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No. 4.

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Editorial Notes.

WILL every subscriber who has any doubt as to how his subscription to THE JOURNAL stands, do us the favor to look at the date on his label and take action accordingly? Our expenses in publishing THE JOURNAL are very heavy. Paper-makers, compositors, pressmen, binders, mailers, etc., have to be paid promptly from week to week, as the work is done. We shall need a large sum of money between this date and the first of July. Every subscriber who is in arrears, and who can possibly make us a remittance within those dates, will confer a special favor by doing so.

A TEACHER of high standing, in whose sound judgment and good motives we have every confidence, sends us the following, which speaks for itself:

"You will do good service to the cause by warning teachers and school boards to be on the lookout for an alleged artist who at present is 'doing' Ontario schools. His method is to represent that he has something new in drawing, especially in shading and coloring, and to get permission to give exhibitions of his work in the classes at school. When he announces his coming to the various classes he incidentally remarks that the children are expected to bring five cents each to repay the artist. His drawing has no educational value, and his coloring is abominable.

B. WARE."

MANY of our readers will, we doubt not, have missed and regretted the absence, in this and the last number of THE JOURNAL of Rhoda Lee's personal contributions to the "Primary Department." We are glad to say that her failure to appear is but temporary. We hope to have her usual "copy" for next number, or the following at farthest. The fact is that we cannot do without Rhoda Lee's work in her important department, and should be very sorry to be obliged to try. A teacher of experience, occupying a high position as an educator, wrote us the other day, in connection with other matters, as follows: "Rhoda Lee's work is very highly estimated, and she is a real apostle, perhaps without knowing it. At the convention, the other day, her name was used as that of a leader and an authority. I could not help wishing that she could have overheard some of the discussions on Phonics." Our American exchanges, many of them and some of the best of them, pay "Rhoda Lee" the compliment of quotation, very frequently, thereby showing excellent taste and judgment on their part.

THE influence of music as a refining and elevating power in human life is almost universally admitted. From this admission it follows as a corollary that the teaching of music should have a place in every system of national education. It is not, therefore, at all creditable to Ontario that so little attention has hitherto been given to music in its schools. Those of our readers who are interested in the subject, as all ought to be, will be pleased with Mr. A. T. Cringan's lucid and instructive paper in this number. This paper was read by Mr. Cringan before the Inspectors' Section of the Provincial Association at its recent meeting. It resulted in a motion that a syllabus of musical studies adapted to all grades be prepared and submitted at the next annual meeting. We understand that the Minister of Education regards very favorably the proposal to adopt such a syllabus, which will serve as a guide to the limit to be worked for in each grade.

The system of instruction to be used, whether the staff notation or the tonic sol-fa, is very properly to be left to the discretion of the teacher, the aim being in each case simply to reach a certain specified and not too difficult result, irrespective of the system of instruction adopted. The general principle seems to be a good one, and worthy of being acted on.

OUR best thanks are due, and are heartily given, to those teachers who have kindly prepared and sent us reports of their respective Institute meetings, and to those who have offered to do so. Some years ago we tried to report the proceedings of each Institute meeting in full, but of late the number has so multiplied that we find it quite impracticable to do so. For illustration: Last week there were, if our memory serves us, no less than eleven of these meetings held simultaneously in different parts of the Province. To give a moderately full report of each would leave little room for anything else in the number of the paper containing them. We have, therefore, of late years, come to the conclusion that the interests of our subscribers would be better served by our using the space for other matter of a more widely interesting and helpful kind. We do not wish, however, to lose sight of the meetings of the Institutes. Many of the discussions had and papers read at these meetings are instructive and suggestive. What we propose to do in subsequent numbers is to scan closely the proceedings of every meeting of which we receive a report, either in MS. or in a newspaper, and to select and reproduce those parts which seem to us to be of special importance. We shall be glad and grateful to any friend who will help us in this matter by selecting the proposition or discussion which seemed to be specially new or interesting and giving us the facts, condensed, if possible, into a paragraph, thus helping us to secure material for an interesting news column. Papers of special value, and, above all, practical papers, dealing with methods of teaching particular subjects, we are always glad to receive.

English.

All articles and communications intended for this department should be addressed to the ENGLISH EDITOR, EDUCATIONAL JOURNAL, Room 5, 11½ Richmond Street West, Toronto.

EXAMINATION QUESTIONS ON TENNYSON.

MISS GERTRUDE LAWLER, M.A.

THE BROOK.

(1) Is the song of the brook, "I come from haunts of coot and hern," etc., the production of Edmund, or of Lawrence, or is it what the brook actually says to Lawrence as he sits on the stile? Tell the reasons for your conclusion.

(2) Why not have the whole song of the brook together and not interrupted as it is by the pentameters? Examine its suitability wherever it occurs.

(3) Why have Katie's lover, James Willows, of one name with her?

(4) Why was it Bonny Doon that Lawrence whistled? How was it he remembered what he whistled twenty years before?

(5) Give a concrete example of "mealy-mouthed philanthropy."

(6) "Who anger'd James? I said.
But Katie snatch'd her eyes at once from mine."
Why did Katie snatch her eyes, and why at once?

(7) "And James departed next with him and her."
What does this tell of James' character?

(8) "O, would I take her father for one hour,
For one half-hour, and let him talk to me?"

Why did Katie first say "one hour" and then add "one half-hour"?

(9) "O Katie, what I suffer'd for your sake!"
What does Lawrence mean?

(10) Write the bailiff's account of how it was he bought the "four-year-old" from old Philip. Suppose he is telling one of his friends.

(11) "We turned our foreheads from the falling sun,
And following our own shadows, thrice as long
As when they follow'd us from Philip's door,
Arrived."

How long was Lawrence with Philip?
(12) Why did not little Katie tell Lawrence that her father would welcome him?

(13) Why tell Lawrence her brother is in the harvest-field?

(14) Why did the older Katie—the mother—most love to talk of English days?

(15) How did little Katie know that her mother would welcome Lawrence?

(16) Why does Katie refer to her mother as "she"? What was Katie going to say?

MORTE D'ARTHUR.

(1) What is the effect of opening the poem with "So"?

(2) In "noise of battle" is noise used precisely? Suggest synonyms and differentiate their meaning. Compare the first line of "The Holy Grail."

(3) What does "bold" mean when prefixed to Sir Bedivere? Why is it used continually with this knight's name?

(4) Nigh the field. What is the poetic effect of changing nigh to near?

(5) "A broken chancel with a broken cross."
Show why this is a suggestive, descriptive stroke?

(6) "On one side lay the Ocean, and on one
Lay a great water, and the moon was full."

Tell why the general term "great water" is here especially good. What is the gain by having the moon full?

(7) "The sequel of to-day unsolders all."
What do you think of the use of unsolders?

(8) "Such a sleep
They sleep—the men I loved."

What does "such" mean? Why not "love" instead of "loved"?

(9) "For thou rememberest how,
In those old days, one summer noon, an arm
Rose up from out the bosom of the lake,
Clothed in white samite, mystic, wonderful,

Holding the sword—and how I row'd across
And took it, and have worn it, like a king:
And, wheresoever I am sung or told
In aftertime, this also shall be known:
But now delay not; take Excalibur,
And fling him far into the middle mere:
Watch what thou seest, and lightly bring me word."

(a) Why is it suitable to have the arm appear "one summer noon"?

(b) What is samite?

(c) Parse mystic.

(d) Explain—like a king.

(e) What is peculiar in "I am sung or told"?

(f) Why shall be, not will be?

(g) Why "him" to refer to a sword?

(h) What does "mere" mean?

(i) Parse middle.

(j) What does "lightly" mean?

(10) "Yet I thy hest will all perform at full."

(a) What does "hest" mean?

(b) Parse all.

(c) Explain "at full."

(11) "Where lay the mighty bones of ancient men."

Interchange "mighty" and "ancient." What is the effect?

(12) "There drew he forth the brand Excalibur,
And o'er him, drawing it, the winter moon,
• Brightening the skirts of a long cloud, ran
forth
And sparkled keen with frost against the
hilt."

(a) With what word does o'er connect him?

(b) What are the skirts of a cloud?

(c) What does "keen" mean?

(d) With what word does "with" join "frost"?

(13) "Both his eyes were dazzled." "Then with
both hands I flung him."

Comment on the use of "both" in these extracts.

(14) "What is it thou hast seen? or what hast
heard?"

What did Sir Bedivere answer?

(15) What reasons did Bedivere give to his conscience when he decided not to throw the brand? What did Arthur tell him was the real reason for not obeying?

(16) "Authority forgets a dying king,
Laid widow'd of the power in his eye
That bow'd the will."

Tell the meaning in plain language.

(17) "Make broad thy shoulders to receive my
weight."

Tell what "make broad" means.

(18) "But the other swiftly strode from ridge to
ridge,
Clothed with his breath."

Is "clothed with his breath" taken literally or figuratively? Explain.

(19) Write a word-picture of the dusky barge as Bedivere saw it.

(20) Quote or tell the substance of the last words of Arthur to Sir Bedivere. Comment on the thoughts expressed by Arthur.

(21) What was the island-valley of Avilion?

(22) Give prose equivalents for—"place of tombs," "shining levels of the lake," "latest-left," "springing east," "knightly growth that fringed the lips."

(23) (a) "Then spake King Arthur to Sir Bedivere,"

(b) "To whom replied King Arthur, faint and pale."

(c) "Then spoke King Arthur, breathing heavily."

(d) "To whom replied King Arthur, much in wrath."

(e) "Then spoke King Arthur, drawing thicker breath."

(f) "And answer made King Arthur, breathing hard."

(g) "And slowly answered Arthur from the barge."

Show how these lines tell of the development of the poem.

THE DAY-DREAM.

(1) Is Lady Flora supposed to know the fairy tale of "The Sleeping Beauty"? What difference does it make whether she knows it or not?

(2) Describe Flora's attitude during each division of the story.

(3) The first line of the L'Envoi tells that Flora shook her head. Is this indicative of a refusal?

Does she accept him in the end? Why not have her answer recorded?

(4) Suggest a suitable name for Flora's lover. Describe his personal appearance.

(5) In "The Sleeping Palace" note all words that suggest sleep.

(6) What in the description of the "Sleeping Beauty" gives you the best idea of the beauty of the girl?

(7) Tell what the first four verses of "The Arrival" have to do with the poem in thought.

(8) Make from "The Revival" a list of words that are imitative of the sound produced.

(9) Find in "The Departure" a line descriptive of the whole poem.

(10) Show from the thoughts in "The Moral" that it applies to every reader of the poem.

(11) Tell wherein the L'Envoi is Tennyson's special message to our century.

(12) What famous poem that Tennyson has written might be described as—earnest wed with sport?

(13) "As by the lattice you reclined,
I went through many wayward moods,
To see you dreaming—and, behind,
A summer crisp with shining woods."

(a) What is the lattice?

(b) What does he mean by wayward moods?

(c) What is the meaning of behind here? Parse it.

(d) What does crisp mean?

(e) Why mention the woods around the home of Lady Flora?

(14) "When will the hundred summers die,
And thought and time be born again,
And newer knowledge, drawing nigh,
Bring truth that sways the soul of men?"

Are there any such thoughts in the "Fairy Story"? Account for their introduction in the poem.

(15) "And is there any moral shut
Within the bosom of the rose?"

What answer do you give to this question? What is the moral?

(16) What is the versification of "The Day-Dream"?

THE VOYAGE.

(1) "The Voyage is a delightful allegory, with its double meaning, half of the life on the sea and half of the life of the soul, and wholly of those who, like seaman, have no care for business and science and the real world."

Give a brief synopsis of the poem so that it will be evident how far you agree with this criticism.

(2) "We knew the merry world was round,
And we might sail for evermore,"

concludes the first stanza;

"We know the merry world is round,
And we may sail for evermore,"

concludes the last stanza. Would it be possible to exchange these? Why or why not?

(3) Show from the poem what was the likely course of the voyagers in their circumnavigation of the globe.

(4) Make clear whether it is better to people the vessel from different callings or from one—say poets.

(5) How many do you place on board?

(6) There is but one pessimist on board. Is this an optimistic calculation?

(7) "And overboard one stormy night
He cast his body, and on we swept."

Why did not the voyagers try to rescue the hopeless one?

(8) "But laws of nature were our scorn."

Does nature mean human nature?

(9) What is symbolized by the Vision?

(10) Does the Vision travel with the face towards or from the mariners?

THE POET.

(1) Why is it right to consider that home truly rich when it is the birthplace of a poet?

(2) Dower'd suggests an endower; who is the poet's?

(3) "He saw thro' life and death, thro' good and ill,
He saw this thro' his own soul."

Show that this is climacteric order.

(4) His silver tongue. Why not golden?

(5) "From Calpe unto Caucasus."

Tell why Tennyson chose these special definite names.

(6) Show how Tennyson has, by this poem, ennobled the dandelion.

(7) "Of Youth and Hope." Tell the difference in meaning of this and of youthful hope, and of hopeful youth.

(8) "So many minds did gird their orbs with beams,
Tho' one did fling the fire."

About how many are this year girding their orbs with Tennyson's beams?

(9) Can there be freedom without rites and forms?

(10) Tell after Tennyson how Truth is Wisdom, is Freedom.

(11) In the poem, which is more commendable, the ingenuity of the comparisons, or the method of the versification?

(12) Give any instance of a poet's words shaking the world.

(13) Write in plain prose the meaning of "The Poet." Follow the order of the poem, and, where the statements are abstract, illustrate by referring to facts in poets' lives.

THE LOTOS-EATERS.

(1) Give an account of the "languid and dreamy beauty, the soft and luscious verse, the tone, the sentiment" of "The Lotos-Eaters." Quote where you can, to emphasize your remarks.

