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FOR THE ATLANTIC PROVINCES OF CANADA.

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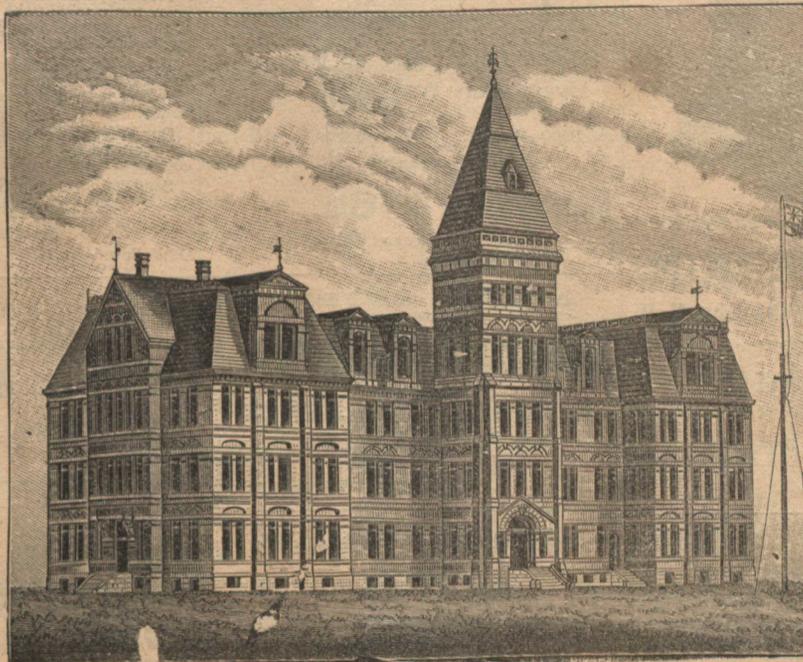
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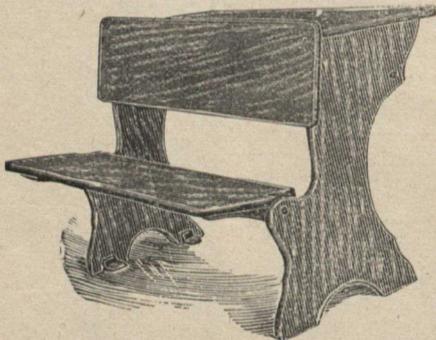
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The Educational Review.

Devoted to Advanced Methods of Education and General Culture.

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G. U. HAY,
Editor for New Brunswick.

A. McKAY,
Editor for Nova Scotia.

J. D. SEAMAN,
Editor for P. E. Island

THE EDUCATIONAL REVIEW.

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INSTANCES of endowments to educational institutions in these provinces are unfortunately too rare, and all could wish for the benefit of the institutions themselves, as well as to gain a reputation for greater liberality in such a good cause, that we had more frequent donations to record. The University of New Brunswick is to be congratulated on a recent gift of \$2,000.00 from Asa Dow, of Canterbury, York County, to found a scholarship. May such donors rapidly multiply among us.

THE Nova Scotia Normal School Alumni Association offers a first prize of fifteen dollars and a second one of ten dollars for the best and second best essays on "The Public School as a Preparation for Citizenship." Competition to be open to all members who have taught not less than three years, or who hold a normal school diploma. (Membership fee only twenty-five cents). Essays should be sent to the secretary-treasurer, Prof. A. G. McDonald, Normal School, Truro, not later than the first of next May. They should be signed with a *nom-de-plume* only, which, with the competitor's name and address, should be sent not later than the first of July next, in a sealed letter, subscribed, "Alumni Prize Essay," to the secretary of the association.

THE conservatism of England has at least the one advantage that whatever progress is made is always in the right direction. The educationists of England were slow in requiring professional training of her teachers, but they are now beginning to do so; and what they do require is of the right kind. All candidates for examination by the College of Preceptors are required to give evidence of experience and actual occupation in teaching, in addition to the examination on mental and moral science applied to education, practical teaching, lesson-giving, criticism of methods, etc. There has been an increase of candidates this year of 50 per cent.

THE *Educational Times*, London, does not seem to have much sympathy with the reformed spelling, or much respect for the opinions of its many distinguished advocates. In the last number we find: "There is a point beyond which the demand for reformed spelling seems to indicate an incipient softening of the brain-stuff. The disease may begin with wrangles over 'judgment' and 'judgement,' but it is pretty sure to end, if it be not checked, in such extravagancies as that of the good folk who turn 'colour' into 'color' and call it 'culler' just to show their purity of language." Conservatism carried to this extent ignores the fact of language growth and may be regarded as a symptom of approaching senility.

THERE is very great danger to education from the machine-like perfection and rigidity of some of its modern systems. When the ideas of any one individual are allowed to dominate a whole country and crystallize into a system, progress is nearly at an end. It would be very easy to cite cases in our own Dominion and elsewhere. The natural development of educational thought requires large freedom in the way of experiment. The educational chaos of the United States, or the tentative methods of England, promise more for the future of education than the more symmetrical systems of the Dominion of Canada. Nearly all great educational reforms were worked out in private or experimental schools.

HARVARD UNIVERSITY is the first to advertise its Summer School. See notice in another column.

Pessimism.

It is very discouraging to hardworking and sensitive teachers and school officers to have people constantly referring to some period in the past generally when "we were boys," and comparing adversely to the present, the state of affairs then. "Behold the men we are, and look at the young men growing up." "When we went to school we studied what we wished, and now you are compelled to study all kinds of useless branches." "Everything is going to the bad." "Teachers now have an easy time. They used to have to begin work at daylight and cease only at dark with few, if any, holidays." "Natural science, drawing, and such subjects, are only a waste of time," etc., etc.

If it is any consolation to us, it may be said that the above views are not by any means confined to matters educational, but a similar conflict is going on all along the line of progress. It is also encouraging to be told that a generation ago, pessimists existed. History, geography, and grammar, had as hard time to be introduced as other branches are having at present, and there are some even now who do not think knowledge in these subjects beneficial. There are also those who believe the old time stage coach to have its advantages over modern means of locomotion, and there are even those who deny that the world moves.

That the young men and women growing up are the equals of past generations, goes without argument. They may not know as much about some things as their fathers and grandfathers at present, but they are falling into line and doing the world's work as it has never been done before.

It is a good thing for us that ripe scholarship has always existed here and there, but it is very evident that knowledge is more generally diffused now than at any previous time in the world's history.

Books, papers, magazines, and literature of all kinds, enter more or less into the homes and lives of everyone. Progress is the watchword of the age, and it is all due to the enlightenment of the people. The schools are the backbone of a nation, and they must keep step with the times. They must not follow—they must lead. If text-books get out of date, they must be changed. The curriculum must be added to as necessity arises. There are sure to be grumblers whatever may be done, only let it be hoped that pessimism will not enter into high places, and the fountains of progress be clogged at their source.

The knowledge gained by study of such subjects as science and industrial drawing has almost revolutionized the world. Do not take pessimists too seriously, and remember, as we grow old we nearly all become conservative.

Reading in the First Grades.

If proper methods are followed, nearly half the work of teaching reading is over when the pupil has mastered the primer and all that properly belongs to that stage. Good teaching will enable him to pronounce any ordinary syllable and therefore to pronounce the great majority of words that he has used in conversation. If in addition to this he has formed the habit of being interested in whatever he reads, he can be easily led to read any juvenile book suited to his tastes and mental development. We often see children of seven or eight or even six years who can read with comfort and keen delight the historical points of the Bible, the A. L. O. E. series, the Swiss Family Robinson, Robinson Crusoe, and other works of like character.

