. There is a rival Grand Lama of Thibet, said to be regarded with greater awe bv the common people than the Grand Lama at Lhassa; but the latter, who is supported and jealously guarded by the religious orders, is the nominal ruler of the country.

The Anglo-French agreement, which has put an end to the French claim of excessive fishing rights on what is known as the French shore of Newfoundland, has practically given France a protectorate over Morocco. There is a reservation to the effect that no fortifications shall be erected on the Morocco coast which shall in any way restrict the freedom of the Strait of Gibraltar. France also gains access to the navigable part of the river Gambia, and a practicable route over the Niger to Lake Tchad. England gains more freedom in the administration of affairs in Egypt. Both countries gain most of all in the cordial relations that follow this removal of all the outstanding differences between them. There is some ground for hope that a similar understanding between Great Britain and Russia is not far distant. Rightly or wrongly, it is freely rumored that the personal influence of King Edward has been successfully brought to bear in both cases.

The title to the Panama Canal property has been transferred to the United States; and, sooner or later, the United States government will probably succeed in constructing the canal,
The action of the United States minister at Santo Domingo, in declaring that in certain events he will take charge of all custom houses in the Dominican Republic and place them under military guard, though it has attracted but little public notice, is very much like the declaration of a United States protectorate over Santo Domingo.

After several days fighting, with heavy losses on both sides, the Japanese have forced the passage of the Yalu, and the Russians have abandoned and burned Antung, and fallen back to the mountain passes of Feng Huan Cheng.
The loss of the Russian battleship " Petropavlovsk, with her crew of six hundred men, and ViceAdmiral Makaroff, commander of the Russian fleet at Port Arthur, has been the most terrible event of the war. It was caused by her striking a mine which the Japanese had placed at the mouth of the harbor during the night. Admiral Makaroff's death is a great loss to his country. Even the Japanese express regret. He was the inventor of the ice-breaking steamer which has just opened the lassage for the Baltic fleet to leave its winter quarters, and the original purpose of which was to make possible the navigation of the Northeast Passage, by which route that fleet may be despatched to reach the seat of war.
Siberia, like Canada, is a country that has been misrepresented because of its severe winter climate. And no country in the world, save the Dominion of Canada, has made such amazing progress in the last ten years as this great region which the TransSiberian railway has opened up to commerce, bringing its fertile plains within the range of profitab'e cultivation. Apart from the ten Russian provinces of Central Asia, and from the Manchurian provinces which may be devastated by the war, there are eight Siberian provinces, with an area equal to
the whole of British North America, beyond the immediate influence of the war, and capable of supplying food sufficient for both the contending armies. If Canada is the granary of the British Empire, Siberia is the granary of Russia; while its grazing area is, perhaps, equal, and its inland fisheries even more productive than ours.

One of the results of the war in the East is to show that the great warships of modern times are easily destroyed by torpedoes and mines. This, with the development of the sub-marines, will almost certainly make a revolution in naval warfare. Already the United States authorities regret having spent so much money for building battleships, though torpedo boats and sub-marines cannot take their place except for purposes of coast defence.

Port Arthur has been effectually] sealed !by blocking the entrance, and the Japanese troops, swarming across the Laiotung peninsula, have completed the isolation of Russia's great fortress by cutting the railway and telegraph.

## SCHOOL AND COLLEGE.

The Teachers' Institute for Annapolis and Digby counties, N. S., will be held at the McDonald Consolidated School, Middleton, on the 26 ih and 27 th of May. The programme is a good one and an interesting meeting is looked for. Professor Robertson of Ottawa is expected.
The governors of King's College, Windsor, N. S., have chosen as president of the college Ian Campbell Hanna, M. A., of St. John, Cambridge, England. Mr. Hanna has very high credentials, and has had extensive colonial experience in Canada and India.
E. W. McCready, principal of the Sloyd school at Fredericton, and supervisor of manual training in New Brunswick, has accepted charge of the new system of Sloyd schools at Louisville, Kentucky. He will remain in charge of the Fredericton school till the close of the present school year.
An exceptionally fine record has been made by W . O . Raymond, jr., son of Rev. Dr. Raymond of St. John, in his second year at the Montreal Diocesan College. He took first prizes, slanding at the head of his class, in all subjects of the course.