(2) Write a brief geographical description of the Lotos-land, as you judge it from the poem.

(3) "Then some one said, 'We will return no more ;'
And all at once they sang, 'Our island home
Is far beyond the wave ; we will no longer roam.'"

Who is the "some one"? Who is meant by "they"?

(4) "Death is the end of life."
"Others in Elysian valleys dwell,
Resting weary limbs at last on beds of
asphodel."

Reconcile these statements.

(5) In the odd stanzas of the "Choric Song," there is a happy strain ; the even stanzas are doleful. This division suggests two bodies of singers. Are those bodies the two divisions of Ulysses' men—those willing to remain, those anxious to continue? Or, is one part the "Lotos-Eaters, and the other Ulysses' men? Or, do you prefer to consider the song sung wholly by Ulysses' men and so representing their reasonings?

(6) If the lotos keeps men with half-shut eyes in the bliss of dreams, how have the "Lotos-Eaters" enough energy to induce others to taste their plant? If "There is no joy but calm!" would the "Lotos-Eaters" be calm if Ulysses' men refused the plant?

(7) Does Form or Color predominate in the poem?

(8) Are the feelings aroused by a study of the poem sympathetic or antagonistic?

THE LADY OF SHALOTT.

(1) Deduce any moral teaching from the poem.

(2) Show that the division into parts is marked by a distinct line of thought.

(3) Mention all the instances the poet has of direct narration. Comment on these.

(4) Tell what you think of the refrain and its effect. In having a refrain, what well-known dictum was the poet following?

(5) Was it better for the "Lady of Shalott" to stay and look down to Camelot, than to weave on as she did—half-sick of shadows?

(6) Why did the Lady write her name on the prow?

(7) Show what use Tennyson here makes of contrast.

RECOLLECTIONS OF THE ARABIAN NIGHTS.

(1) Select those thoughts, sentiments, and constructions that tell us the poem is the work of a young poet.

(2) What stanza contains most symbolic harmony?

(3) Who is the I? Who is the Persian Girl?

(4) Is the Persian Girl happy or unhappy?

(5) Select all words that apply especially to this golden prime.

(6) Why is this poem more suitable for children than for older persons?

(7) Why is the fourth verse of the first stanza peculiarly indented?

THE HOLY GRAIL.

- (1) When did King Arthur live?
- (2) What is Tennyson's conception of the Grail?
- (3) How old, at Arthur's time, was the legend of the Grail?
- (4) Tell where in the poem these lines occur :
(a) "And waste the spiritual strength
Within us, better offer'd up to Heaven."
(b) "Take thou my robe," she said, "for all is thine."
(c) "We have heard of thee ; thou art our greatest knight."
- (5) Answer these questions after the poet :
(a) Art thou so bold and hast not seen the Grail?
(b) When have I stinted stroke in foughten field?
(6) Tell of the quest of Percivale.
(7) Describe the exterior of Arthur's hall.
(8) Tell what you remember of the Siege perilous.
(9) "And many among us, many a week,
Fasted and prayed even to the uttermost."

What was the uttermost of their praying and fasting?

(10) Show why Ambrosius is needed in Tennyson's treatment of the Grail. Sketch Ambrosius' moral character as you think Tennyson would have it.

(11) Note and comment upon the supposed examples of hypnotic influence in "The Holy Grail."

(12) Write an account of the symbolic applications that may be made in a study of the poem.

(13) State the versification of the poem ; make clear how appropriate you think that versification.

GENERAL QUESTIONS.

(1) In what poems and in what connection do you find :

- (a) She bore the blade of Liberty.
- (b) And every chance brought out a noble knight.
- (c) The prelude to some brighter world.
- (d) There is confusion worse than death.
- (2) Contrast the setting of "Morte D'Arthur," and "The Day Dream."
- (3) Criticize Tennyson's titles of these poems studied.

(4) In what seasons are the poems professedly written?

(5) Quote the best comparison you remember.

(6) Refer to examples where scientific truths are stated.

(7) Refer to subjective passages dealing with thoughts peculiar to our century.

(8) Tell what you have observed about Tennyson's compounds. Illustrate.

(9) What tone predominates in Tennyson's poems?

(10) Make clear what Tennyson means by a dramatic monologue.

(11) Refer to any examples of Tennyson's sympathy with the social movements of his age.

(12) What aspects of nature does Tennyson seem to love to depict?

(13) Mention examples of minute and faithful observations of natural phenomena.

(14) Do you remember any passages suggested by these? Refer to them.

(a) "Round the island the sea lies like a crown."

(b) "Faith is the golden chain to link the penitent sinner to God."

(c) "My heart, though widow'd, may not rest."

(d) "If the dead are not raised, let us eat and drink, for to-morrow we die."

(e) "For, if such holy song
Enwrap our fancy long,
Time will run back and fetch the age of gold."

THE MOUSE-TOWER.

"They almost devour me with kisses,
Their arms about me entwine,
Till I think of the Bishop of Bingen,
In his mouse-tower on the Rhine."

—Longfellow, "The Children's Hour."

The story of the Mouse-tower near Bingen is one of the many legends without much historical truth that have clustered about every castle, or ruin, or cliff in the Rhine. This legend of the *Mausesturm* has been told through many generations, and the traveller who to-day goes to Bingen is taken down to see the famous tower. Ruined to-day, it serves only as a sort of watch-tower for the ships that ply up and down the river, but once it stood high on its quartz rock, where, in the middle of the Rhine, it

could bid defiance to the enemy. The legend that grew about this tower has been told very prettily by Carl Geib in his *Sagen und Geschichten des Rheinlandes*, and the following narrative follows his account :

THE LEGEND OF THE MOUSE-TOWER.

Just where the Rhine enters the grewsome mountain valley near Bingen rise, amidst bushes and terraces of vines of the heights of Rudesheim, the grand ruins of the castle of Ehrenfels. Opposite the castle, in the midst of the roaring river, rise upon a rocky island the gloomy walls that have become famous under the names of the Mouse-tower or Hatto's tower. Near by is the rapid known as the Bingen loch, once the dread of the river sailor.

At the beginning of the tenth century, lived a prelate whose name was Hatto, Bishop of Fulda, notorious everywhere for his ostentation, luxury, arrogance, and cruelty. Not satisfied with his rank, he strove to rise, and, by means of the partiality of the emperor, he was made Archbishop of Mayence. After he had ruled with crozier and purple stole for four years, the blessed land about the Rhine was visited with great tribulations. Sultry heat, with destructive vapors, burned the rich fields, followed by a deluge of rain that ruined all hope of a harvest. Famine ruled everywhere. But Hatto felt it not ; for his barns were full, and he, who was reckoned among the heads of Christendom, did not disdain to drive a hard bargain over his grain. The scarcity increased, and poor people besieged his palace with lamentable cries for bread. The hard-hearted prelate would not be minded of his duty, and had them driven away as idlers, fit only for begging. Lamentation, therefore, grew only the louder, and even curses began to fall, which marked the general despair. Already the archbishop had made himself hated because of his exactions. The numbers of the distressed ever increased, who, as he gave no ear to their entreaties, seemed to threaten violence. Hatto saw in this a riot that meant robbery and murder, summoned his armed servants, and bade them seize the leaders of the riot.

The troops, after a short resistance, dispersed the mob, and brought a crowd of prisoners to the palace. "They were treating for my grain," spoke Hatto, with bitter scorn ; "good ! Let them be shut up in one of the barns !" The soldiers dragged them in, then on the cruel order of their master set the barn on fire. Soon the flames encircled the building, and the shrieks of the unfortunates, who found all exit closed, ascended to heaven. With diabolic laughter the bishop cried, "Hark, just hear how the barn-mice squeal !" But if the villain was rid of the riot, he could not escape the punishment of God.

When, at night, after his carouse, he went to his splendid bedchamber, suddenly he heard a rushing noise and a horrible, squealing. What shudders ran over him ! Suddenly mice sprang out from the walls and fell upon him. He howled to his servants for help ; but they could not keep off the horde of animals ; they crossed themselves in terror and fled. At last, Hatto threw himself on a horse, and hastened with a troop of servants down the river, and sought refuge in the castle of Ehrenfels. Yet the tormenting spirits followed him, swarming through the whole castle, pursuing him, tormenting and biting. Then, at last, he felt his sin, and raised a prayer to heaven. But the just punishment that was to come upon him was not yet complete. He fled on a boat to the lonely tower built upon the little island in the Rhine, and there had his bed hung up by means of chains. But the mice swam after him over the river, slipped in through every lattice and hole, and gnawed with sharp teeth at his body, that at last he gave up the ghost ; nay, even his name on the tapestry of the room was gnawed away by them. Scarcely had this happened when the whole army of mice vanished from the castles and country about. But the place where the bishop got his reward is called to this day as a horrible memorial, the Mouse-tower. Still, often, it is said, at night, when the storm rages and the river roars, his ghost, like a gray cloud, hovers about the hoary walls.

So the story runs, as the people still tell it. Yet history knows of Hatto, Archbishop of Mayence (891-913), nothing but what is good and worthy of a wise governor and ambitious prelate. Probably his despotic character gave his enemies occasion to speak evil of him and invent the story of his horrible cruelty and punishment that lives in popular tale. The very castle and tower, moreover, were probably not built before the thirteenth century.

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Editorials.

"HOME-WORK."

THERE is one very practical question that we think ought to be considered and discussed more fully than it has hitherto been, at the teachers' institutes, and at the Provincial and Dominion Associations. It is that of the propriety and utility of the practice, which is, we believe, now almost universal, of assigning a considerable amount of what is called "home-work," to be done even by quite young children at their homes, in addition to the five or six hours of study which they are supposed to put in in the schoolroom. We have frequently called attention to this as an evil against which, it seems to us, every intelligent teacher should set his face. We have been not a little surprised to meet with so little response from teachers. We have occasionally spoken with teachers whom we have met, but do not now remember to have met with any who seemed to be greatly impressed with the magnitude of the evil. We should like very much to know what is the opinion of the practice held by the most experienced and thoughtful teachers. We have in mind, as we have intimated, mainly the younger classes in the Public schools—say, children under ten years of age—though we are convinced that these are by no means the only sufferers from too much night study. We should be

gratified, and are pretty sure that good would result, if a number of teachers who have given thought to the subject, and have had opportunities for observing the practical workings of the "home-work" system, would give us their views, with such brief notes or arguments as could be compressed within the dimensions of a postal card, and permit us to publish the whole as a symposium.

All competent physicians and physiologists, all thoughtful and intelligent parents, and other students of child-nature, will, we venture to say, be found virtually unanimous in condemning home-work for children under ten or twelve. They will agree that the five or six hours of the school day are quite enough, not a few will say too many, for children of tender years to be kept under close physical restraint, and to have their minds under such a degree of tension, be it greater or less, as the best efforts of the teacher, according to his force and skill, can effect. They will recognize the law of nature, written in both the physical and the mental structure of the child, that comparatively short periods of disciplinary restraint of body or mind should always alternate with longer periods of freedom, in the open air, where the other and no less important part of the work of education—the development of muscle and nerve—may be carried on freely and joyously, under the spontaneous impulses which wise nature has so amply provided. It is not only a mistake, it often approaches to positive cruelty, when parents and teachers unite to prolong the hours of restraint and diminish those of freedom, until, in many cases, the buoyancy of spirit, the God-given joyousness, are taken out of the child's life, and he is made prematurely old, and, may we not add, prematurely stupid? For, we hold, and we believe that all careful observation will sustain the position, that the tendency of too many hours of study, or attempted study, is to deprive the mental powers of that elasticity which is the condition of the highest success in mind work, and to implant a distaste for school and all its associations which will militate most powerfully, so long as it lasts, against true progress, by destroying the spontaneous enthusiasm which is its first condition.

The parents themselves are, we fear, in many instances, the worst enemies of their children in regard to this matter. From various mistaken, or utterly selfish motives, they too often like to see their children come home from school with a formidable load of books, and to have them spend long hours in the evenings in poring over the tasks assigned them.

Some like it because they are ambitious for their children, and suppose that hours of what they deem study mean corresponding progress, whereas every teacher knows that one-half hour of real activity when the brain is fresh and vigorous is worth more for genuine education than thrice as many hours of dreamy stupor, after the powers of attention are exhausted. Other parents are afraid they will not get the worth of their money from the teachers; others, again, like to have their children's time occupied, they care little how, so that they may be kept, as they say, "out of mischief," *i.e.*, may give them (the parents) less care and anxiety, and so on. Not a few, we dare say, gauge the honesty and industry of the teacher by the number and length of the lessons assigned as home-work. With many parents, however, the case is very different. We, ourselves, know not a few who regard the "home-work" system as a really serious affliction, and whose hearts are full of pity and sympathy for their children, whom they see compelled to pore over their books when all the faculties of mind and body are crying out for nature's great specific—free activity in the open air. Other parents find their own plans materially interfered with by the necessity of overseeing their children's studies in the evenings, and, with some reason, complain of having to do the teacher's work in addition to their own.

We are glad to see that the press is becoming awake to the seriousness of the evil. Many papers of local and general influence are speaking out strongly in regard to it. We happen to have before us the utterances of two of these of recent date. We quote a paragraph from each, as marking the direction in which the more intelligent public opinion is setting. The *Windsor Record* well says:

"The home task has long been condemned by respectable educational authorities, and it remains for parents and physicians to set their faces against the evil which deprives childhood of the conditions necessary to the development of a vigorous and useful manhood and womanhood. The state, no less than the individual and the family, is concerned in the correction of so far-reaching an evil."