That this very desirable result is not secured in the case of three-fourths of our school children, is owing to defective methods. Reading and re-reading the primer and the first reader until thoroughness is secured is just the way not to succeed. The primary reading lessons should not be read after the pupil's interest in the subject begins to flag, that is, they should be read only once.

The most of the reading lessons should be composed by the pupils themselves—the expression in their own words of what they have learned from observation or experiment of the world around them. Nature lessons thus become the best lessons in reading, spelling and writing that can be found.

Miss Gilman gives expression to some valuable thoughts on this subject, in substance as follows: The best teachers agree that children taught in this way learn faster. There must be thorough drill upon the common words and idioms. Phonic work would give the power to recognize new words. It is the *power* that we are working for—the power to grasp new words and thoughts. There will be little difficulty in reading in books if the pupils understand and are keenly interested in the thought of the sentence. Select from the readers the lessons that relate to the science work. Those who teach in the country have working material in trees, flowers and living things, treasures too often unappreciated. Out-of-door observation is a very important part of the work, giving inspiration which will secure mental growth.

The children have something interesting and instructive about which to think, talk, write and read. Because they are interested they learn faster, more easily and naturally. Besides learning to read they are working in language, geography and the sciences, and developing physically, mentally and spiritually.

The one thing needful for this delightful work is a teacher full of enthusiasm, who can through earnest study work out her own plan. Only let her begin with faith, learning of Him who taught from birds and flowers and blessed the children.

TALKS WITH TEACHERS.

How common it is for teachers to remark to school officers that "such a child has an impediment in his speech," or "is stupid," or "he will never be able to learn anything," etc., etc. In such cases I have often felt like openly rebuking these teachers, but that would only make the matter worse, as it would be holding up his weakness before the pupils in the same manner as the child's had been exposed to strangers.

Teachers, if any, should be aware of the extreme sensitiveness of most children to criticism of any kind before strangers. If there is a natural impediment, strive to correct; but never draw the attention of others to it. It is little short of brutal. To tell a child that "he never will be able to learn anything," is very injudicious, not to say harmful. Next to a pupil's parents—and often in preference to even them—he believes in his teacher. This belief holds for a longer or shorter time, as he is impressed. If the teacher's word be law, praise or censure that he may utter lightly will be stored up and acted upon for many a day, and an average child may be persuaded that it is of no use to make an effort, as he believes he is incapable of doing anything. Be discriminating even with praise, and censure sparingly and always from the standpoint of the pupil's weal, not for your own satisfaction.

Do these remarks apply to truancy, lying and profanity? Something depends upon the disposition of the child, but in my experience such pupils are rarely very sensitive. Constant nagging does little good in any case, but in such cases I think punishment might be given publicly. I believe good is sometimes done by bringing the conduct of these to the notice of school officers in the presence of the school. Offences against morality are the most difficult with which teachers have to deal, and call for the exercise of more tact and discretion than any others. In some cases corporal punishment is a preventive, in others it is of little benefit.

I have heard it stated that at the last conference of the inspectors with the Chief Superintendent that the subject of grammar teaching was discussed at some length, and the Chief gave some practical and suggestive hints upon the subject—which may have the effect of drawing more closely the attention of the inspectors in that direction.

There are many faddists upon the subject of grammar, and there is much nonsense talked regarding it by many of our teachers. Text-books, also, come in for a good share of blame. What is the end sought by teach-

ing English grammar? Is it not the use of the English language "with propriety," as Lennie used to say. Why, then, all these superfine distinctions and differences regarding analysis? Analysis of a general nature is beneficial. Analysis of the minute kind may train and develop the reasoning powers, but it is in no sense an exact science and does not compare in excellence with geometry in this respect. I have heard Paradise Lost analyzed to death, and when done all the thought and beauty had gone, and nothing remained but the skeleton of the analysis. Let us get away from too much text and use a little more common sense. There is many a grammar lesson outside of any grammar, and much false syntax comes to our ears before a formal dealing with it by the texts. Teach your pupils to speak and write their language correctly. Give them rules and reasons as may seem best and according to their capacity.

Why not turn your attention to a school library? If you have one already, add to it; if not, start one. If any teachers desire to exchange books with others, write to the REVIEW and they may be put in communication with others.

Would it not be a good plan in the spring to have a horizontal bar in the school yard? The boys will get many a tumble, but it will do them good and work off lots of surplus energy. Besides it will develop young Canada.

For the REVIEW.]

Notes on English.

If the study of formal grammar made boys and girls speak and write good English, and if there was no other way to get at this result, we would have to make the best of a bad job and keep grinding away at this dreary drudgery.

The study of language or of languages is anything but dreary drudgery when carried on under the guidance of such men as Max Muller, Skeat, Marsh, Whitney, Fitzedward Hall, Francis Neuman, Abbott, Murray and others of the same kidney. By the way the last name is not the name of Lindley Murray. He is dead, and it's a pity he was ever born. The Murray who is fit company for those I have put him with is the editor of the Oxford Dictionary. That dictionary differs from the common run of dictionaries in the same way as philology differs from what I mean by formal grammar.

I don't pretend to know what it means to those who magnify it at Teachers' Associations. If it is the same thing to them as it is to me, I would like to have the

opportunity sometime of examining their phrenological development. By "formal grammar," I mean the thing in the concrete form as found in the actual work of most of our schools—the drill in definitions and rules and exceptions, the exercises in parsing and analysis, and the correcting of sentences—which often means the changing of pure idiomatic English into vile idiotic gibberish which squares with somebody's rules of syntax but which nobody but a prig or a pedant or a pedagogue would ever think of using. Jack Cade had Lord Say beheaded, because among other things, he had men about him "that usually talk of a noun and a verb and such abominable words as no Christian ear can endure to hear." I don't quite approve of such extreme measures for merely talking about a noun and a verb, but then there were other "abominable words" which may have justified the severity of the rebel chief. Perhaps he dropped into a school one day and heard a teacher and his pupils jabbering away for a whole mortal hour about subjects and predicates and enlargements and extensions, abstract nouns and qualifying adjectives and conjunctive adverbs, verbs of incomplete predication, the optative use of the subjunctive mood, and other such useless and dry-as-dust rubbish.

* * * *

When I began that last paragraph, I intended to describe what I meant by "formal grammar" as used in this article. The work of description got interrupted somehow, but the subject is too distasteful to begin on again—at least for the present. It is likely, however, that, from what has been said, the reader can form a fairly good notion of what the thing is that I am kicking against.

I have not the time, and the REVIEW has not the space, to say all that might, could and should be said against this evil. But there is the less need to do so since the subject has already been touched on several times before. I was reminded of this while writing the sentence just above the last row of stars. It, or something very like it, occurs in a paper on *The Study of English Literature*, which was published in the REVIEW for August, 1892. If the writer of the report of the York County Teachers' Meeting in the last number of the REVIEW will get that paper and read it, and if he will also look again at the *Notes on English* in the REVIEW for November and December 1895, and March 1893, and October 1892, he will understand better than he now seems to do, how a student of our language and literature can speak in no other than a "slighting" way of that abomination of desolation which goes by the name of "formal grammar" in our schools.

* * * *

I am sorry to have to confess that I was once very good myself at all sorts of grammar-mongering imbecility, even at parsing and analysis. And worse than that, I used to be a good hand at making others good at it. And that was not the worst, for I really believed it was a good thing to be good at. But that was in

"My salad days,
When I was green in judgment."

To young students and teachers who may still be wallowing in the mire of grammarolatry, I recommend the same means of escape that saved me. Take up the *historical* study of our language. The best way to do this is to read the literature of it, but while studying the language at first-hand in its literature, much help can be got by reading the works on language by such writers as those named at the beginning of this article, or by Trench, Alford, Lounsbury, Latham, etc.