Both on account of its piquant style and the moral which it teaches, an article in the last issue of Science, (New York), deserves he attention of writers on natural history and of the people who buy that class of literature. Following up previous criticisms which have been passed upon certain stories told by William J. Long, Professor William Harper Davis, of Columbia University, pays his respects to a type of authors of which Mr. Long is regarded a representative. The fault imputed to them is that, while their narratives are exceedingly interesting and command a wide sale, they are inaccurate and misleading, largely because they are not based on careful observation. Som of the offenders are said to have reformed, but Professor Davis regards Mr. Long incorrigible because he is not only a "romancer" but is too gullible! In time; consci-

## THE EDUCATIONAL REVIEW

entious magazine editors and book publishers will realize that literary cleverness and a poetic imagination in writing about nature will not atone for misstatements of fact.-Ex.

- The McClelan school of manual training was opened at Sackville on the igth of April in the presence of a large number of invited guests, Dr. Allison presiding. The school is a monument to the generosity of ex-Governor MoClelan and the energy of Dr. Andrews who has overcome many difficulties in pushing the building forward to completion.
Principal W. J. Shields of Hantsport, N. S., has published in the Kentville Advertiser a very instructive article on consolidated schools, the occasion being a movement which is on foot to unite the sections of Hantsport, Hants Border and Mount Denison as soon as a proper building can be erected. At a recent meeting at Grand Pre it was voted to consolidate the schools of Long Island, Grand Pre and Lower Horton.
A meeting was recently held in Fairville, N. B., presided over by Inspector Carter, to consider the first steps toward consolidating the schools of Fairville, Manawagonish, South Bay and other adjacent sections, in a central and high school at Fairville. An opinion was expressed in favor of a school in which manual training, domestic economy, stenography and type-writing should be taught.
A public meeting was held at Hopewell Hill, Albert County, on the 19th April, to again consider the advisability of joining with the consolidated school which it is proposed to establish at Riverside. The meeting decided against consolidation by a large majority. Five districts, however, including a portion of Hopewell No. 2, will be consolidated and a new building at Riverside erected, to which Hon. A. R. McClelan will contribute $\$ 5,000$.
A former New Brunswick teacher who has been a subscriber to the Review for the past fifteen years, and who is now teaching at Spruce Grove, Alberta, twenty miles from Edmonton, writes an interesting letter of his experience in the west. His school is in a German settlement. The children are bright and intelligent and readily acquire English, although they hear German constantly spoken at home. The school is small, but the salary, $\$ 600$ a year, is a fair remuneration, the expenses for board being from $\$ 12$ to $\$ 14$ a month. Our correspondent, who is an industrious student of birds, mentions the following species which are common in Alberta, and whose songs serve to remind him of home: The veery or Wilson's thrush, the cat bird, redeyed vireo, white-crowned sparrow, white-throated sparrow, song sparrow, grass finch or vesper sparrow, bluebird, Lincoln's sparrow, Maryland yellow-throat, yellow warbler, flicker or golden-shafted woodpecker, and others. Inspector O'Blenes, of Wesmorland County, N. B. reports that one-fourth of his schools are without teachers. Higher salaries are being paid and much higher yet must be paid before all can be filled. Teachers are able to get more salary in other lines of business and are giving up teaching. Experienced teachers are becoming fewer and fewer. Many are going west this coming summer, where pay is better and women's salaries are the same as men's. -Sackville Post.
Gilbert S. Stairs, of Halifax, has been chosen Rhodes scholar for Nova Scotia by the senate of Dalhousie University. His high school and university career was excep-
tionally brilliant, and he was distinguished for proficiency in every subject of the course. He graduated from Dalhousie last year at the age of 21 with high honors in Latin and English, and is now a student at the Harvard university law school. He has an excellent record in athletic sports, his moral character is unexceptionable, and he has shown that he possesses the qualities of leadership to a marked degree. There were five other candidates, namely, -W. S. Macdonald, B. A., New Glasgow ; H. A. Kent, B. A., Truro; K. F. Mackenzie, B. A., Truro; C. V. Christie, B. A., Halifax ; G. G. Sedgewick, B. A., Musquodoboit.