The *Woodstock Sentinel-Review* quotes the foregoing in the course of an excellent article, in which it says:

"The home task is the poorest kind of economy, defeating the very end it seeks to attain; by imposing on it a never-ceasing round of monotonous occupation the delicate instrument of thought is prevented from recovering its elasticity, and the work which should be a pleasure and stimulus under proper conditions becomes

repellent and an instrument of torture; activity is the normal condition of the mind, but drudgery heaped up will dwarf the powers and narrow the capacity for accomplishment. The home task not only usurps the waking hours which should be devoted to recreation, but invades the realm of sleep and becomes doubly a destroyer; the brain is unduly excited up to the hour for retiring, and sleep is effectually murdered by the fighting of the educational battles over again in dreams."

Contributors' Dept.

ARE WE MOVING UPWARDS?

BY A CANADIAN TEACHER.

II.

Nothing short of a radical change in the mode of training and licensing Public School teachers of the lowest grade will avail to remedy the evil. For fifteen or twenty years or more we have annually spent many thousands of dollars—aggregating an immense sum, indeed—to keep up the supply of these lowest grade teachers, and, on the other hand, we have not spent a single dollar to retain the companies, regiments, and battalions that have been recruited for our army of Public School teachers. In fact, we have for many years had an inflexible Regulation that each of them must move on within three years to a higher grade or be dismissed from the service. It does not seem ever to have struck the originators of this odious Regulation that they were perpetrating the transparent fallacy of the dilemma. Either these teachers were unfit to enter our schools at all, or else they were good enough, after three years' practice, to be allowed to give us the benefit of their accumulated skill and gathered experience for another term of years. To cashier them at the end of thirty months' service seems like a deliberate plan to waste the public funds already expended in training and testing these primary teachers. Of course, a considerable number would leave the ranks from various causes; but probably 50 to 60 per cent. would serve five or six years instead of three years, if the law permitted them to remain in the school-room, and the effect would be to give a very large number of schools better teachers than they can obtain under present conditions. For twenty years we have been marking time; the statistics prove this beyond the shadow of a doubt; we have made no advance worth mentioning for twenty years in this respect. In 1872 the proportion of First Class to Third Class teachers was seventy to one hundred; in 1892, seventy to ninety-eight; so that for twenty years at least our methods of dealing with Public School teachers have entirely failed to secure proportionately any more teachers of higher grade.

Who can reckon the waste of teaching power that has gone on under the inflex-

ible Regulation that required every Third Class teacher to move on to a higher grade, or be drummed out of the educational army? We have obstinately refused to see the plain fact that from uncontrollable causes, beyond the reach of legislation, often causes that should have excited the warmest sympathy for the really ambitious teacher, it has been morally impossible for hundreds of young, clever, and ambitious Third Class teachers to move on and face the examination for a higher grade.

We have obstinately refused to see the plain fact, which has been before our eyes for twenty years, that more than one-half of the Public Schools are compelled, by lack of funds, to employ teachers of the lowest grade. And we have obstinately refused, for twenty years, to admit that we were committing a great waste of public money—to say nothing of the single unreturning educational opportunity of our own children—by rigorously expelling from the ranks all the Third Class teachers who might, perhaps, have been willing to give more than thirty months' service at starvation salaries; who might, perhaps, from the very highest motives, have been willing to devote their lives and the best talents they possessed to the work of elementary education. Many hundreds of these teachers have been violently driven out of the work which they loved, and which they had learned to do far more skilfully and effectively than it could have been done by the president of any Canadian university, or than it could have been done by Dr. Ryerson or any of his successors. I should like to see Sir William Dawson, or Principal Grant, or President Loudon, or Minister Ross handle a junior third class with the tact and delicate skill acquired by many a clever Third Class teacher after three years' hard work. There is not now, and there never has been, a High School inspector in Ontario who could handle a junior Public School class in a crowded room, day after day, month after month, with the patience, energy, tact, and impressive effect that many a Third Class teacher has shown. There is not a Public School inspector in Ontario who has not, from time to time, learned something gladly from watching Third Class teachers of good natural abilities and earnest moral purpose. And yet they have been compelled to see less experienced workmen take the place of these very teachers, under the operation of the cast-iron Regulation, founded on a viciously false assumption. We have not thought of treating our kindergarten teachers so harshly and unjustly under our "plan of campaign." But many thousands of Third Class Public School teachers, who loved their work, who loved little children, who were daily becoming more skilful and eagerly studying to excel, have been compelled to quit the schoolroom. The craze for written examinations has turned them all out, and has placed an equal number of younger and wholly inexperienced persons in their places.

Our Regulation has seemed to say to the Third Class teacher, "Thou shalt not

exist; but thy day of doom is postponed three years." It has, indeed, been a "reign of terror" to the individuals who found no time or money to face the inevitable written examination, and there is no doubt whatever that hundreds of skilful teachers of the junior classes have been driven into the United States and into the newer provinces by this very Regulation. We have supplied Michigan with scores of good teachers from a single county, teachers who were becoming more efficient every year. It is certainly a wise proposal of the Education Department to double the term of a Third Class teacher, and the Minister deserves the thanks of all teachers for changing the conditions and attempting a new experiment which cannot possibly leave the schools worse off than before. If the term were made ten years, and the higher grades of certificate were allowed to be taken by passing the examinations, even at the rate of one subject a year, far more teachers would keep up their studies and graduate into the higher grades. We could also afford to keep the standard as high as necessary, and insist on thorough mastery of each subject, to a far greater extent than is now possible.

One other distinct change should plainly be made. The Public Schools should be graded into three divisions, corresponding with their general outfit and with the grade of the teachers employed. Such a rule has brought about a remarkable revolution in the High Schools. Is there any reason to doubt that thousands of Public Schools would immediately set out to earn an extra grant for equipment and efficiency if the prize were placed before them? It is almost certain that our Legislature would acquiesce in the necessary addition to the Public School grant. The experiment ought to be tried, for five or six years at all events, for it would simply be spending a few thousands to keep good teachers in the schools instead of spending many thousands to get them in for some thirty months' service, and no more. While the new additions proposed to be made to the programme for Third-Class certificates may admit of debate, it does not seem probable that the waste here pointed out can be disputed; nor can it be questioned that some new departure is urgently required to keep the good teachers we already have. By all means let us vary our plan; we may at least learn something new about the conditions of the difficult problem that has hitherto proved insoluble in Ontario. The figures in our statistics for the past twenty years have been pointing out the weakest place in our system. Let us hope that it will not take two more decades to convince us that we have been fighting against the natural forces, instead of using them to assist us in the great educational work to which we stand committed to the extent of several millions of hard-earned dollars. Let us make the initial examination sufficiently thorough and searching; but, by all means, let us abolish the odious Regulation that has cost us thousands of dollars and hundreds of born teachers whose services we have foolishly thrown away.

Special Papers.

MUSIC IN THE PUBLIC SCHOOLS.

A. T. CRINGAN.

The importance of musical training, as a factor in the education of the young, has long been recognized by all leaders of thought in connection with the science of education. Pestalozzi has been credited with being the first to introduce musical training into the school, and establish it in a position of equality with other subjects usually considered essential to the harmonious development of the child. The first great principle which we have to hold by in dealing with the subject is that the great end of music is not to amuse. Ruskin says that "all art which proposes amusement as its end, or which is sought for that end, must be of an inferior, and is probably of a harmful, class. The end of art is as serious as that of other beautiful things—of the blue sky, and the green grass, and the clouds, and the dew. They are either useless, or they are of a much deeper function than giving amusement." Later, in writing of his plans for the education of the children of ideal England, he says: "In their first learning they shall be taught the great purpose of music, which is to say a thing that you mean deeply in the strongest and clearest possible way; and they shall never be taught to sing what they don't mean. They shall be able to sing merrily when they are happy, and earnestly when they are sad; but they shall find no mirth in mockery, or obscenity, neither shall they waste and profane their hearts with artificial and lascivious sorrow." Much is to be learnt here, if one searches a little beyond the words into the real meaning of the passage. It sweeps away the artificial with a strong hand, and places truth in music in the highest place, from the first learning of notes, and shows that in song high and true sentiment, alike of melody and idea, should be the true ambition of all who would guide the young in the cultivation of the gift of song. One of the chief means of diffusing national sentiment is afforded by the study of songs which embody and express high ideals of national spirit, and preserve for our youth the traditions of our country's triumphs, and inspire confidence in her greatness and strength. In all countries where the education of the people has received the greatest attention, instruction in singing has long been regarded as an important branch of school discipline. Sentiments appropriate to childhood and youth find expression in the songs taught in elementary schools; and lessons calculated to make a deep impression on the character of children, and to influence their future conduct, are linked with the most pleasing associations in the songs sung in the schools of nearly every civilized country. Germany and Switzerland were among the first to recognize the importance of music as a branch of education, but were closely followed by England and America. Now we hear of the extension of the movement to the Australian colonies, Africa, and Japan. Two years ago I observed that the Queensland Government sent a commissioner to England to study the methods in vogue there, and as a result they have adopted a scheme to encourage systematic instruction in singing in their elementary schools. The music syllabuses of the London and Bradford schools have been published in full for the guidance of Queensland teachers, and strong arguments in favor of the tonic-solfa method are quoted in a circular issued by the Department of Public Instruction.

It may interest you to know something of what has been accomplished in the teaching of music in Public Schools, and the means employed in producing the results which have placed our motherland in the proud position of having surpassed all others in the cultivation of music, not for the people, but by the people. It will be unnecessary for me to explain that the amount of the government grant for educational purposes depends on the inspector's report as to the degree of proficiency displayed in the various subjects prescribed by the code, each of which receives a specific grant of its own. The amount of grant earned for the teaching of any one subject, as indicated by the annual reports published in the "Blue Book" affords an unflinching record of the extent to which that subject has been taught. The grant for the teaching of music in elementary schools was offered for the

first time in 1867. Up till 1869 only one school had succeeded in earning this grant. This shows how little enthusiasm was manifested in teaching music twenty-six years ago. In 1870 only forty-three schools from a total of 12,000 obtained the grant. In 1871 a new code was made, and the music grant withdrawn. In 1872 a compromise was made, and one shilling per head was deducted from the general grant if music was not taught. No difference was recognized between *note* and *ear* singing, all being paid for alike. In 1879 a government enquiry elicited the fact that 2,944 schools taught by note, and 21,224 by ear. In 1883 a new code was introduced, and one shilling per head, per annum, was paid for note singing, and only half the amount for ear singing. Since then no alteration has been made. Now, let us compare these results with the results obtained during the past year. The average number of children in attendance at grant-earning schools in England, Scotland, and Wales, during the past year, was 4,665,702. The number who earned the grant for singing was 4,653,309, or practically all, as the number who failed to pass the requisite examination (12,393) is insignificant in proportion to the whole. Of those who earned the singing grant, 3,720,531 passed in singing by note, and only 932,778 in singing by ear. From this we learn that nearly all of the children attending the Public Schools of England, Scotland, and Wales are taught music, sufficiently well to enable them to pass the examination of Her Majesty's Inspectors, and that four-fifths of these are taught to sing by note, and only one-fifth by ear.

My object in bringing these facts before you is not to draw comparisons between the state of affairs existing in the countries mentioned and our own, but to show what can be accomplished by ordinary means, when intelligently directed, and supported by a liberal-minded government. In Canada we have done well, and our teachers and inspectors deserve much credit for what has already been accomplished, oftentimes in the face of difficulties apparently insurmountable. The problem which now confronts those who would wish to see musical training established on a satisfactory basis in the schools of Ontario is how to employ the means at our disposal so as to produce satisfactory results. At present no definite instructions regarding music are issued by the Education Department. It is merely suggested that music be taught. Inspectors may permit the use of any method which their teachers may desire to use. No syllabus or limit-table is issued for the guidance of teachers. Systematic teaching in Model Schools is the exception. Of the teachers who enter the Normal Schools, many have had excellent instruction, so far as it goes, some have been imperfectly trained, and others have had no musical training whatever. The result of this lack of system is decidedly unsatisfactory. The teaching in the Normal Schools has, of necessity, to be adapted to the needs of the weaker class, and the work done is such as belongs by right to the Public and Model Schools. In all other branches a practical knowledge of the subject is required on entering, and students are expected to study methods of teaching. Is there any logical excuse for this state of affairs? I think not.

Permit me now to offer a few suggestions as to how the various existing obstacles may be overcome. The first obstacle which presents itself is found in the attitude of the ratepayers or parents. We sometimes hear of the all-sufficiency of the three R's, and have to combat the assertion that music is an expensive luxury which cannot be afforded in Public Schools. Fortunately this objection is gradually giving way before more enlightened ideas. It can be proved that music can be taught in Public Schools without any additional outlay other than is required for song books, which can be provided at the cost of a few cents. If music has the refining and educating influence which its advocates claim for it, why should its benefits be enjoyed only by the children of the rich, who are in a position to provide expensive musical instruments and lessons at \$10 or \$20 a quarter? The children of the working classes, who are the backbone of the community, have a right to the best that we can give them in general education and culture. This fact has been recognized by the Trades and Labor Council of this city, who last year passed a strongly-worded resolution condemning the action of retrograde trustees, who would deprive Public School chil-

dren of instruction in music and drawing from false views of economy.