A generous dose of good English literature, accompanied by careful study of the language in its various stages of historical development, should cure even the most degraded victim of the grammar habit, unless indeed he is like the little Scotsman, who was asked how far he was in his catechism, and said, "Past Redemption."

* * * *

For the sinful waste of time devoted to the dreary and useless school exercises in formal grammar, the teachers should not be held responsible. The young and inexperienced ones know no better. They acquire the bad habit as scholars. They may be lucky enough to escape it during their common school or high school career, but they are sure to catch it at the normal school, unless they have previously absorbed enough of the language and literature antidote to render them proof against the grammar poison.

Some older teachers can plead the same excuse. Others, who know better, continue the evil practices because they think the law compels them to do so. The official examination papers still call for parsing and analysis and other such nonsense, and these teachers say their pupils can't pass unless they are kept in constant drill at these exercises. Well, let them fail. "Not to pass as many pupils as possible," says Stahlfeder, in the December REVIEW, "but to do good honest educational work is (or should be) the aim of the teacher."

Right so, thou sturdy Stahlfeder, and the best of good luck to thee and all other teachers who are trying to do that work!

A. CAMERON,

Yarmouth, N. S., February 1896.

I am much pleased with the contents of the REVIEW.
Westmorland County, N.B. W. T. C.

For the REVIEW.]

Mathematical Drawing.

W. T. KENNEDY, PRINCIPAL HALIFAX ACADEMY.

Let the pupil be provided with a ruler marked on one edge in inches and their subdivisions, halves, quarters, eighths and sixteenths; and on the other edge in decimeters, centimeters and millimeters. Such rulers can be purchased for one cent each.

Problem 1. Prepare on paper a plan of a house 32 feet long and 24 feet wide, with an ell kitchen 16 feet by 12 feet.

What is the first step?

To decide on a scale.

What scale do you suggest?

Four feet to an inch would do very well.

Then what is the length and breadth of the rectangle representing the house?

As 4 feet is represented by one inch on the paper, the 32 feet is represented by a line 8 inches long, and the 24 feet by a line 6 inches long.

And the ell?

The ell will appear in the plan as a rectangle 4 inches by 3 inches.

What would be the dimensions of the rectangles if we adopt a scale of 12 feet to an inch?

$2\frac{3}{4}$ in. by 2 in., and $1\frac{1}{3}$ in. by 1 in.

And if we plot the foundation on a scale of 16 feet to 1 inch?

2 in. by $1\frac{1}{2}$ in. and 1 in. by $\frac{3}{4}$ in.

This is the scale employed in diagram 1, which shows the outer line of the foundation of the house mentioned above.



Scale: 16 ft. to 1 inch.

Problem 2. Prepare a plan of the first floor of a house 36 feet square with a hall-way 6 feet wide running through it, and the floor divided into four rooms of equal size. The front door is to be 3 feet 6 inches wide and all the other doors 3 feet, except a pair of folding doors 7 feet wide; and let the plan indicate the position of the doors.

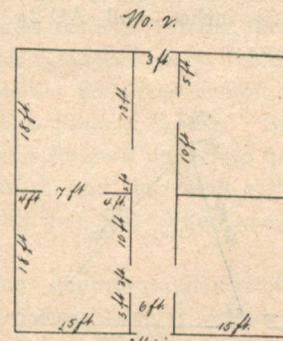
If we adopt a scale of 12 feet to an inch (an architect's plan would probably be on a scale of 3, 4, or 6 feet to an inch) diagram 2 will be a representation of what is required.

Problem 3. Plot the same floor in scales of 4, 6 and 9 feet to an inch.

Problem 4. Prepare a plan of the front elevation of a flat-roofed house 22 feet wide and 18 feet high, with a door and two windows below, and three windows

above, on a scale of 4 feet to an inch. Let the door be 7 ft. by $3\frac{1}{2}$, and each window 6 ft. by 3 ft.

Problem 5. In the working plan of a building, on a scale of 8 feet to an inch, the height of a post is indicated by a line $1\frac{3}{4}$ in. long. Of what length must the workman cut the post? As 1 inch represents 8 ft., $1\frac{3}{4}$ inch represents 14 ft.



Scale: 16 ft. to 1 inch

Problem 6. In the working plan of the side

elevation of a house, on a scale of 10 ft. to the inch, the carpenter finds the length and breadth of a window to be three-quarters of an inch by seven-sixteenths of an inch. Of what size is he required to construct it? Ans. 7 ft. 6 in. by 4 ft. $4\frac{1}{2}$ in.

Problem 7. In the plan of a house 28 ft. by 24 ft. $6\frac{1}{2}$ in. the line indicating the width is $3\frac{1}{2}$ in. long. On what scale has the plan been prepared? Ans. 7 feet to 1 inch.

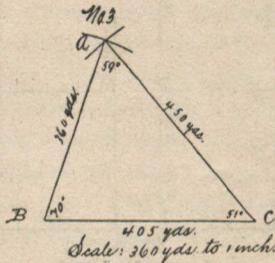
Problem 8. Show the side elevation of a house 30 ft. square with height of post 18 ft and length of rafter 21 ft. Show three windows below and two above, each 6 ft. by 3. Use a scale of 3 ft. to an inch.

In plotting triangles, and in measuring the different angles of triangles which have been plotted, a quadrant is required in addition to the ruler already referred to. A small compass is also convenient. A compass which can be slipped on to any lead pencil can be purchased for ten cents, and the pupils can make their own quadrants from paper. On any stiff paper take a right angle BAC, and let its arms AB and AC be two or three inches long. With center A and radius AB describe a quadrant of a circle BC. Divide the curved line BC into nine equal parts, making them from B to C on the outside of the curve 10, 20, 30, 40, 50, 60, 70, 80, and join the points to A. Name the parts from C to B on the inside of curve 10, 20, 30, etc. And sub-divide each part on the curved line into ten equal parts. The angle at A is thus divided into the ninety degrees which it contains, and the quadrant, when the paper is cut to the lines, is ready for use.

Problem 9.—Plot a triangular field whose sides are 360, 405 and 450 yards respectively, and measure the angles.

For ordinary class-work the scale here would probably be ninety yards to an inch, giving a triangle with sides 4, $4\frac{1}{2}$ and 5 inches. But to economize space we

plot the triangle in diagram 3 on a scale of 180 yards to an inch, and our triangle has its side AB 2 inches, BC $2\frac{1}{4}$ inches, and AC $2\frac{1}{2}$ inches. We proceed as follows :



Then with the right angle of the quadrant at the point A, and one edge on AC, observe where the line AB, or AB produced, crosses the circular part of the quadrant. The number of degrees marked on the quadrant at the point is the number of degrees in angle A. Measure angle B in a similar manner. Then the sum of the degrees in angles A and B taken from 180 leaves the number of degrees in angle C.

Problem 10. Plot a triangle whose sides are 292, 365 and 438 feet respectively on a scale of 73 ft. to 1 in., and measure the angles.

Problem 11. Plot a triangle in which AB represents 217 yds., BC 248 yds. and AC 372 yds., and measure the angles. Ans. Angle A will be about 40 degrees, angle C about $34\frac{1}{2}$ degrees, and angle B about $105\frac{1}{2}$ degrees.

Problem 12. Plot a triangle, two of whose sides AB and AC are 75 and 100 feet respectively, and the contained angle 55° , and measure the third side and the other angles.

Using a scale of 25 ft. to an inch we take a line AB, in any position, 3 in. long. At A, by means of the quadrant, make an angle BAC 55° and make AC 4 in. long. Join BC. Then by means of the ruler we find the actual length of BC to be $3\frac{5}{16}$ inches. Now as each inch represents 25 ft., the length of the third side is about 83 ft. 4 in. Applying the quadrant to the angle at B we find it to be 77° , and the angle at C we find to be 48° .