The ninth regular course of instruction for general practitioners, conducted by the faculty of medicine of McGill university, begins Monday, May 3oth, and will be continued for four weeks, closing June 24th.
The concluding session of the Canadian Literatare Club was held at the residence of the president, R. E. Armstrong, on Tuesday, April 19, when James De Mille and his works were discussed. Rev. A. W. Mahon read an appreciative sketch of the author. Selections from his works were read by Miss A. Richardson, Miss Keay, Miss Elsie Armstrong, Mr. A. L. Kerr and Mr. R. E. Armstrong.St. Andrews, N. B., Beacon.
The building of the School for the Blind, Halifax, which has recently undergone improvements and additions, was formally opened on the evening of April 19. Twenty-two years ago the school was established with 24 pupils; today the number is about 100 . The building is surpassed by none in excellence on this continent, and under the superintendency of Dr. C. F. Fraser the school has become a pattern for any in America.

## RECENT BOOKS.

Britain and the Empire By J. Harold Putnam, B. A. Head Master Provincial Model School, Ottawa. Cloth, Pages 398. Price 60 cents. Geo. N. Morang \& Company, Toronto.
The author does not see the necessity in providing a text-book for children to string together a mass of details and dates to be memorized, the obvious result of which is to crush out youthful interest in history. Instead, he has consulted the tastes of his readers and made great events and great men his themes, weaving about them the story oi Britain and the Empire in such an interesting fashion as to make the book attractive and readable. The great number of illustrations of people and the bright sketches of their doings, and the simple and clear style which the author has adopted, will win the interest of his young readers and make the book a source of pleasure and profit to them. The book is printed on good paper, the type is clear, maps and illustrations attractive, and every page invites to read.
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High School Building, St. John, N. B., July 28-30, 1904.

Tuesday, June 28.
10.30 a. m. --Meeting of Executive Committee.
2.30 p .m.-Enrolment.

Report of Executive Committee.
Election of Secretaries and Nominating Committee.
Addresses from the Chief Superintendent, the Cbancellor of the University, and others.
8.00 p.m. - Public Meeting. Mayor of St. John, responded

Address from the Mayor of St. John, responded
to by a member of the Board of Educa.
tion.
Address by Dr. Winshir, of Boston, on "Twentieth Century Standards."
Wednesday, June 29.
9.30 a.m.-Short Addresees on New Departures in Educa-
tion:
Manual Training, by Mr. E. E. MaoCready. School Gardens and Nature Study, Mr. John Brittain.
9.30 a.m.- Consolidated Schools, by D. W. Hamilion, M.A.

Domestic Science, by a specialist in that subject.
2.30 p.m.-Election of Executive Committee.

Address by Dr. Winshir on "The New Geography and the New English."
An open discussion on preceding topics.
$8.00 \mathrm{p} . \mathrm{m}$.-Social Meeting.
Thursday, June 30.
9.30 a. m. -"The Function of the Normal School in a System of State Education," by Dr. Cox.
"Drawing," by H. H. Hagrama, M.A. A. Music Papers, by specialists, on Literature and art, including a Paper on Miiton, by or Art, incluaing as W. H. Clawson.
2.30 p.m. - "Acadian Schools," by Judas Landry.

Election of Representative to Senate of U. N. B. General and Unfinished Business.
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