The next obstacle which is encountered is presented by the teachers. They say, and not without some show of reason: "We have never been taught how to teach music, and cannot be expected to do so." This same argument was offered in England twenty-five years ago and overcome, as it has been in Canada many times since. Let it be shown that music must be taught, and provide means whereby teachers may qualify for the work, and this difficulty will soon vanish. When it is clearly understood that music is no longer an optional subject, teachers who have the interests of their schools at heart will soon become anxious to learn more of music and how to teach it, the standard of culture will be raised, the study of music will have a beneficial and elevating influence on the teachers themselves, which must inevitably affect the pupils under their charge, and an all-round benefit must ensue. Among the most successful teachers of music in the Toronto schools at the present time is a teacher in one of the outlying district schools, who, three years ago, did not know a note of music, and informed me that she could not sing a single sound. By persevering effort and an occasional stumble, she mastered the work prescribed for her grade. Some time ago I was able to inform her that her class was the best in its grade, and that I would report the matter to the principal and inspectors. On the occasion of my next visit I found that every teacher in the school had done much better work than ever before, determined not to be behind in the good work. At first sight this may seem to be a small matter, but, at the risk of introducing personal matters, I will tell you that at one time I dreaded my monthly visits to this school. The children were inattentive, their singing was coarse and noisy, and little or no interest was manifested in music. Now I can look forward with pleasure to my visit, and the general tone of the entire school has been elevated, and the principal factor in producing this improved state of affairs has been a teacher who, at one time, considered herself utterly incapable of musical culture.

In introducing the subject of music, we must be careful to avoid the appearance of expecting too much. This brings me to the most practical part of my paper. I would suggest that the Education Department be petitioned to issue a programme or limit table of musical study, adapted to the present requirements of every grade, from the first-book class to the Model School. Provision should be made for the staff notation and the tonic-solfa. While I prefer the latter as the most practical, and best adapted for educational purposes, I would oppose any movement aiming at confining the teaching in our schools to any one system. The proposed syllabus should specify certain requirements in time, tune, voice-training, ear-training, and prepared songs; in one notation, and requirements of equal difficulty in the other, the choice of method being left to the discretion of the principal. If the prescribed musical facts and effects are properly taught and mastered, there need be no conflict between rival methods. The question with teachers would then be, How can I best secure the results which are expected of me? They would then be induced to study the principles underlying various systems, and would ultimately decide in favor of that which, in their judgment, was found to be the best.

Let us now suppose that this syllabus or programme has been issued, and you are confronted with the problem of how to introduce the study of music into your schools. Some one will say, We have no teacher who can instruct the teachers, so as to enable them to teach music successfully. To such I would say, Look out for some teacher who is possessed of a fairly good voice and the necessary ability to impart instruction to others. Get such a one to study the requirements of the programme, and arrange a weekly class, if possible, where he or she may have the opportunity of instructing others in the subjects prescribed. Last year I was present at a county convention in a town where this method had been followed, and was requested to illustrate how to teach some subject about which the teachers were uncertain. A class of children was provided, but I was informed that they did not know much about music, and it would be necessary to lead up to the subject gently before introducing it. I was agreeably surprised to find that the youngsters had been thoroughly

well taught, and were quite up to the standard of similar grades in the best of our city schools.

There are many points which I could wish to introduce here, but my object in coming before you is not to give an exhaustive essay on the subject of music, but merely to offer a few suggestions, in the hope that they may provoke a free discussion of various aspects of the case which may elicit more useful information than anything I have here offered.

AGRICULTURE IN THE PUBLIC SCHOOLS.*

BY INSPECTOR DEARNESS, LONDON.

(Concluded.)

WHAT MANITOBA IS ATTEMPTING.

Coming to this continent we find that many of the States of the Union have voted large sums to experiment stations and agricultural colleges. In 1877, it was estimated that not less than \$5,000,000 had been contributed to these institutions by private donations, not to speak of the much larger national grants. Illinois, over twenty years ago, enacted that no teacher should be authorized to teach a common school in that State who was not qualified to teach the fundamental principles, rudiments, primary facts, and laws of the natural sciences. But it is to our sister Province of Manitoba that we must look for the most advanced, although but recent, effort to give the study of agriculture a real position in the school course. That province, with the usual promptitude which characterizes the succession of its action to the dictate of duty, instituted energetic measures to prepare the teachers, and to equip the schools, so that agriculture may be efficiently taught in the latter.

If success crowns the attempt, much credit will be due to the Rev. Dr. Bryce, the member of the Advisory Board who appears to be mainly charged with the duty of carrying out the Government's wish. Like France, the Prairie Province has begun by the training of its teachers in the Normal Schools, aiming at qualifying them to teach the prescribed course in a practical manner and by the scientific method. Besides a set of colored charts, two supplementary reading books are projected. That supplementary to the Third Reader will be botanical, and the one to be read by the higher classes will be chemical and agricultural. The headings of some of the lessons in the Supplementary Third Reader are "Plant Life in Manitoba," "Flowers and Gardens," "How to Tell the Flowers," "Description of Thirty Notable Plants," "Ten Noxious Weeds," "The Trees of Manitoba." This book is to cost about twenty-five cents, and to be about the size of our Second Reader, and is not merely to be read, but also to be used as a guide-book in the practical study of the plants and weeds, of which specimens are to be in the hands of the pupils. In future, no teacher will be certificated at the Normal School who does not show his ability to teach botany practically. Dr. Bryce has kindly informed me of the details of their plan. He says he has been experimenting with children of ten or eleven years of age, and he is satisfied that the work outlined above can be accomplished by them with interest, and even delight. It will, he says, cultivate habits of observation, discrimination, accuracy of judging, and love for the plants and fields. This junior course, it is contemplated, will occupy one year, taking two lessons per week.

The Supplementary Fourth Reader will open with thirty chemical experiments on air, water, wood, coal, clay, etc., and each school will be furnished gratis from the Education Department with a box of chemicals and apparatus for the experimental course. These boxes will cost the Government only \$4 each, but this will contain sufficient material and apparatus for the course. As the material is used, the local boards will be expected to maintain the supply. Other titles in this book are "Growth of Plants," "Soils and Climate," "Tillage," "Drainage," "Crops," "Rotation of Crops," "Manures," "Diseases of Crops," and illustrated articles on "Live Stock," "Dairying," "Farm Buildings," etc. This instruction is to be given in towns and cities as well as in rural schools. At the Provincial Normal School, Winnipeg, Dr. Bryce is giving, or has already completed, a course of ten lectures on Botany and Chemistry. Mr. Bedford, Director

of the Brandon Experimental Farm, will give five lectures on soils, tillage, crops, and grasses, and Dr. Torrance, V.S., will give an equal number on horse, cattle, and sheep husbandry. The substance of these lectures will be repeated at the six local Normal Schools and next season, by direction of the Education Department, the Teachers' Institutes will be turned into Schools for Agriculture exclusively.

After this brief review of the best examples Europe and America have to show us, let us inquire what we in Ontario should do.

I believe that, taken all round, there is no more excellent system of public education in the world than the one that has been developed in this Province, and, while the contemplation of our success and the acknowledgments thereof in world-contests may justly stimulate our national pride and reward us for past efforts, our further progress must come from searching out and strengthening our weak points. Such examination and comparison with the system of other progressive countries lead to the conclusion that our Public School system is weakest on the side of the education of the faculties of observation, comparison, judgment, in short, in the intellectual activities that may be well trained, in fact, trained best, by the *study of natural phenomena by the scientific method*. (An accessible reference in this connection is to the Hon. Dr. Ross' *Schools of England and Germany*, pages 116-120, 177-178, 229-230, 239-240). This kind of training, while particularly advantageous to the housekeeper and agriculturist, is helpful for every profession and avocation, and, therefore, should have a prominent place in city schools as well as rural ones.

Here are the words of the illustrious Agassiz at a national meeting: "I wish," said he, "to awaken the conviction that the knowledge of nature lies at the very foundation of the prosperity of nations; that the study of the phenomena of nature is one of the most efficient means for the development of the human faculties, and that, on these grounds, it is highly important that this branch of education should be introduced into our schools as rapidly as possible... The only difficulty is to find teachers equal to the task, for, in my estimation, the elementary instruction is the most difficult. It is a mistaken view with many, that a teacher is always efficiently prepared to impart the first elementary instruction to those entrusted to his care. Nothing can be further from the truth; and I believe that in entrusting the education of the young to incompetent teachers, the opportunity is frequently lost of unfolding the highest capacities of the pupils... I have been a teacher since I was fifteen years of age, and I am a teacher still, and I hope I shall be a teacher all my life. I do love to teach; and there is nothing so pleasant to me as to develop the faculties of my fellow-beings who, in their early age, are entrusted to my care; and I am satisfied that there are branches of knowledge which are better taught without books than with them; and there are some cases so obvious that I wonder why it is that teachers always resort to books when they would teach some new branch in their schools. When we would study natural history instead of books let us take specimens—stones, minerals, crystals. When we would study plants, let us go to the plants themselves, and not to the books describing them. When we would study animals, let us observe animals."

Dr. Lyon Playfair was a most eminent British scholar and educator; listen to what he avers: "The pupil must be brought in face of the facts through experiment and demonstration. He must pull the plant to pieces and see how it is constructed; he must see water broken into its constituent parts and witness the violence with which its elements unite. Unless he is brought into actual contact with the facts, and taught to observe and bring them into relation with the science evolved from them, it were better that instruction in science should be left alone. For one of the first lessons he must learn from science is not to trust in authority, but to demand proof for each asseveration. All this is true education, for it draws out faculties of observation, connects observed facts with the conceptions deduced from them, in the course of ages, gives discipline and courage to thought, and teaches a knowledge of scientific method which will serve a lifetime. Nor can such education be begun too early. The whole yearnings of a child are the natural phenomena around, until they are smothered by the ignorance of the parent. He is a young Linnæus roaming over the fields in search of flowers. He is a young conchologist or miner-

alogist, gathering shells or pebbles on the seashore. He is an ornithologist, and goes bird-nesting; an ichthyologist, and catches fish. Glorious education in nature, all this, if the teacher knew how to direct and utilize it. The present system is truly ignoble, for it sends the workingman into the world in gross ignorance of everything he has to do in it. The utilitarian system is noble in so far as it treats him as an intelligent being, who ought to understand the nature of his occupation and the principles involved in it. If you bring up a ploughman in utter ignorance of everything relating to the food of plants, of every mechanical principle of farm implements, of the weather to which he is exposed, of the sun that shines upon him, and makes the plants to grow, of the rain which, while it drenches him, refreshes the crops around, is that ignorance conducive to his functions as an intelligent being? . . . Under our present system of elementary teaching, no knowledge whatever bearing on the life work of our people (English) reaches them by our system of education. The air they breathe, the water they drink, the tools they use, the plants they grow, the mines they excavate, might all be made subjects of surpassing interest and importance to them during their whole life. Yet of these they learn not one fact, and we are surprised at the consequences of their ignorance."

An authoritative document, the report of the British Royal Commissioners on the National School system, states: "We think it established that the study of natural science develops, better than any other studies, the observing faculties, disciplines the intellect by teaching induction as well as deduction, supplies a useful balance to the study of language and mathematics, and provides much instruction of great value for the occupations in after life."

Fully accepting the above conclusion, I am not sorry that our attempts to teach agriculture by rote from books have not satisfied either the people or the teachers. Agriculture is a very complex applied science: it is founded on the circle of sciences, the chief of which are meteorology, geology, mineralogy, physics, chemistry, botany, and zoology, including entomology. . . . Every farmer, whether aware of it or not, is an applier, to a greater or less extent, of every one of these sciences, and something of a machinist, to boot. Indeed, some add astronomy to the list, for do they not sow their peas and kill their hogs at a certain phase of the moon and cut Canada thistles at a favorable conjunction of the planets in June? The farmer all his life must be a practical student of these sciences. How important, then, that the schools should start him with scientific methods of investigation! Nature should be the text-book; the teacher should merely be the director and maintainer of the attention. It is true we have object lessons in our schools, but if these, as too often they do, end with cataloguing qualities, the result is chaff and not wheat. The observation faculties are not trained by mere observing, but by reasoning about what is observed. The eye sees the object held before it, but trained scientific observation sees more or less of the history of that object, stretching away back into the past, or attempts to measure its future possibilities. I should rather have my child reach ten scientific conclusions by his own efforts (observations), wisely directed, than to acquire a thousand by remembering *ipse dixit* of teacher or text-book. For example, I propounded the question, "Whether is the dew heavier on calm or windy nights?" After three observations the child said, "On windy nights," giving her reason. Even that result I thought much better than if she had looked in a book and read the opposite statement. I told her to continue watching and writing each morning what she noticed. The farmer needs to use his eyes and reach correct judgments from his observations; so does everybody else. Hence, nature study should form an important part of every school's curriculum from the first to the highest grades. Progress in this kind of education cannot be tested by the ordinary written examinations, upon a set of formal questions, prepared for all the schools of a county or a province.

By nature study I mean that development of mental power and habit which comes with knowledge gained by observation and experiment and by comparison and relation of causes and effects of phenomena that appeal to the attentive senses, no matter in what field of science so called these phenomena lie.

(To be continued.)

* A paper read before the Central Farmers' Institute, Toronto, February, 1895.

Mathematics.

All communications intended for this department should be written on one side of the sheet only, and should be addressed to the Editor, C. Clarkson, B.A., Seaforth, Ont.

SOLUTIONS.

N.B.—The problems will be found on page 346, April 1st.

No. 25. \$8 dividend for 1 share, and this will buy $\frac{1}{10}$ new share; new stock = $\frac{1}{10}$ old stock or $\frac{1}{10}$ new stock = old stock = $\frac{1}{10} \times 13750 = 12,500$ 8% dividend on 12,500 = \$1,000.

No. 26. A's share = $\frac{1}{3}$ B's share. A's share + B's share = $\frac{4}{3}$ B's share = $\frac{2}{3}$ of value of ship.

But $\frac{2}{3}$ = C's share = \$200
 \therefore value of ship = \$800
 \therefore $\frac{1}{3}$ B's share = $\frac{1}{3}$ of \$800 = \$600
 B's share = 450
 A's share = 150.

No. 27. No one can answer a viciously vague problem like this. The sizes of the inner circles are not given.—EDITOR.