Problem 13. Two sides of a triangular field are 500 ft. and 700 ft., and they are inclined to each other at an angle of 66° . Find the length of the third side and the magnitude of the other angles.

Problem 14. One side of a triangular field is 240 yds., and the angles at its extremities are 73° and 50° . Find the other sides.

Take a line BC of 3 in., which is allowing 80 yds. to

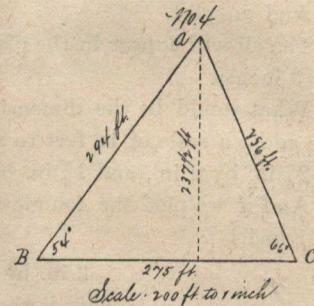
1 inch. At B make an angle of 73° and at C an angle of 50° . Let the lines meet in A. Then it will be found that AB measures about $2\frac{1}{4}$ inches, and AC about $3\frac{3}{8}$ inches. Hence the approximate length of these sides is 215 yds. and 270 yds. Angle A is, of course, 57° .

Problem 15. Plot a triangle having given side BC 420 feet and each of the angles B and C 45° , and find the length of the other two sides. Can you prove your answer by arithmetic?

Problem 16. Two boys were standing 150 yds. apart on a railway track which runs north and south. They leave the track walking so as to meet. One walks at an angle of 60° to the track and the other at an angle of 45° . How much further had one travelled than the other when they met?

Problem 17. Find the other sides and the approximate area of a triangular field when one side is 275 feet long and the angles at its extremities 54° and 66° .

Take a line BC $2\frac{3}{4}$ in., using a scale of 100 feet to an inch, and at B make an angle ABC of 54° and at C an angle ACB of 66° . Then AB is found by measurement to be about $2\frac{1}{4}$ inches, and as each inch represents 100 feet that side of the field is



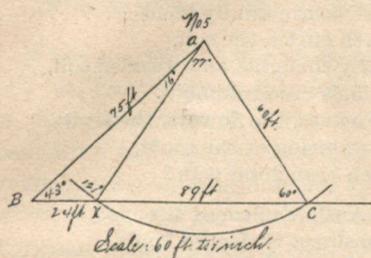
about 294 feet. AC is found to be about $2\frac{9}{16}$ inches, so that the third of field is about 256 feet.

To find the area let fall a perpendicular from A on BC. This perpendicular measures about $2\frac{3}{8}$ inches, so that its length in the field is $237\frac{1}{2}$ feet. Hence the area of the triangle is the base 275 feet multiplied by $237\frac{1}{2}$ and the product divided by 2, about 32656 square feet or $\frac{3}{4}$ of an acre.

Problem 18. Find the area of a field whose three sides are 252, 336 and 378 yards respectively. Also measure its angles.

Problem 19. [From the Nova Scotia Grade D paper, 1895]. The two sides of a triangle are 75 and 60, and the angle opposite the latter is 43° . Find all the other possible sides and angles by construction.

Take a line BC of any length and make angle ABC 43° , and AB $2\frac{1}{2}$ inches in length. (From this it will be seen that we are working on a scale of 30 feet to an inch). With center A and radius of 2 inches describe a circle cutting BC in X and C. Join AX and AC. Then ABX and ABC are the two possible triangles.



In triangle ABX it is found that angle AXB is 121° and angle BAX 16° , and side BX over 24 feet. In triangle ABC it is found that angle C is 60° , angle BAC

77° and side BC over 88 feet.

Problem 20. The two sides of a triangle are 95 and 133 and the angle opposite the former side is 40° . Find all the other possible sides and angles.

For the REVIEW.]

Reading as Taught in Our Schools.

There is no subject to which so little attention is given in our public schools as to reading. As this subject is taught at the present time, it lies without the pale of true education. To be educative, a subject must add to the power of the student, must develop his mental activity. Now does reading, as it is taught, do this? It is a lamentable truth that it does not. To become familiar with all the words in a selection, so that he can repeat them all without stumbling, is the highest aim of the pupil, and all that is asked of him by the teacher. Certainly under those circumstances it does not rank with truly educative subjects, for the pupil has not grown in power during the lesson, and the only result attained might be reached fully as well in his work in language.

If reading is to be taught in our public schools, a reformation in method is sadly needed. How shall we cure this inaudible expressionless manner of reading, which we find almost universal among students? I reply in the words of an American educator: "One thing alone will cure this inaudible reading we hear in class-rooms, that is to make the child very anxious to be thoroughly understood in what he reads. In that struggle all the arts of elocution will find a place, under an all-controlling desire to make others think, feel and appreciate the thought and emotions of the reader."

The child should be taught to read with a purpose, the purpose being to make those to whom he is reading, see and appreciate what he sees. He must first be able to see something of interest in the selection he is to read, for it is only in the ratio he is impressed himself that he can impress others. In order that he may become impressed, the teacher must exert herself to create an interest in the selection. The subject must be dealt with as a reality; the child's mind must be made to act, not

on the words, but on the things which the words represent. The child deals with the words of his reading lessons too much as dead forms, instead of living, breathing realities; and until his mind awakens to the truth behind these forms, he cannot have true mental activity. Let us say with Col. Francis Parker, "Bring the untold energy which exhausts itself upon dead forms into living contact with truth, and the result will be that intellectual pigmies will give place to an army of giants.

There is no subject of more importance than reading, or expression, which is the better name, if taught properly, for it brings into activity all the powers of the individual. It should be taught according to the natural unfolding of the human mind; and by a study of expression, the mind of the child will be developed, so that it may be more active upon whatever subject it may come in contact. Free and spontaneous expression of what is in the mind of the child, for the purpose of benefitting others, is what we want in the way of reading. The teacher should have the children talk of the selection to one another, and to her—first in their own words, then, when she is convinced that the objects of which the lesson treats have become real to each one, she should have them tell it to her, or to the class, in the words of the book. It must be always brought before the child that it is for others he is telling it, to make others see what he sees. The teacher will be surprised at the enthusiasm her pupils will get up over the thoughts suggested by the reading lesson, and she will also note that the child will acquire facility in using his face and body as a means of expression, whereas now, the child stands as a piece of marble, and if we did not see the lips moving, we would be at a loss to know from whence the sound comes. Physical and vocal culture should of course be taught in the schools. By these exercises the body and voice are freed and made ready to be used as the instruments of the soul; now under the direction of the proper mental activity the voice and body become a means of true and beautiful expression.

I conclude these few thoughts with a very inclusive definition, by one of the great American thinkers on this subject: "Learning to read is learning to bring the concepts of invisible objects into the presence of the mind. 2.—Learning to associate these concepts with their signs in written or printed language. 3.—Learning to express the thoughts by speech to others."

"Never allow the child to use a sign unless his mind is seeing that which the sign signifies; never ask him to read one sentence, or one word, unless you can first inspire his mind with the desire to impart his thoughts,

his knowledge, or his state of feelings, to others."

Be guided in teaching by these rules, and you will revolutionize the matter of reading and speaking, so that when a boy takes up a book to read he will not think words but the things behind those words. One who is thus taught is not shut up within the covers of a book; he is not confined by the walls of his room. The walls are dissolved; space is annihilated; time is no more. Things that transpired hundreds of years ago, he is living through now. He reads ancient history and dwells with the heroes of Greece and Rome; he hears the sound of battle, the clash of arms, the shouts of victory. Everything of which he reads is present and real, for he has learned to live while reading in realities of which words are but the suggestion.

MINA A. READE,

Teacher of Expression at Acadia University.

Canada to England.

Tune—"Beulah Land."

Oh, Mistress of the mighty sea!
Oh, Motherland, so great and free!
Canadian hearts shall ever be
United in their love for thee.