No. 28. Let R equal radius of inner circle. Then $\frac{2}{7} \sqrt{(R+22)^2 - R^2} = 12 \times 4840$ sq. yds.
 $= 2^2 \times 22(2R+22) = \dots$
 $\therefore R = 409$ yards

Diameter = $409 \times 2 = 818$

No. 29. $\frac{1}{2}(13+14+15) = 21$
 $21 - 13 = 8$; $21 - 14 = 7$; $21 - 15 = 6$

$\sqrt{21 \times 8 \times 7 \times 6} = \sqrt{7^2 \times 6^2 \times 2^2} = 84$
 $\frac{84 \times 2}{13} = 12\frac{1}{13}$; $\frac{84 \times 2}{14} = 12$; $\frac{84 \times 2}{15} = 9\frac{1}{5}$
 Perpendiculars are $12\frac{1}{13}$, 12, and $9\frac{1}{5}$.

No. 30. Let x = number of acres in farm
 Then x = " " seconds required to drive 4840 x = " " sq. yds. in the farm
 $\frac{10 \times 1760 \times x}{3600} = \text{number of yards driven}$
 $\frac{10 \times 1760 \times x}{4 \times 3600} = \frac{11x}{9} = \text{yards in one side}$

$4840x \div \frac{11x}{9} = 3960$ yards in one side
 Area is $\frac{3960 \times 3960}{4840} = 3240$ acres.

No. 31. By A. H. P. MATTHEW, Cloverdale, B.C.

A. (1) The grass on 20 acres + 260 days' growth on 1 acre is consumed in 13 days by 133 oxen
 (2) And the grass on 5 acres + 80 days' growth on 1 acre is consumed in 16 days by 28 oxen
 (3) \therefore the grass on 20 acres + 320 days' growth on 1 acre is consumed in 16 days by 112 oxen
 (4) \therefore the grass on 16 $\frac{1}{4}$ acres + 260 days' growth on 1 acre is consumed in 13 days by 112 oxen.
 (5) \therefore the grass on 3 $\frac{3}{4}$ acres is consumed in 13 days by 21 oxen
 (6) \therefore the grass on 4 acres is consumed in 14 days by 20 $\frac{1}{2}$ oxen.

B. (7) The grass on 20 acres is consumed in 14 days by 104 oxen
 (8) The grass on 20 acres is consumed in 16 days by 91 oxen
 \therefore from Nos. (3) and (8) we get 320 days' growth on 1 acre is consumed in 16 days by 21 oxen
 \therefore 1 day's growth on 1 acre is consumed in 16 days by $\frac{21}{16}$ oxen
 and 56 days' growth on 1 acre is consumed in 14 days by 4 $\frac{1}{2}$ oxen
 \therefore the grass on 4 acres + the growth is consumed in 14 days by $20\frac{1}{2} + 4\frac{1}{2} = 25$ oxen.

Solution II. By A TEACHER, Jacksbn, Ont.
 Let x oxen = no. required to eat growth on 1 acre then 20x " " " " " " " " 20 "
 5x " " " " " " " " 5 "
 4x " " " " " " " " 4 "

Then 133 - 20x oxen eat the grass already on the 20 acres, and 28 - 5x oxen eat the grass on 5 acres.

20 acres in 13 days is eaten by 133 - 20x oxen
 5 " " 16 " " " " (133 - 20x) $\frac{5}{20} \times \frac{13}{16}$
 $= \frac{(133 - 20x)13}{64} = 28 - 5x$

Solving, x = $\frac{3}{8}$ = $\frac{3}{8}$ oxen, and 20x = 21 oxen.
 20 acres in 13 days is eaten by 133 - 21 = 112 oxen
 4 acres in 14 days is eaten by 112 $\times \frac{4}{20} \times \frac{14}{14} = 20\frac{1}{2}$ oxen.

Then 4x = $\frac{3}{8} \times 4 = 4\frac{1}{2}$ oxen = number required to eat growth on 4 acres.
 Total number of oxen required to eat growth and grass already on the 4 acres = $20\frac{1}{2} + 4\frac{1}{2} = 25$. Ans.

N.B.—See Clarkson's "Problems in Arithmetic," p. 76, for Newton's and Colenso's solutions of this question, and also for several other forms of solution. The original problem was proposed by Sir Isaac Newton in 1704.

No. 32. 6 patterns and 12 in. over, 6 in. waste on every strip except the first. Perimeter of room = 720 in., or 24 strips, 23 of which are 10 $\frac{1}{2}$ ft. and one 10 ft. = 83 $\frac{3}{8}$ yards.

No. 33. If A. goes uniformly at rate of 7 miles an hour, and if he is always $\frac{1}{4}$ as far ahead of B. as B. has travelled, he is $\frac{3}{4}$ of B.'s distance at end of an hour. $\therefore \frac{3}{4}$ of B.'s rate = 7 miles, \therefore B.'s rate 5 $\frac{2}{3}$ miles per hour.

No. 34. $\frac{2187}{3000} = \frac{3 \times 9^3}{3 \times 10^3} = \frac{9^3}{10^3} = \frac{9}{10} \times \frac{9}{10} \times \frac{9}{10}$
 Whence discounts must have been $\frac{1}{10}$ or 10%.

No. 35. \$3750
 225 Interest for 1 year
 3975
 350 paid
 3625
 74.49 Interest for 125 days to Sept. 18th
 3699.49
 280. paid
 3419.49
 70.83 Interest for 126 days to Jan. 22nd
 3490.32
 750 paid
 2740.32
 51.35 Interest for 114 days to May 16th
 2791.67
 925 paid
 1866.67
 51.55 Interest for 168 days to Oct. 31st
 1918.22
 500. paid
 1418.22
 14.69 Interest for 63 days to Jan 2nd
 \$1432.91 due Jan. 2nd, 1890.

No. 36. $120 \times \$2.25 = \$270.00 \times 5 = \$1350.00$
 $75 \times 2.30 = 172.50 \times 8 = 1380$
 $150 \times 2.40 = 360.00 \times 18 = 6480$
 $150 \times 2.35 = 352.50 \times 33 = 11632.50$
 $105 \times 2.20 = 231.00 \times 60 = 13860$
 $\$1386.00 \quad \34702.50

$3470250 \div 138600 = 25$ days nearly
 Sept. 19th + 25 days is Oct. 14th.

No. 37. The area of the square inscribed in a circle is half the area of the square described about the same circle.
 Area of inscribed is 110 sq. yds.
 Diameter of square
 $= \sqrt{110 + 110} = \sqrt{220} = 14.8324$, and this is also the diameter of the circle.

The area of a circle = $\left(\frac{d}{2}\right)^2 \times \frac{1}{2}$
 $= 7.4162 \times 7.4162 \times 3\frac{1}{2} = 172\frac{1}{2}$ sq. yds.

No. 38. Let x = number of minute spaces second hand has to revolve through.
 Then $1 + \frac{x}{720}$ represents position of hour hand
 and $1 + \frac{x}{60}$ represents position of minute hand

and $2\left(x - 1 - \frac{x}{60}\right) = x - 1 - \frac{x}{720}$
 $1440x - 1440 - 24x = 720x - 720 - x$
 $697x = 720$
 $x = 1\frac{23}{97}$ minutes after 12.

No. 39. Let DEBA be the trapezoid, having DA and EB meeting at C. Draw BF parallel to AD. Then DF = 27 ft., \therefore FE = 8 ft.

Then while DA is 18 $\frac{1}{2}$ ft., the difference in length of parallel sides is 8 ft. But when the non-parallel sides meet there is a difference of 35 feet. Then 8 ft. diff. to one non-parallel side being 18 $\frac{1}{2}$ ft.
 1 ft. " " " " " " 18 $\frac{1}{2}$
 35 ft. " " " " " " 8

\therefore whole line DC = $81\frac{23}{97}$ ft.
 But DA = 18 $\frac{1}{2}$
 \therefore AC = $62\frac{23}{97}$ ft.

In same way BC may be found = 80.71875.

No. 40. Area of ellipse = πRr , when R and r are the semi-axes.
 Area of outer ellipse = $55 \times 35 \times \frac{\pi}{2} = 6050$ sq. ft.
 " " inner " = $49 \times 29 \times \frac{\pi}{2} = 4466$ sq. ft.
 Area of the walk = 176 sq. yds.

No. 40 $\frac{1}{2}$.
 $d = 54$, $r = 27$, $h = 10$
 chord = $2 \sqrt{(2r-h)h}$
 $= 2 \sqrt{(54-10)10} = 41.952$
 \therefore chord of half the arc

$= \sqrt{20.976^2 + 10^2} = \sqrt{440 + 100} = 23.238$
 Arc = $\frac{8 \text{ times } \times 23.238 - 41.952}{3} = 47.984$

Area of segment
 $= \frac{1}{2} \times 47.984 \times 27 - 20.976 \times 17$

No. of gals. = $\frac{28.992 \times 27 - 20.976 \times 17}{277.274} = 368.89$ gals

No. 41. In first kind of stock, $\frac{4}{10}$ of cash = income. In the other kind of stock, $\frac{1}{10}$ of cash = income. Let x = cash transferred
 $\frac{4}{10}$ of $(9000 + x) = \frac{1}{10}$ of $(12000 - x)$
 Multiplying by 10, we have
 $4(9000 + x) = 12000 - x$
 $36000 + 4x = 12000 - x$
 $38x = 36000$
 $x = \$947.37$.

No. 42. For every \$98 he has after paying the tax he must have \$100 before he paid the tax, And for 3 $\frac{1}{2}$ he must have $\frac{100}{3.5} \times \frac{1}{2} = 3\frac{1}{2}$
 Price of stock = $\frac{100}{3.5} \times 100 = \frac{2}{7} \times 100 = 84$.

No. 43. This has been fully answered in THE JOURNAL. See October, 1891. Lay out the figure in square yards.
 There are then five strips of 9 $\frac{1}{2}$ sq. yd. = 27 $\frac{1}{2}$; One strip of $\frac{1}{2}$ of 5 $\frac{1}{2}$ yds., or 2 $\frac{1}{2}$ sq. yd. $\frac{2\frac{1}{2}}{30\frac{1}{2}}$

No. 44. $a^3b^6(1 + 108a^3b^2 - 243a^6b^3)$

No. 45. Let A, B be the two given points, and CD the given line. From A draw AF perpendicular to CD, and produce it to E, making FE equal to AF; join BE, cutting CD in G.

Join AG. The proof is obvious.
 N.B.—When the line AB is perpendicular to CD, the solution fails; but in that case AE and BE coincide, and only one line is possible.—EDITOR.

No. 46. $D = \sqrt{\left\{ 14^2 + \left(\frac{16^2 + 12^2}{2}\right) + \left(\frac{16^2 - 12^2}{4 \times 14}\right)^2 \right\}}$
 $= \sqrt{\left\{ 196 + 200 + 4 \right\}}$
 Diameter = $\sqrt{400} = 20$.

No. 46 $\frac{1}{2}$. AO = CO = 65, and AX = 60
 The OX = $\sqrt{(65^2 - 60^2)} = 25$
 OH = 64 - 25 = 39
 Since ON = 65, being radius of the circle
 HN = $\sqrt{(65^2 - 39^2)} = 52$
 MN = 52 \times 2 = 104 ft.

Or OL = 65 and OH = 39.
 Then LH = 65 - 39 = 26
 and MN = 2 $\sqrt{(d-h)h}$
 $= 2x \sqrt{(130 - 26)26} = 104$ feet.

No. 47. Area of circle
 $12 \times 12 \times 3\frac{1}{2} = 452.57142$ sq. ft.
 Area of sector ABE is
 $\frac{1}{4}$ of $452.57142 = 113.14285$ sq. ft.
 Area of sector ECD is
 $\frac{1}{4}$ of $452.57142 = 113.14285$ sq. ft.
 Area of right-angle $\triangle ABE$ is $12 \times 12 = 72$ sq. ft.
 Area of equilateral $\triangle ECD$ is $.433 \times 12^2 = 62.352$
 $113.14285 - 72 = 41.14285$; and $75.42157 - 62.352 = 13.06957$
 and $452.57142 - (41.14285 + 13.06957) = 398.35 +$
 sq. ft.

No. 48. Area of circle $15^2 \times 3\frac{1}{2} = 707\frac{1}{2}$ sq. ft.
 Circumference of circle $= 30 \times 3\frac{1}{2} =$
 Arc of sector $= 30 \times \frac{2}{2} \times 90 \div 707\frac{1}{2} = 12$ ft.
 No. 49. $1120 \times \frac{2}{3} = 746\frac{2}{3} = \$704 = B.$'s gain in the
 same time as A.'s

$880 - 704 = \$176 = B.$'s gain in 2 months
 B.'s time $= 2 \times \frac{1}{2} = 10$ months
 A.'s time is $10 - 2 = 8$ months
 Again, $880 \times \frac{2}{3} = 586\frac{2}{3} = \$1000 = C.$'s gain in 10 months.
 C.'s time $= 10 \times \frac{1}{2} = 12$ months.

No. 50. 7 acres 96 sq. rods = 1216 sq. rods
 $1216 \times 30\frac{1}{2} \times 9 \times 144 \div 9\frac{1}{2} =$ number of inches to
 be travelled
 and $\frac{2}{4} \times 5280 \times 12 =$ number of inches travelled in
 an hour,
 and hence number of hours required is

$1216 \times 12\frac{1}{2} \times 9 \times 144 \times \frac{2}{9} \times \frac{1}{4} \times \frac{1}{5280 \times 12} = 35$ hours
 12 minutes.

No. 51. L.C.M. of 20, 24, 30 is 120.
 The least number of eggs there can be must be
 some multiple of 120, plus 15, and this quantity
 must also be a multiple of 25.

That is, $(120 \times 3) + 15 = 360 + 15 = 375$.
 No. 52. One pound avoirdupois = 7000 grs.
 $7000 = 2 \times 2 \times 2 \times 5 \times 175$
 $480 = 2 \times 2 \times 2 \times 5 \times 12$.

In order to make these expressions equal, the
 first must be multiplied by 12 and the latter by
 175.

175 oz. troy = 12 lbs. avoird.

PROBLEMS SENT FOR SOLUTION.

No. 81. The *Globe* newspaper of Monday, June
 8th, 1877, bears the number 8,505. Supposing the
 paper to have been published every week-day with-
 out intermission, and numbered consecutively, give
 the day of the week, the day of the month, and the
 year when No. 1 was issued.

No. 82. A watch which is ten minutes too fast at
 noon Monday loses 3' 10" daily. What will be the
 true time when the watch indicates midnight the
 following Saturday?

No. 83. In 1850, the population of a town was
 7,600; in 1870, it was 9,196. If the increase per
 cent. during the first decade was the same as dur-
 ing the last, what was this per cent?

No. 84. The product of four consecutive numbers
 is 116280; what are they?

No. 85. Extract the fifth root of 33038369407.

No. 86. Factor $(x - y)(y^3 - z^3) - (x^3 - y^3)(y - z)$.

No. 87. A planer is driven by a driving wheel
 twenty inches diameter, and a feed pulley nine
 inches diameter, and has a speed of 900 lineal feet
 per hour. If the diameter of driving wheel be in-
 creased four inches, and that of pulley decreased
 four inches, what will be the speed per hour?

No. 88. Solve for x and y in $-x^3 + xy = 76$,
 $y^3 + xy = 39$.

No. 89. Suppose a latitude where the accelera-
 tion force of gravitation is $3\frac{1}{2}$ feet. A stone
 weighing ten pounds is thrown with a velocity of
 nine feet per second vertically, down from a bal-
 loon one-half mile high, going vertically up at a
 rate of fifty miles per hour: in what time, with
 what momentum, and with what velocity, will it
 strike the earth?

No. 90. A gentleman sent his servant to spend
 £100 in buying cattle @ £5, sheep @ £1, and geese
 @ 1s. He was to buy exactly 100 head. How
 many of each did he buy?

No. 91. If a snail creep 2 feet 7 inches up a
 pole during the 12 hours of night, and slip down 1
 foot 4 inches during the 12 hours of daylight, how
 many hours will it be getting to the top of a 35 foot
 pole?

No. 92. Transform 7304.513 from the octenary to
 the ternary scale.

No. 93. A person starts with a capital that pro-
 duces 4 per cent. compound interest; he spends
 yearly a sum equal to twice the original interest on
 his capital. Find in how many years he will be
 ruined.

No. 94. What is meant by Arbitration of Ex-
 change?

No. 95. Suppose that tramcars move on a route
 at the average rate of 6 miles per hour, and are
 despatched from each end at intervals of 5 minutes,
 and that a man walks along the route at the rate of
 4 miles an hour, how many cars per hour will he
 meet, and how many per hour will overtake him?

No. 96. A rectangular block of stone is as broad
 as long and contains a cubic foot. If it were as
 broad as it is high, the bulk would be 6 cubic feet.
 How long is it?

No. 97. The town A is 30 miles from B, B is 25
 miles from C, and C is 20 miles from A; where
 must a house be built to be equidistant from A, B, C?

No. 98. Transform 1007.375 from scale of 8 to
 that of 10.

No. 99. A cask slightly curved is 40 inches long,
 its head diameter is 22 inches, and its bung diam-
 eter is 27 inches; how many gallons will it hold?

No. 100. In a given straight line, find a point
 equally distant from 2 given straight lines. In
 what case is this impossible?

No. 101. Divide a square into 4 equal portions
 by lines drawn from any point in one of its sides.

No. 102. Any rectangle is the half of the rec-
 tangle contained by the diameters of the squares
 on its 2 sides.

No. 103. From a given point without a circle, at
 a distance from the circumference not greater than
 its diameter, draw a straight line to the concave
 circumference which shall be bisected by the con-
 vex circumference.

CORRESPONDENCE.

A TEACHER, Jackson, Ont., sent solutions of
 No.'s 12, 15, 17, 19, 20, 21, 23, 28, 30, 31, 32, 34, 48,
 49.

A.H.P. MATTHEW, Cloverdale, B.C., 11, 12, 13,
 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27,
 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 39, 40, (106), 41,
 42, 43, 45, 46, (80), 47, 48, 49, 50, 51, 52.

J. P. MCNAMARA, Weisenburg, Ont., 11, 12, 13,
 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 28,
 29, 30, 32, 34, 37, 39, 40, 41, 42, 43, 46, 47, 48, 49,
 50, 51, 52.

TREADWELL, ONT., 16, 17, 19, 20, 52.

A.H.P.—The book was published by Gage &
 Co., Toronto. It may be out of print, but a note
 to the above address will secure the information.
 Many thanks for your kindly words and effective
 assistance.

For Friday Afternoon

TAKING AIM.

BY MARIE S. LADD.

There were four little boys
 Who started to go
 From the very same spot,
 To make tracks in the snow.
 Who made his paths straightest,
 They laid in their plan,
 Of all the contestants
 Should be the best man.

Now, this little four
 Were Philip, and John,
 And merry-faced Harry,
 And sober-eyed Don;
 The best friends in the world,
 And full of invention
 In play, but they seldom
 Were found in contention.

Well, they started together
 And travelled along,
 But John, Don, and Harry,
 In some way, went wrong;
 But Phil made his path
 Nearly straight, and they wondered,
 When all tried alike,
 Why they three had blundered.

Then Philip replied:
 "The reason you see:
 Though no harder I tried
 To succeed than you three,
 I pushed for that oak,
 Going forward quite ready,
 While you straggled on,
 Without aim, and unsteady."

Now, you see, my dear boys,
 What such lessons teach—
 If there is a point
 That you wish to reach,
 A position in life
 At all worth the naming,
 If you gain it, 'twill greatly
 Depend on your aiming.

—The Christian Union.

FIGHT IT OUT.

Does destruction seem to lurk
 All about?
 Don't believe it! go to work!
 Fight it out!
 Danger often turns and flies
 From a steady pair of eyes;
 Ruin always camps apart
 From an undefeated heart.
 In the spirit there is much—
 Do not doubt—
 That the world can never touch;
 Fight it out!

Do the portals of your brain
 Freedom lack?
 Never let them thus remain:
 Push them back!
 Do not give the efforts o'er,
 If they number half a score;
 When a hundred of them fail,
 Then a thousand may prevail.
 Germs beneath a clod must lie,
 Ere they sprout;
 You may blossom bye-and-bye:
 Fight it out!

Have your foemen come to stay?
 Never flinch;
 Make them win their little way,
 Inch by inch!
 Scan them well, and fight them fair,
 Give them honest blows to spare;
 There are meaner things possessed
 Than a first-class second-best.
 Time may come when you have turned
 To a rout
 Every triumph they have earned:
 Fight it out!

All the lessons of the time
 Teach us fair,
 'Tis a blunder and a crime,
 To despair!
 When we suffer, 'tis to bless
 Other moments with success;
 From our losses, we may trace
 Something better in their place.
 Everything in earth and sky
 Seems to shout,
 "Don't give up until you die;
 Fight it out!"
 —Will Carleton, in *Everywhere*.

THE DAISIES.

At evening when I go to bed
 I see the stars shine overhead;
 They are the little daisies white
 That dot the meadow of the night.

And often while I'm dreaming so,
 Across the sky the moon will go;
 It is a lady, sweet and fair,
 Who comes to gather daisies there.

For, when at morning I arise,
 There's not a star left in the skies;
 She's picked them all and dropped them down
 Into the meadows of the town.

—Frank Dempster Sherman.

Primary Department.

MAKING BUTTER.

(Motion song.)

Skim, skim, skim ;

With the skimmer bright,
Take the rich and yellow cream,
Leave the milk so white.

Churn, churn, churn,
Now 'tis churning day ;
Till the cream to butter turns,
Dasher must not stay.

Press, press, press ;
All the milk must be
From the golden butter now
Pressed out carefully.

Pat, pat, pat ;
Make it smooth and round,
See ! the roll of butter's done—
Won't you buy a pound ?

Taste, oh ! taste,
This is very nice ;
Spread it on the children's bread,
Give them each a slice.

—Poulsson's Finger Plays.

PRIMARY GAME.

JEAN HALIFAX.

It may be that other teachers have tried the same plan, but as I have happened to know of its being played only by those to whom I have taught it myself, I venture the suggestion.

Select the pupil who has the highest record for the day—the honor in store will be an incentive in his study, and if the child is busily employed he cannot find time for whispering, etc.—and give to him, for example, 6 beans.

[The children used to delight in closing their eyes and determinedly keeping the mysterious transaction from their sight, when Johnny came up to my desk, and put his little hand inside. The beans were duly transferred to his keeping, and he carefully noticed the number, and softly whispered it to me—that was to be sure that he counted rightly.]

"How many beans have I in my hand ?" asks Johnny, turning to the school, and trying to keep from smiling proudly over his important position.

Then the hands begin to go up. Fred's hand seems to have been the first, and as he is in the "head-row," and has had good lessons to-day, he will have the first guess.

"8—4." "No, it is not 4," answered Johnny.

Then the owners of the lifted hands are allowed to guess in turn. (The object in raising the hands being to take first those who have a question all ready ; sometimes a naturally slow child requires several minutes of thinking, and one cannot waste time in the schoolroom, of all places. By the time the owners of those lifted hands have had their turn, the others will be ready for their trial.)

"12—3." "No, it is not 9."

"7+3." "No, it is not 10."

"4×3." "No, it is not 12."

"6 divided by 3." "It is not 2."

At last Mamie Barnes shyly offers :
"10—4."

"Yes, it is 6," declares Johnny ; and Mamie proudly takes the floor, with, perhaps, 3 beans, and so the play goes on.

As soon as the children have mastered two numbers the game may be made a little more advanced.

"4=2×3." "No, it is not 5," etc., or "12÷2=3+1," bringing in all the rules which have been taken up in any class in the room, or the smallest primaries, in listening to the others, soon catch the idea, and will often surprise you with the knowledge picked up in this way.

Simple as the game is, I have never known it to fail in creating the greatest interest. If attention begins to wander, if the day is rainy or dreary, and the little ones are growing dull or listless, this arouses them at once.

Oats or seeds of any kind—anything small enough for the purpose—may, of course, be used in place of beans.

If you want to make the children more familiar with the multiplication table, for instance, use only multiplying at one time. 5×3, 4×2, etc.

Of course, you have seen to it that the pupil found out the fact that five threes made fifteen, for himself, before he was allowed to read the printed statement.

Afterwards, an exercise like this will help him to keep the fact "at his tongue's end," so that he will not have to reason it out for himself each time.—*The New Education.*

OBSERVATION LESSONS—THE KITTEN.

The outline suggested by the kitten will be helpful in planning for any other pet animal. The kitten may be brought into the schoolroom for several days and live with the children.

Habits.—Notice how she gets used to a strange place, where she likes to stay in the room, and how she sleeps.

Covering.—Observe that the fur is made of hairs ; some of them are long, but most of them are short and fine ; they make a thick covering next to the skin to keep her warm. Notice how she cleans the fur with her rough tongue, and that she keeps it very clean and smooth. Why doesn't she shed her hairs in the winter ? Why does it hurt her to push the hairs the wrong way ?

Movements.—How does she creep along ? Why is she so still about it ? How does the thick cushion help the cat in walking ? Watch her jump, how does she do it ? What playful movements, and how do you know when she is in earnest ? How many claws on each foot ? What kind of claws, and what can she do with them ? How does she draw them in when she is gentle ?

Eating.—How does she get her food ? How many whisker-hairs about her mouth ? Why doesn't she like to have them touched ? How do they help her in getting her food ? What kind of teeth has she ? Why are some of them so long ? How does she drink ?

Eyes and ears.—Are her eyes just like yours ? How do they look when she is frightened ? When she feels at home with you ? In the light and in the dark part of the room ? Teach by example to sketch the eyes in the two conditions.

Why can she hear so quickly ? How does it help her ? How is the dust kept out of her ears ?

Voice.—What different things can the kitten tell you by her voice ? Can she tell her feelings in any other way ? How ? How does the mother cat care for the kittens ? How does she keep them clean ? How does she carry them around ? Why doesn't she hurt them as she carries them ? How does she train them to be quick ? For language and reading exercises select the interesting facts given by the children ; turn them away from the traditional sentences about catching mice and rats. Emphasize the thoughts of the kitten's care of herself, of protection from cold and dangers, and of the various adaptations to her life.

Select for copying the sentences that will inculcate kindness in the treatment of animals. Stories of animals may be read to the children, and reproduced in oral language. Games and songs illustrating the habits of familiar animals tend to increase the interest in their actions. Encourage the children in bringing pictures illustrating the habits and associations of animals.—*H. A. C. Boyden, in Primary Education.*

THE HEPATICA.

I found a pretty flower in the woods.

My flower is Hepatica. She grew beside an oak tree.

Her sisters grew beside her. She was nearly covered with dry leaves.

The dry leaves fell from the oak last year.

Hepatica wears a blue dress.

Mother Nature gave her the pretty dress.

Last week she wore a frizzy cap over her head.

It looked like fur.

Her stem is fuzzy now.

Mother Nature gave some of Hepatica's sisters white dresses and some she gave pink dresses.

My mother gave me a pink dress.

All of Hepatica's leaves are brown.

Those leaves grew last summer.

They fed Hepatica before she came this year.

When her pretty blue dress falls off green leaves will grow.

I am sorry she cannot stay to see them.

They will be bright green.

They will shine. They will feel smooth.