CHO.—Yes, Motherland! dear Motherland!
Beneath the Union Jack we'll stand,
A part of thy imperial whole,
From sea to sea, from pole to pole,
On woodland height and fertile plain,
True British subjects we'll remain.

Thy power shall faith and hope impart,
Thy liberty inspire each heart,
Thy justice ever guide us right,
Thy honor be our beacon light.—CHO.

To share the glories of the past,
Thy sailors brave beneath the mast,
And soldiers true on many a field,
Have taught Canadians not to yield.—CHO.

We'll build a nation great and free,
And greatest in its love for thee.
No other fate could be so grand
As union with our Motherland.—CHO.

JAMES L. HUGHES, *in Toronto News.*

The Teacher's Task.

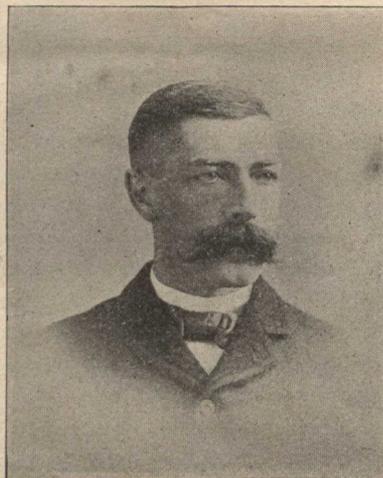
"Teachers of teachers! Yours the task,
Noblest that noble minds can ask,
High up Aonia's murmurous mount,
To watch, to guard the sacred fount
That feeds the stream below;
To guide the hurrying flood that fills
A thousand silvery rippling rills,
In ever widening flow.

"Rich is the harvest from the fields,
That bounteous Nature kindly yields;
But fairer growth enrich the soil,
Ploughed deep by thoughts and wearied toil,
In Learning's broad domain,
And where the leaves, the flowers, the fruits,
Without your watering at the roots,
To fill each branching vein?"

"Welcome! the Author's firmest friends,
Your voice, the surest Godspeed lends,
Of you the growing mind demands
The patient care, the guiding hands,
Through all the mists of morn.
You knowing well the future's need,
Your prescient wisdom sows the seed,
To flower in years unborn."

—*Oliver Wendell Holmes.*

H. H. MacIntosh.



H. H. MacIntosh, Inspector of Schools, Lunenburg and Queens, is a native of Pictou Co. and was educated at New Glasgow High School and Dalhousie College. He adopted the teaching profession when quite young and on qualifying for a Grade A license, stood first among the candidates of the province.

His success, as Principal of the Shelburne Academy, induced the trustees of the Lunenburg Town schools to bring him here as principal of the county academy, which position he filled from 1884 to 1890. Under his management, the schools were completely remodelled and the academy placed in an honorable position among the high schools of the province. Six years ago, he resigned his position to accept the inspectorship of District No. 2, one of the largest and most important inspectorates, comprising 195 sections, 240 teachers and nearly 10,000 pupils.—*Argus.*

I was much pleased to find a special department of the REVIEW devoted to Primary Work. D.

For the REVIEW.]

The New Academy at Lunenburg, N. S.

When the present free school system was introduced in 1864, Lunenburg erected its first academic building of four departments. This structure, subsequently remodelled and enlarged, was destroyed by fire in 1893.

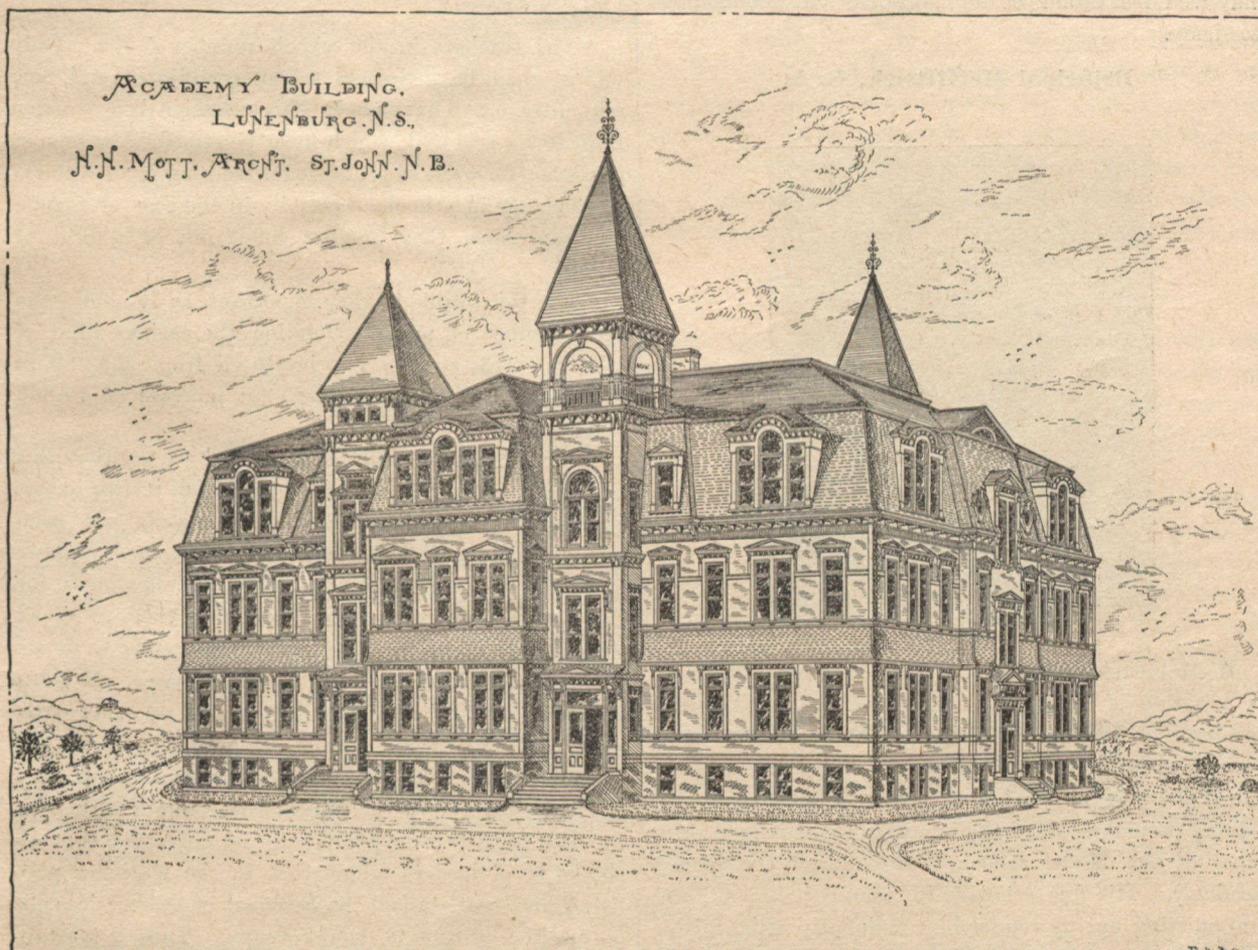
The present building, designed by architect H. H. Mott, of St. John, N. B., was constructed by the Oxford Furniture Company at a cost of about \$30,000. It was opened for school purposes November 7th, 1895.

The new school building is of wood, two stories high, with a mansard roof, and occupies one of the finest and

is finished in ash and birch, giving to the whole a substantial and neat appearance.

There are six entrances affording a complete separation of boys from girls except when in the class-room. Four towers adorn the building, in one of which a large bell weighing 600 lbs. has been placed. The principal's department is on the second floor, and is connected with each class-room by electric bells. It is seated with single desks. The black-boards are of slate. On one side of the room is the laboratory; on the other the library.

Each flat is fitted with a large gong, attached to the



most commanding sites in the province, being visible for many miles around. The ground floor contains six large class-rooms with separate cloak rooms, etc., for boys and girls. The second floor also contains six class-rooms, cloak room, laboratory and library. On the third floor is a large assembly hall, capable of seating over four hundred. The ceilings throughout are of white wood and beautifully panelled. The floors and wainscoting are of birch, while the rest of the interior

ceiling, which is controlled by the principal's department. Speaking tubes connect each floor with the basement.

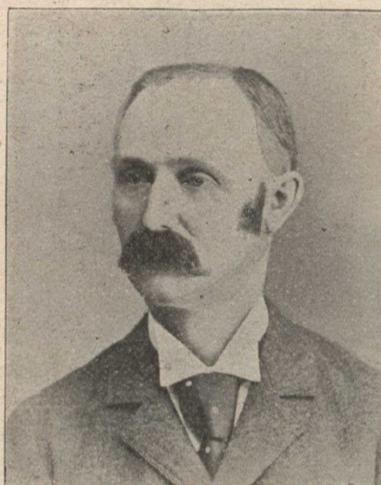
The Smead-Dowd heating, ventilating and sanitary system has been adopted and gives excellent satisfaction. The basement contains six furnaces, which are supplied with fresh air from outside, thus giving to each room a constant supply of pure warm air. The exhaust is at the floor at different points, which equal-

izes the temperature throughout the room. The four air is then passed through the vaults to a large vent shaft which is carried above the roof.

The laboratory is well supplied with chemical and physical apparatus, which will enable the principal to carry on successfully the scientific work in the course of study. About \$600.00 has been expended in school supplies.

Altogether the new academy is one of the finest school buildings in the Maritime Provinces. It is thoroughly modern in style and finish, and is admirably adapted for educational work. The town of Lunenburg may well feel proud of its handsome and commodious academy.

Principal McKittrick, B. A.



B. McKittrick, Principal of the Lunenburg Academy, is a native of Cornwallis, King's Co., N. S. He is a graduate of Dalhousie College and holds the Governor General's medal for the highest average of his year. He is a successful teacher of several years' experience, having previously filled the important positions of principal of the Model school, Truro, and of the Sydney academy. His fine scholarship, sound judgment, and unremitting energy render him eminently fitted for his responsible position. He is undoubtedly one of the leading educationists of this province. Under his able management the public schools of this town have received a healthful stimulus and the county academy is yearly becoming more efficient.—*Argus*.

"Send me the REVIEW for another year. I find that I cannot do without it. It helps me so in my work, and tells me occasionally what my teacher-friends of Nova Scotia and New Brunswick are doing." E. M.

Harbour Grace, Newfoundland.

Education in Quebec.

We have received from A. W. Parmelee, Esq., Deputy Superintendent, the Report of the Superintendent of Public Instruction for the Province of Quebec. It indicates a gratifying degree of progress in that part of Canada. We extract the following items:

"Statistics show that there are in the province 1,283 municipalities under the control of school commissioners and trustees; these municipalities have 5,196 elementary schools, 533 model schools, 157 academies and four schools for deaf-mutes and the blind, making a total of 5,890.

"The teachers in the schools number 5,950. Only 665 of them have Normal school certificates, and, consequently, 5,285 have none. This excessive disproportion indicates a real evil, which must be remedied as soon as possible; for want of professional training is an obstacle to efficiency in schools, especially in the case of female teachers, since they number 5,022 out of a total of 5,950.

"The third table is very important, as it shows the total number of pupils attending the various kind of schools. This number has increased from 214,960 in 1893-94 to 229,859 in 1894-95, an increase of 14,869 children.

"Nevertheless, I may be permitted to say that this number of 229,859 pupils does not do full justice to this province. Our statistics are unfortunately not complete. The department cannot obtain the exact number of all the pupils attending the independent schools, for the law does not compel those who keep them to report the number of their pupils, and several refuse to do so. The law should be amended so as to compel all those who keep a school of any kind to send in an exact statement of the number of pupils attending it, for, as Mr. Parmelee, one of the secretaries of the Department, very properly observed at the School Inspectors' Congress at St. Hyacinthe, it is greatly to be regretted that we should be obliged to admit that in the statistics published here and abroad, the Province of Quebec does not occupy the position it should occupy. Thus, it is established, that in a general way twenty-five per cent. of the population should attend school, while the Province of Quebec shows only nineteen per cent. Does our province really occupy a lower rank? Certainly not, but the fault is due to our statistics being incomplete. At Quebec and Montreal, for instance, there are several independent schools which are not taken into account, and the same occurs elsewhere. For the sake of the good reputation of the province, I trust that steps will be taken to remedy this regrettable state of affairs."

Three Important Reforms.

Mr. A. H. MacKay, Superintendent of Education for Nova Scotia, is evidently a man who concerns himself about some things much more important than the usual small details of pedagogy. In a paper lately printed he discusses not the little reforms, but the three great reforms which public education requires.

One of these is the reform of our weights and measures so as to bring them under the decimal system, and throw out of all our common schools the whole miserable perplexing and time wasting mathematics of what are called the "compound rules." The change to what is called the French or decimal system ought to be introduced as speedily as possible, and it would be a great boon to the world of trade and to English and American commerce, to be in touch with that of the rest of the world. It is now thirty-one years since the metric system was legalized in Great Britain, and twenty-nine years since it was legalized in the United States, and nearly twenty-five years since it was legalized in Canada. The people have full liberty to use this new and simpler system. Trade congresses show a growing anxiety in reference to the matter. There ought to be a co-ordinate movement through the whole English speaking world to impress on our governments the advantage of a simultaneous change. Every scientific man believes in it. Meters and grams are more convenient than yards and ounces; and months of time would be saved to our boys and girls in schools, and miles of figures to our clerks and merchants, if the change could be made. There is nothing that stands in the way except slow conservatism.

A second and much more important reform, according to Mr. MacKay, and we heartily agree with him, is that which would save at least two years of the elementary education of our children—reform of English spelling. About the only objection to it is that its adoption would sweep away at once the peculiar accomplishment of the laboriously correct speller and put an end to his simple vanity. Here a radical correction is very difficult, for it would require the entire reconstruction of the alphabet; but a good deal could be done even on less radical lines. Mr. MacKay illustrates the shocking obliquity of our present spelling by telling us that the name of a principal city of Canada might be spelled "Phthawelaughmthnough" without going beyond the analogy of the English spelling in the words *phthisic*, *ave*, *colonel*, *aught*, *mnemonics*, *Thames*, and *though*. During the first six years of a child's life in school, one half of the time is devoted to the study of spelling, and this does not represent by any means the entire waste.

The third great reform which Mr. MacKay desires is closely allied to it, and is instruction in phonographic writing. A legible system of shorthand writing should be taught, he believes, in the public schools from the first grade upwards. The more a boy writes the uglier his writing usually becomes, until by the time he gets through college an Egyptologist may be incompetent to decipher his hieroglyphics. An immense amount of time would be saved by being able to write phonetically and rapidly. Every student knows what an advantage his companions have who are familiar with stenography, and the same advantage holds in future life. All these are important reforms, and we hope they will be brought constantly before our educational associations.—*From the New York Independent, Dec. 12th, 1895.*

[We notice that the new "Standard" Dictionary (Funk and Wagnall's), gives the reformed spelling according to the joint recommendation of the Philological Association of England and the American Philological Association. And the last edition of Webster, "The International" (Merriam & Co.), is to the front with the same list in its enlarged "Introduction."—ED. REVIEW.]

As Regards Accuracy.