Sometimes people call Hepatica Liver-leaf.

She will not stay long.

I wish she would not go away.

We love Hepatica because she comes so early.—*School Education.*

CHICKENS.

1. Sammy owns two hens ; one has six chicks, the other has four ; how many chicks have both hens ?

2. How many has the one hen more than the other?

3. Rover killed two chicks and the rats carried off two more; how many were left?

4. Then one died and two strayed away and were lost; how many chicks now remained?

5. Sammy's grandpa gave him five more; how large was the brood then?

6. Two fell into the brook and one was run over by a wagon. Sammy counted his chicks once more, and found—how many?

7. How many had he lost altogether?

8. In the barn Sammy found a new brood of seven hatched. "Now," said he, "I have eleven!" What number should he have said?

9. How many less had he in the beginning?

10. How many had he owned altogether?—*Primary Educator.*

WHAT THE BIRD SAID.

"I wish I were a bird," said May, as she stood looking up at the robin on a branch above her head. Just then the robin broke out into a joyful song.

"Oh, little bird," exclaimed May, "how happy you must be to sing like that. I wish I were as happy as you are."

The robin held his head on one side and looked down at her a minute, as if he were thinking it over. Then he sang a song straight to May, and this is what he said:

"Little girl, why should I be any more happy than you? The same bright sun is shining on us both; the same blue sky is over our heads. Happiness is something that is in the heart, and not anything that is found in the things about us. If you are trying to make the best of what you have and are not thinking of how much more some one else has, you will then be happy, no matter how little you have. But if you are wishing something was different, instead of being thankful for the blessings you possess, you will never be happy, no matter how much you have."

Then the bird flew away, and May sat down on the grass to think it over. As she thought about it the sky seemed bluer and the sunlight brighter, and the air sweeter; but she thought she had never seen so many golden buttercups growing in the grass.

But the only thing that was really changed was May's own heart. That now was filled with happy thoughts.

"I guess the robin was right," she said, getting up to pick a bunch of buttercups.

Then she went home singing a little song as sweet and joyous as was the robin's song.—*American Teacher.*

Life is a sheet of paper white, whereon each of us may write his word or two, and then comes night; though thou hast time but for a word—be that sublime. Not failure, but low aim is crime.—*Lowell.*

Examination Papers.

EAST MIDDLESEX PROMOTION AND REVIEW EXAMINATION.

LITERATURE—SECOND TO THIRD CLASS.

April, 1895.

Time, 2 hours.

(With books open write the answers of these questions in complete sentences.)

- Lesson XLVII., page 135.
1. Page 135. Write complete sentences defining *mine, shaft, blasting*. Value, 9.
2. Page 136, line 1. What was the assistant's work? Value, 4.
3. Describe fully how the fuse would have been kindled and the men removed if the accident had not occurred. Value, 9.
4. What accident prevented their plans from being carried out? Value, 3.
5. Make an outline drawing of a windlass with bucket attached. Value, 6.
6. What three men are spoken of in this lesson? Value, 3.
7. Which one is meant by the title of the lesson? Give reason. Value, 4.
8. Who told or wrote this story? Value, 2. Page 101, stanza at the foot of page.
9. How many times is the apostrophe used here, and for what purpose? Value, 3.
10. Define *vale, beam, shrub, scents*, in complete sentences. Value, 12.
11. What two words in this stanza mean air in motion? Value, 4.
12. What does this stanza say that the "shrub that scents the gale" does for me and you? Value, 6.
13. Name the different things in this stanza to which *its* refers. Value, 3.
Lesson XV., page 41-43.
14. Arrange the speeches made by Will and the bee in the form of a dialogue, thus:
Will—O stay! and sing, etc.
The Bee—
Will—(For full marks this must be punctuated correctly, and have capitals right.)
The Bee—
Will—
Etc. Value, 18.
15. Page 150, paragraph at the foot of the page. Copy the whole of this paragraph, but put in different words meaning the same instead of *rocky crevice, groped, suddenly, bustle, troop, raced, fringed*.

LITERATURE—THIRD TO FOURTH CLASS.

Time, 2 hours 30 minutes.

- Lesson XLVIII., page 129.
1. Quoting his words, show how the poet compares Virtue to the Primrose, with respect to:
(a) Their parentage.
(b) The conditions under which they make their appearance.
(c) The places where they are found.
(d) Their modesty. Value, 16.
Lesson V., page 21.
2. Show from the lesson at what time of the day the act shown in the picture was performed. Value, 3.
3. Page 22, the four lines at the top of the page. Write these lines in your own words, introducing the names of the child and of the poet. In writing do not use the words *unobserved* nor *measured numbers*. Value, 8.
4. Express in other words the meaning of:
(a) What is wanting to thy heart? line 9;
(b) These flowers they have no peers, line 11;
(c) Its covert thou canst gain, line 14;
(d) The dam no kinder could have been, line 24;
(e) Then I'll yoke thee to my cart, page 23, line 2;
(f) Dreams of things which thou canst neither see nor hear, page 23, line 8. Value, 18.
5. Point out two particulars in which the form and composition of the stanza in Lesson XLVIII. are different from the stanza in Lesson V. Value, 6.
Lesson XXXVI., page 100.
6. What does the last paragraph on page 100 describe? Value, 3.
7. The good old man felt he was dying; quote the words that show he did die. Value, 3.

8. Explain how it was that, lying upon his bed in the house, he said, "I see the star." Value, 3.
9. Explain "my age is falling from me." Value, 3.
10. For what did he thank his Father? Value, 3.
11. Who were the "dear ones" he meant? Value, 6.

Lesson LIV., page 143.

12. Write the first paragraph, using different words or phrases having the same meaning as *embraces, occupied, centuries, thickly populated, wealth, advanced state of civilization*. Value, 12.
13. Using quotations from the lesson, describe any two of the four pictures grouped together on page 143. Value, 8.
14. (a) Tell the name of one of your favorite prose lessons in the Third Reader (value, 2), and (b) tell the reasons why you like it. Value, 4.
15. Copy what you think a beautiful thought or idea from another prose lesson. Tell the page. Value, 4.

GEOGRAPHY—SECOND TO THIRD CLASS.

Time, 1 hour 45 minutes.

1. (a) Draw a map of your township or village (value, 10) and mark on it the position, of:
(b) Your schoolhouse. Value, 2.
(c) The nearest concession road, and side-road or streets, giving the number or name. Value, 4.
(d) The nearest creek or river. Value, 2.
(e) A postoffice. Value, 2.
2. (a) What direction from this schoolhouse is London, Strathroy, Parkhill? Value, 3.
(b) On or near what river is each of these three places? Value, 3.
3. What is the name or number of the school section in which you live? What is the name of the county? Value, 2.
4. Tell how a letter would be taken from any postoffice you name to any other that you name. Value, 6. What does it cost to send the letter from one place to the other? Value, 2.
5. Make a drawing and also write in words a definition of:
(a) Island.
(b) Lake.
(c) Peninsula.
(d) Strait. Value, 16.
6. Compare hill, mountain, volcano. Value, 6.
7. (a) What continent east of the Pacific Ocean? Value, 2.
(b) What ocean east of Asia? Value, 2.
(c) What ocean east of America? Value, 2.
8. Name three causes that tend to produce floods in the rivers and streams about the beginning of April. Value, 6.
9. What products of March and April have farmers to bring to the markets to sell? Value, 5.

THIRD AND FOURTH CLASS.

Time, 2 hours, 15 minutes.

1. (a) Define isthmus, plateau, cataract, mountain range, height of land, slope. Value, 12.
(b) Tell where there is an example of each. Value, 6.
2. In what part of what township is each of the following places: Thorndale, Parkhill, Lucan, and Glencoe? Value, 8.
3. Draw the township of Lobo, and mark the names and adjoining limits of the townships bordering on it. Value, 8.
4. River Thames, Saublé River, Grand River. Concerning each of these rivers tell:
(a) Where it rises, and where it empties.
(b) Its direction, and the counties through which it flows.
(c) Important places on its course. Value, 18.
5. Name what you think the most important export from each of the seven provinces of Canada, and the city of each province which has the largest trade. Value, 14.
6. United States, Brazil, France, Egypt, and China. Concerning each of these countries tell:
(a) Where each is situated.
(b) What its capital is.
(c) Why the country is important. Value, 30.
7. Why does more rain fall on the western than on the eastern side of the Rocky Mountains? Value, 4.
8. Draw a map of the Western Hemisphere, showing the outline of North and South America, the Equator and the Tropics. Value, 8.

Correspondence.

PRIMARY ARITHMETIC UNDER THE PROPOSED REGULATIONS FOR 1896.

To the Editor of THE EDUCATIONAL JOURNAL:

SIR,—At the meeting of the Provincial Association in April, Principal Thompson, of Hamilton Collegiate Institute, read a paper on the proposed new standards in the High School programme. He showed that the requirements in Mathematics had been very much degraded, especially in Arithmetic, and that the Foreign Languages had been elevated to an unprecedented degree. A deputation from the Mathematical and Physical Section waited on the Minister to request that Arithmetic should be required of the candidates for the Junior Leaving certificate, and that more Algebra and Euclid be added to the Junior Leaving course. The Hon. G. W. Ross said that the proposed regulations required for the Primary Certificates the same standard as that formerly required for the Junior Leaving, and promised to consider whether a further advance would be necessary.

A comparison of the amount of Arithmetic required now, and during the past few years, with the standard exacted a number of years ago, say, from 1875 to 1885, shows plainly that we have been retrograding; and, to all appearances, the new regulations are meant to reduce the amount still further. Perhaps the Minister is not aware that the Pass Matriculation paper in Arithmetic has never been as difficult as the Primary paper, even at the recent standard, and that the papers set for the lowest grade of Normal School certificates thirty years ago demanded longer and more severe application to secure success at the examination, than did the Pass Matriculation paper of last year. As a part of the logical training of Third Class teachers, Arithmetic is the last subject that should be allowed to fall behind. For a long time there has been, in reality, no test of rapid and accurate calculation. The Arithmetic papers have been more like tests in Algebra, especially since algebraical solutions of all problems have been accepted. That step lowered the standard a good deal; and the proposal to accept the paltry Pass Matriculation paper, and, at the same time, to establish the fifty per cent. standard for the total, and also to extend the Third Class certificate to double the former period, is a proposal to degrade Public School teaching a little lower than it has been for a quarter of a century at least.

The proposal to abolish the fifty per cent. standard for the total is a marvellous method of elevating the standard. It is truly original. But the substitution of the Pass Matriculation paper in Arithmetic, with a minimum of 33½ per cent. is almost as original. Taken together they are sure to do great injury to the teaching profession of Ontario, and they ought to be opposed vigorously. Here is the proposed course as defined by the University curriculum:

ARITHMETIC: *Proofs of Elementary Rules: Fractions (Theory and Proofs); Commercial Arithmetic (omitting Annuities).*

MENSURATION: *Areas of rectilinear figures; volumes of right paraboloids and prisms; the circle, cylinder, and cone.*

In other words, the Public School Arithmetic and nothing more. Surely no one is simple enough to believe that this curriculum defines a standard that a self-respecting community would accept as the qualification of its Public School teachers!

It was an evil day for the teachers when the professional examinations were amalgamated with the University Matriculation examinations. The latter are merely designed to test the candidate's ability to prosecute a college course of study; the former ought to test the candidate's grasp of the subject to see whether he is fit to become the teacher of others. These two aims never can be brought into concord; they are hopelessly incongruous. If the *weakest* paper that is set at the Matriculation—so weak that for many years it was not published along with the rest—is to represent the qualification in Arithmetic of the vast majority of our Public School teachers, then let us talk no more about raising the standard.

If the regulations had proposed to make the Junior Leaving certificate the preliminary condition of the Third Class certificate, and the Honor Matriculation the condition of the Second Class certificate, and the First Year Examination the

condition of the First Class C certificate, there would have been some show of harmony with the requirements for First B and First A, as well as some reality in the alleged advance in the qualifications. There was a time when the Education Department seemed to have a little confidence and faith in a progressive standard, and in those days Third Class certificates did not grow on berry bushes, as the Arithmetic papers of those times still testify. Every lover of exact reasoning, and especially every teacher who has the least regard for the future well-being of the Public School teacher in Ontario, should protest vigorously and persistently against the degradation of the standard of entrance to the teaching profession. Druggists, dentists, doctors, lawyers, veterinary surgeons, watchmakers, etc., have doubled and trebled their requirements for entrance, but the standard of admission to teach a Public School has been slowly slipping downward, and here comes a proposal that will make Third Class certificates as cheap and as plentiful as blackberries in the sweet sunshine of summer.

Every friend of popular education, every educated person who wishes to see masters, and not mere apprentices, in charge of our Public Schools, will be compelled to exclaim "An enemy hath done this!" Every Public School teacher who intends to devote his life and energy to the work in our elementary schools must feel a sense of disappointment at this backward step—if it is really carried into effect. Translated into plain English, it means that the gateway to public teaching is to be thrown open to all comers, and that the Public School is to remain a convenient stepping-stone to other more remunerative professions, and that the suicidal underbidding of these birds of passage will continue to drive out of the schoolrooms about a thousand, more or less, experienced and skilful teachers each year. Let us have faith to believe that the Education Department will not thus fly in the face of the clearly-expressed opinion of the teachers of Ontario and, while nominally complying with their requisitions, virtually enact a regulation of the very opposite effect.

I am, sir, yours respectfully,

May 13th, 1895.

ONTARIO.

P.S.—If this regulation is really put in force, our only hope will be that the examiners appointed to set the papers will remain faithful to their duty and to the teaching profession, and that they will give such interpretation to the standard as shall make it impossible to fill the Public Schools with teachers who are ignorant of the theory of numbers and incapable of working out a long arithmetical calculation with speed and accuracy. ONT.