In my first years of teaching, I heard this criticism on a colleague: "He is not accurate and you can not trust his statements." This led me to a self-examination, and ever since I have attempted to be accurate in crucial matters, especially in teaching facts. * * *

In my business, which is teaching, I take every pains possible to be accurate. I try to impress the necessity of accuracy upon my pupils, because it is of infinite importance to them to distinguish between a fact and a probability, between a law and an hypothesis, between a matter of knowledge and a matter of guess, between a clear demonstration of a problem and a hap-hazard attempt at and a half real conception of the truth to be stated. In major questions, we know or we do not know, and it is well to acknowledge that it is so. In minor questions there are so many disreputable and insignificant considerations involved that we hope to escape responsibility for them. But if we try so to do, be sure our sin will find us out.

A teacher in my old home district, who assumed to teach "algebra and sich," lost all standing among her pupils because she spelled colonel, *kernel* on the blackboard; and I know of a college professor who became the butt of his pupils because he misspelled *oar* for *ore*. The latter mischance was a beginning for an enormous list of tests for his accuracy. The boys came to question, at first mischievously, and afterwards with set purpose, almost every statement that he made, and fairly worried the poor man almost out of any definite conception of what he knew and what he did not know.—*Philemon Smith, in Ohio Educ. Monthly.*

BIRD MIGRATIONS FOR 1895 AT PICTOU, NOVA SCOTIA.

By W. A. HICKMAN.

NAME OF BIRD.	When first seen.	No. seen.	Next seen.	When common.	When last seen.	Common or Rare?	Does it breed near your station?	REMARKS.
Arctic Three-toed Woodpecker.....	Jan. 21	1	.....	.....	Jan. 21	R.	No.	N. migrant.
American Golden-eye Duck.....	Feb. 26	5	Mar. 9	Mar. 16	May 7	V. C.	"	N. and S. "
Great Northern Shrike.....	Jan. 9	1	Jan. 21	.....	Apr. 20	N. C.	"	N. "
Glaucous Gull.....	.....	.....	.....	.....	Feb. 26	R.	"	N. "
Canada Goose.....	Mar. 7	12	Mar. 10	Mar. 30	Apr. 26	V. C.	"	N. and S. "
Dusky Duck.....	" 16	5	" 23	Apr. 13	.....	"	Yes.	S. "
Ivory Gull.....	" 23	1	.....	.....	Mar. 23	R.	No.	N. "
American Scoter.....	" 18	2	Mar. 30	Apr. 13	.....	C.	"	S. "
Buffle-head Duck.....	" 21	7	" 23	.....	.....	Q. C.	"	N. and S. "
White-winged Scoter.....	" 23	12	Apr. 6	Apr. 11	Apr. 26	"	"	N. and S. "
Long Sparrow.....	" 24	1	Mar. 25	" 6	.....	V. C.	Yes.	S. " Very late
Eider Duck.....	" 29	4	Apr. 20	" 20	.....	C.	No.	N. and S. "
American Surf Duck.....	" 23	2	Mar. 29	" 5	June 3	V. C.	"	N. and S. "
Brant.....	" 30	31	Apr. 6	" 15	" 9	"	"	N. and S. "
Slate-colored Snow-bird.....	" 30	many	Mar. 31	Mar. 30	.....	"	Yes.	S. "
Snow Lark-bunting.....	.....	.....	.....	.....	Apr. 6	C.	No.	N. "
* Shore-lark.....	Apr. 4	40	Apr. 6	Apr. 8	" 14	Q. C.	"	N. and S. "
Common Cross-bill.....	" 5	9	.....	.....	.....	N. C.	"	N. and S. "
White-winged Cross-bill.....	" 5	4	.....	.....	.....	R.	"	N. and S. "
Red-breasted Merganser.....	" 6	4	Apr. 13	Apr. 13	.....	V. C.	Yes.	S. "
American Robin.....	" 8	7	" 9	" 14	.....	"	"	S. "
American Herring Gull.....	" 8	2	" 13	" 18	.....	"	"	S. "
American Scaup Duck.....	" 10	4	.....	.....	Apr. 22	C.	No.	N. and S. "
Pigeon Hawk.....	" 10	1	Apr. 12	Apr. 10	.....	"	Yes.	S. "
Common Cormorant.....	" 10	2	" 21	" 21	.....	"	"	S. "
Fox-colored Sparrow.....	" 11	1	" 12	" 13	May 2	"	No.	N. and S. "
Marsh Hawk.....	" 12	1	" 13	" 19	.....	"	Yes.	S. "
Rusty Grackle.....	" 12	2	" 13	" 21	.....	V. C.	"	S. "
Green-winged Teal.....	" 12	4	" 13	.....	.....	N. C.	No.	N. and S. "
Long-tailed Duck.....	.....	.....	.....	.....	Apr. 28	V. C.	"	N. "
Field Sparrow.....	Apr. 13	1	Apr. 19	Apr. 27	.....	"	Yes.	S. "
Great Blue Heron.....	" 13	1	" 20	" 20	.....	"	"	S. "
American Woodcock.....	" 16	1	" 23	" 23	.....	C.	"	S. "
Bronzed Grackle.....	" 19	5	" 20	May 1	.....	V. C.	"	S. "
Wilson's Snipe.....	" 19	3	" 20	Apr. 20	.....	"	"	S. "
Red-tailed Buzzard.....	" 20	1	May 11	.....	.....	N. C.	"	S. "
Common Gannet.....	" 20	4	Apr. 27	.....	.....	"	No.	S. "
White-breasted Swallow.....	" 20	1	" 27	Apr. 28	.....	V. C.	Yes.	S. "
Pine Grosbeak.....	.....	.....	.....	.....	Apr. 16	"	No.	N. "
Pied-billed Grebe.....	.....	.....	.....	.....	.....	"	"	"
American Bittern.....	Apr. 22	1	May 2	May 6	.....	C.	Yes.	S. migrant.
Kingfisher.....	" 24	1	Apr. 29	" 1	.....	V. C.	"	S. "
Common Tern.....	" 26	4	" 29	" 7	.....	"	"	S. "
Arctic Tern.....	" 26	1	May 2	" 2	.....	Q. C.	"	S. "
Golden-winged Woodpecker.....	" 26	3	Apr. 27	Apr. 27	.....	V. C.	"	S. "
Olive-backed Thrush.....	" 26	3	" 27	" 28	.....	"	"	S. "
Swamp Sparrow.....	" 26	1	.....	.....	.....	N. C.	"	S. "
Great Northern Diver.....	" 27	2	May 11	May 11	.....	V. C.	"	S. "
Yellow Red-poll Warbler.....	" 28	2	" 1	" 1	.....	"	"	S. "
White-throated Sparrow.....	" 29	1	Apr. 30	" 4	.....	"	"	S. "
Yellow-rumped Warbler.....	" 30	1	May 1	" 7	.....	"	"	S. "
Red-poll Linnet.....	.....	.....	.....	.....	Apr. 28	R.	No.	N. "
Solitary Sandpiper.....	May 1	3	May 4	May 4	.....	V. C.	Yes.	S. "
Hermit Thrush.....	" 1	2	" 2	" 5	.....	C.	"	S. "
Barn Swallow.....	" 1	5	" 2	" 8	.....	V. C.	"	S. "
Spotted Sandpiper.....	" 3	1	" 4	" 14	.....	"	"	S. "
Red-throated Diver.....	" 3	2	" 12	" 20	May 30	"	No.	N. and S. "
Chipping Sparrow.....	" 2	5	" 3	" 5	.....	"	Yes.	S. "
†Humming Bird.....	" 7	1	" 14	" 21	.....	"	"	S. "
‡Purple Finch.....	Apr. 24	4	Apr. 25	" 5	.....	"	"	S. "
Savannah Sparrow.....	" 25	3	.....	.....	.....	C.	"	S. "
American Coot.....	May 8	1	May 20	.....	.....	N. C.	" ?	S. "
Semipalmated Plover.....	" 9	2	" 10	May 15	May 28	V. C.	No.	N. and S. "
Cliff Swallow.....	" 9	3	" 10	" 25	.....	"	Yes.	S. "
Sparrow Hawk.....	" 9	1	" 20	.....	.....	N. C.	"	S. "
Yellow Summer Warbler.....	" 10	1	" 11	May 24	.....	V. C.	"	S. "
Chimney Swift.....	" 11	2	" 12	" 23	.....	C.	"	S. "
American Osprey.....	" 11	2	" 13	" 19	.....	"	"	S. "

* Becoming common again. †First appearance very early. ‡ First appearance very late.