Hints and Helps.

COMPOUND AND COMPLEX SENTENCES.

BY A. C. BATTEN, BARRIE.

Pupils should be given a clear idea of "a phrase" and "a clause." This may be done by comparison and contrast. In the sentences, "Those books on the table are histories," "Our horses that ran away have been sold," "on the table" and "our horses have been sold," or "that ran away," are groups of words and elements of a sentence. They are different in that "on the table" has neither subject nor predicate, while the other two groups have both subject and predicate. Hence the definitions.

A *phrase* is a group of words forming an element of a sentence, and containing neither subject nor predicate.

A *clause* is a group of words forming an element of a sentence, and containing both subject and predicate.

It is, therefore, evident that a sentence containing only one subject and predicate cannot contain a clause, for then a clause would not be an element of a sentence. Only sentences containing more than one subject and predicate contain clauses.

These clauses may be mutually dependent, or they may be independent. In the sentence, "The boys ran when the tree fell," "the boys ran" and "when the tree fell" are dependent on each other

for the meaning that each has in the given sentence, which is, on this account, complex. Neither clause is independent of the other, but "when the tree fell" is connected with the simple predicate *ran*, and modifies it, hence "the boys ran" is said to be the *principal* clause, and "when the tree fell" *dependent* on the principal clause, or, at least, an element of the principal clause.

In a sentence containing more than two clauses that are mutually dependent, there is only one *principal* clause, and all the other clauses have a dependent relation, either directly with some element of the principal clause, or with another clause that has this direct relation. The word *subordinate* may be substituted for *dependent*.

In the sentence, "The boys ran and the trees fell," "the boys ran," "the trees fell," when used as simple sentences, have exactly the same meaning as they have in the given sentence. In such a case the clauses are not *dependent*, but they are *independent* of each other for their meaning. There may be an unlimited number of clauses in a sentence, and all have *independent* relation, so far as meaning is concerned. Such a sentence is a compound sentence. *Co-ordinate* may be substituted for *independent*.

Compound sentences:

- (1) The horses walked, but the dogs ran.
- (2) The horses walked and the birds sang, but the dog ran and the cats jumped.
- (3) The horses that ate the oats walked, but the dog that bit the boy ran.

In (1) the co-ordinate clauses are simple in form; in (2) they are compound in form; and in (3) complex.

HOW TO TREAT THE BAD BOY.

My copy of THE JOURNAL containing E. A. M.'s question has just reached me. Perhaps my experience may help.

When I came to my present school, my first, by the way, in January, I found among my pupils a boy who lied, swore, stole, and was habitually disobedient. In addition to this, he was quarrelsome, and tried to kiss the girls when the teacher was absent at noon.

The last teacher had tried everything, even, as a last resort, whipping, but nothing seemed to effect a cure. I tried some of E.A.M.'s methods, but did not double his work. I wanted him to *like* work, and to work voluntarily. But my methods failed.

They failed, not because they were wrong, nor because the boy was wrong, but because I was wrong.

I prayed for him and worked for him, but all the time I thought of him as a "bad boy," and tried to change him, not because I loved him, but because it was my duty to do the best I could for him.

Now, E.A.M., in every child there *is* a child heart, no matter how depraved he may seem. Trust your boy, encourage him, help him, let him see that you care for him. If his home-training is bad, all the more need to be tender and loving. Poor little man, does he know he sins? Being told is not knowing. Trust him, and he will repay you.

I didn't punish my boy. After I found out why I failed, to manage him was easy. One fault at a time was conquered. I removed temptations at first, gradually allowing more as he became stronger morally.

I let him help me. He helped to decorate the walls, to clean the blackboards, to distribute copy-books. I studied him and found out his ambitions. He began to confide in me. I never scolded, never blamed, when he erred, only let him see I was sorry, and showed him how he was hurting himself. In school, the rest of my pupils did not notice any difference in my treatment of them and him. Now he is among the first to invite me to join in a game, or to offer to help in any work, and he studies well.

He is not perfect, but he still improves, and I trust he will become a useful, good-living man.

Method cannot conquer. Get the true motive and it will prompt the proper method.

I love my pupils, and they love me, consequently they strive to please. That is our motive, but methods are far more numerous than children.

MINNO C. ERLY.

Bronson, April 23rd.

Question Drawer.

All questions for this department, like all communications for any other department of THE JOURNAL, must be authenticated with the name and address of the writer, and must be written on one side of the paper only. Questions should also be classified according to the subject, i.e., questions for the English, the Mathematical, the Scientific, and the general information departments should be written on separate slips, so that each set may be forwarded to the Editor of the particular department. If you wish prompt answers to questions, please observe these rules.

W MCK.—We are quite unable to answer your question. The Department alone can answer it with authority.

SUBSCRIBER.—A SUBSCRIBER, and others, who send us questions, must have neglected to read the above note, stating the laws of the question drawer.

Literary Notes.

The June *Atlantic* contains instalments of the two leading serials by Mrs. Ward and Gilbert Parker, also a short story of frontier garrison life by Ellen Mackubin, entitled "Rosita." Another bit of fiction of unusual character and interest is "Through the Windows: Two Glimpses of a Man's Life." The two chapters bear the significant titles Detachment and Disenchantment. Lafcadio Hearn contributes a delightful paper entitled, "In the Twilight of the Gods," which, with Mary Stockton Hunter's poem, "A Japanese Sword Song," gives this issue a distinct flavor of the Orient. Percival Lowell continues his readable papers upon "Mars," discussing in this issue the "Water Problem," and in July, "Canals."

Book Notices.

FOREST, LAKE, AND PRAIRIE. Twenty Years of Frontier Life in Western Canada, 1842-1862. By Rev. John McDougall. 267 pages, with 24 full-page illustrations by J. G. Laughlin. William Briggs, publisher.

This latest contribution to good literature for Canadian boys and girls cannot be too highly commended to all who are in quest of wholesome books for Public or Sunday school libraries. It is a narrative of travel and adventure in the great Canadian Northwest in the earliest days of its history. In 1860, when the adventures really begin, there was but one solitary house where now stands the city of Winnipeg, and the Hudson Bay Co.'s officials and an occasional missionary were the only white men in all that vast region north or west. Travelling was mostly by boat in summer, or by dog-trains in winter, and was at all times arduous and dangerous. There was abundance of game, however, and no lack of adventure, and to a robust, athletic youth of John McDougall's temperament and training, a life of travel and adventure on the prairie was full of excitement and fascination. The story of his adventures is told with all the glow and vividness of an ardent, youthful hunter; yet the writer never forgets that he is helping to carry out the missionary plans of his beloved missionary father, and every sign of improvement in the habits and thought of the redman is noted with approval and sympathy. "Forest, Lake, and Prairie" is thus really a contribution to our home mission literature, in which the writer has invested some phases of pioneer life with a picturesqueness and charm which must appeal powerfully to all who are interested in everything that has helped to develop the moral greatness of this Canada of ours.

COMMERCIAL TEACHERS WANTED.

The really good commercial teacher seems just now to be very much in demand in the United States. The high schools and private academies and colleges, of which there are many thousands, are awaking to the fact that a training in the principles of commerce, economics, and finance is of equal importance in these work-a-day times with a training in science and language. By a commercial teacher is not meant simply a teacher of book-keeping, but a teacher of business in its broadest sense, which includes a comprehensive knowledge of the world's complex systems of industry and trade.

Drexel Institute, Philadelphia, is the only institution in the country having a first class normal department for the training of commercial teachers. This institution is the pride of Philadelphia and is a centre of attraction for all visitors. Its building, which cost a million dollars, the gift of Anthony J. Drexel, the great banker, is considered the most beautiful and most completely equipped educational building in the world. Nearly three thousand young men and young women are in attendance in the various departments. Many of these are from Canada. The head of the commercial normal department, who is also one of the directors of the Institute, is an ex-Ontario teacher, Mr. Seymour Eaton. Mr. Eaton attended Collingwood Collegiate Institute in 1876, and was principal of Bracebridge public school for two years. He is author of many valuable school text-books and now commands a salary equal to four times that paid to our high school principals.

We are informed by Mr. Eaton that he has located every commercial teacher who will graduate from his department this year at salaries ranging from \$750 to \$1,500, and that he could have located three times the number if he had had them. The commercial normal course can be completed and the diploma of the institute secured in one year. The entrance requirements state that the applicant must have taught at least two years and must be twenty-one years of age or over. No examination is necessary. Drexel Institute has an endowment of several millions and can afford to offer the best instruction at the lowest possible cost.

LITERARY COMPETITION.

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With a view to assisting in the development of literary talent in Canada, the Dr. Williams Medicine Co., of Brockville, Ont., will award prizes amounting to \$300 among the writers of the best five short original stories submitted in the competition as follows:

For the story pronounced the best, \$100 will be given.
For the second best, \$75.
For the third best, \$60.
For the fourth best, \$40.
For the fifth best, \$25.

The competition is open to residents of the Dominion of Canada, who have never won a cash prize in a story competition, and is subject to the following rules:

Each story to contain not more than three thousand words.

The writer of the story shall affix a pen name, initials, or motto to his or her manuscript, and shall send with the manuscript a sealed envelope bearing on the outside the pen name, initials, or motto attached to the story, and containing inside it the full name and address of the writer thereof.

We impose no limitations whatever as to the nature of topic written upon, and the scene of the story need not necessarily be laid in Canada, although competitors must be residents of Canada, as above stated.

Stories entered in the competition must be written on one side of the paper only, and, when possible, should be type-written.

Manuscripts to be sent flat or folded—NOT ROLLED.

All stories for competition must reach the Dr. Williams Medicine Co., Brockville, Ont., on or before the first day of July, 1895, and should be marked "For Literary Competition."

Decision will be made as follows: All stories submitted will be referred to a competent committee, who will decide which are the best five stories. These stories will then be published in pamphlet form, which pamphlets will be distributed throughout the Dominion, and each will contain a voting paper upon which readers will be invited to express their preference. The story obtaining the highest number of votes will be awarded the first prize. The one obtaining the second highest number will be awarded second prize, and so on until the five prizes are awarded.

The voting will close on the first day of December, 1895, and the committee will then publish the names of the successful competitors and the order of merit.

Unsuccessful manuscripts will be returned when stamps are sent for postage.

The five stories selected are to become the absolute property of the Dr. Williams Medicine Co., with their copyright in perpetuity.

The decision of the committee and the counting of votes to be absolute and final, and all persons entering the competition agree, by doing so, to accept the decisions of the committee and the Dr. Williams Medicine Co. as final on all points whatsoever.

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Correspondence in regard to unsuccessful MSS. declined, even when stamped envelopes are sent; any stamps so sent (for any other purpose than the return of the MS. at the time of first sending) will be put in the poor box.

The Dr. Williams Medicine Co. will take all precautions to safeguard MS. entrusted to their care, but in no case do they assume any responsibility for fire, accident, or loss of unsuccessful MS. Authors are therefore advised to keep copies.

The stories must be original. Any one sending copied matter will be liable to punishment for fraud, and a prize of \$25 is offered to the first person who points out the fact that any story passed by the committee is otherwise than original, in the unlikely event of such an oversight occurring.

All stories entered in the competition must be addressed to the Dr. Williams Medicine Co., Brockville, Ont., and marked on the envelope, "For Literary Competition."

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NOTICE.

TEACHERS will please note that the edition of "Notes on Entrance Literature," edited by F. H. Sykes, M.A., and published by the Canada Publishing Company, is now exhausted, and, as no further edition is to be published, we can no longer fill any orders for this book.

FOR mutual advantage, when you write to an advertiser please mention THE EDUCATIONAL JOURNAL.

OFFICIAL CALENDAR

OF THE

Educational Department.

June:

1. Public and Separate School Boards to appoint representatives on the High School Entrance Examination Board of Examiners. [H.S.Act, sec. 38 (2).] (On or before 1st June.)
11. University Commencement. (Subject to appointment.)
28. High Schools close, third term. [H.S.Act, sec. 42.] (End on 30th June.)
Public and Separate Schools close. [P.S.Act, sec. 173 (1) (2).] (End 30th June.) S.S.Act, 79 (1) (2).] (End 1st July.)
29. Semi-Annual Reports of High Schools to Department, due. [H.S.Act, sec. 14 (12).] (Close of half year.)
Rural Public School Trustees to report average attendance of pupils to Inspector. [P.S.Act, sec. 206.] (On or before 30th June.)
Protestant Separate Schools to transmit to County Inspectors names and attendance during the last preceding six months. [S.S.Act, sec. 12.] (On or before 30th June.)
Semi-Annual Reports of Separate Schools to Department, due. [S.S.Act, sec. 28 (18); sec. 62.] (On or before 30th June.)
Trustees' Report to Truant Officer, due. [Truancy Act, sec. 12.] (Last week in June.)
Assessors to settle basis of taxation in Union School Sections. [P.S.Act, sec. 95 (1).] (Before 1st July.)

ANNUAL EXAMINATIONS, 1895.

NOTICES.

June 1.—Notice by candidates for Kindergarten examinations to Department, due.

EXAMINATIONS.

- June 4.—Practical Examinations at Normal School begin.
- June 12.—Written Examinations at Normal Schools begin.
- June 26.—Examinations in Oral Reading, Drawing, and the Commercial Course in High, Public, and Separate Schools begin.
- June 27.—High School Entrance and Public School Leaving Examinations begin.
Kindergarten Examinations begin.
- July 2.—High School Junior Leaving, University Pass, Matriculation, and Scholarship Examinations begin.
Commercial Specialists' Examination at Toronto begin.
- July 4.—High School Primary Examinations begin.
- July 11.—High School Leaving and University Examinations begin.

Ottawa