BIRD MIGRATIONS FOR 1895 — (Continued.)

NAME OF BIRD.	When first seen.	No. seen.	Next seen.	When common.	When last seen.	Common or Rare?	Does it breed near your Station?	REMARKS.
Red-eyed Vireo.....	May 11	3	May 12	May 20	.....	V. C.	Yes.	S. migrant.
Black-throated Green Wood-warbl.	" 12	2	" 13	" 20	.....	"	"	S. "
King Bird.....	" 12	1	" 13	" 22	.....	"	"	S. "
American Goldfinch.....	" 13	5	" 19	" 24	.....	"	"	S. "
Blue-winged Teal.....	" 15	13	.....	.....	.....	N. C.	No.	N. and S. "
Pintail Duck.....	" 15	1	.....	.....	.....	R.	"	N. and S. "
Leache's Petrel.....	" 15	1	.....	.....	.....	N. C.	Yes.	S. "
Least Sandpiper.....	" 15	13	May 17	May 17	May 28	V. C.	No.	N. and S. "
Piping Plover.....	" 15	2	" 17	" 24	.....	"	Yes.	S. "
Oven Bird.....	" 17	2	" 20	" 26	.....	Q. C.	"	S. "
Golden Plover.....	" 17	4	.....	.....	May 17	R.	No.	N. and S. "
Black-bellied Plover.....	" 17	9	.....	.....	" 17	N. C.	"	N. and S. "
American Redstart.....	" 18	2	May 19	May 25	.....	V. C.	Yes.	S. "
Wilson's Thrush.....	" 18	2	" 20	" 25	.....	"	"	S. "
Bobolink.....	" 18	3	" 19	" 20	.....	"	"	S. "
Wood-Pewee Flycatcher.....	" 19	1	" 21	" 25	.....	C.	"	S. "
Bank Swallow.....	" 19	7	" 21	" 28	.....	V. C.	"	S. "
Black and White Warbler.....	" 19	1	" 28	.....	.....	N. C.	" ?	S. "
Yellow and Black Warbler.....	" 22	3	" 23	May 25	.....	V. C.	"	S. "
*Greater Yellow-legs.....	" 22	1	" 24	.....	May 24	"	No.	N. and S. "
*Lesser Yellow-legs.....	" 22	4	" 24	.....	" 24	"	"	N. and S. "
Little Green-crested Flycatcher.....	" 22	1	" 24	May 30	.....	C.	Yes.	S. "
Bay-breasted Warbler.....	" 23	1	.....	.....	.....	N. C.	"	S. "
†Esquimaux Curlew.....	" 24	1	.....	.....	May 24	C.	No.	N. and S. "
Turnstone.....	" 24	1	.....	.....	.....	N. C.	" ?	N. and S. "
Wood Duck.....	" 25	1	.....	.....	.....	R.	Yes.	S. "
Maryland Yellow-throat.....	" 27	2	May 28	May 28	.....	V. C.	"	S. "
Purple Martin.....	June 2	4	June 3	June 8	.....	Q. C.	.....	S. [common Becoming
Cedar Waxwing.....	" 5	8	" 11	" 11	.....	"	Yes.	S. "
Night Hawk.....	" 7	1	" 17	" 19	.....	V. C.	"	S. "
Black-billed Cuckoo.....	" 10	1	" 18	.....	.....	C.	"	S. "
Louisiana Water-thrush.....	" 12	2	" 26	.....	.....	N. C.	"	S. "
Warbling Vireo.....	" 20	1	.....	.....	.....	R.	"	S. "
Worm-eating Warbler.....	" 20	1	.....	.....	.....	"	"	S. "
Loggerhead Shrike.....	" 27	2	.....	.....	.....	"	"	S. "
Hudsonian Titmouse.....	.....	.....	.....	.....	May 20	V. C.	No.	N. "
Ruby-crowned Kinglet.....	.....	.....	.....	.....	" 12	R.	"	N. "
Golden-crowned Kinglet.....	.....	.....	.....	.....	" 22	V. C.	"	N. "
Pine Linnet.....	.....	.....	.....	.....	.....	C.	"	Not seen this spring.
Winter Wren.....	.....	.....	.....	.....	.....	.....	.....	N. & S. Sometimes seen in
Goosander.....	.....	.....	.....	.....	Apr. 22	V. C.	No.	N. migrant. [fall.

* More common in autumn.

† Not common in spring.

PRIMARY DEPARTMENT.

"Four Lessons in Six."

(The children have used the terms plus and minus in studying numbers up to five. They now begin six).

I. First boy: how many blocks have you? "Six."

Class, see what numbers you can make with your six.

Second boy, what have you made? "Three and three."

All the boys that have made three and three, stand. Three plus three, equals how many, Charley? "Three plus three equals six."

Conrad, a story. "I had three cents and I found three. Then I had six, because 3 + 3 = 6."

Philip, here is the chalk. (Philip writes 3 + 3 = 6 on the blackboard.)

Julius, what shall I write? "3 + 3 = 6," (Teacher writes it in large well formed characters.)

The rest of the "3 + 3" boys may sit and make

something else. Third boy, what have you made?—"Four and two."

All the boys that have made four and two, stand. Four plus two equals what, Sidney? 4 + 2 = 6."

Arthur, a story. A man had four horses and he bought two, then he had six, because 4 + 2 = 6.

James, write it.

George, what shall I write?

The rest of the "4 + 2" boys sit down and make something else. Fourth boy, what have you made? "Two and three and one."

All the "two and three and one" boys stand. Clarence, a story. "A boy had two marbles, he bought three more and he found one. Then he had six, because two plus three plus one equals six."

Fred, you and I will both write together and see which of us can make it look the best. (2 + 3 + 1 = 6).

(Same programme until additions in six are exhausted).

Put your blocks at the back of your desk. Slates 1, 2, 3—what are they made of? "Paper." (A bit of make believe). Then I shall not hear them—4.

(Children copy from blackboard).

II. To-day I shall begin on the other side of the class. First boy, how many blocks have you? "Six."

All the boys that have six blocks raise hands. Second boy, what have I written? " $4 + 2$."

Class, put your blocks like that. Third boy, call them something good to eat and tell me a story about them. "Johnny had 4 peanuts and his brother gave him 2. Then he had 6, because $4 + 2 = 6$."

Fourth boy, what have I written? " $2 + 2 + 2$."

Class, put your blocks that way, Tommy, how many twos in six? That is a hard one to tell a story about. Who can do it? Harry. "A man had six horses in a beer wagon. Two were in front and two were in the middle and two were in back. That makes six, because two plus two plus two equals six."

Were the horses in the wagon, Harry? "In front of the wagon."

Fifth boy, what have I written? " $1 + 5$."

Class, put your blocks that way. (Same programme until additions in six are exhausted. Class copy and complete table).

III. This morning I shall give the boys in the middle row a chance to help me. First boy, how many blocks have you? "Six." (Teacher writes 6).

If I write this (the minus sign) what will you do second boy? "Take away."

Class, take away so many (4). Hide them in your desks.

Third boy, how many have you on your desk? "Two."

Fourth boy, what does this say? "Six minus four equal two."

Fritz, a story. "I had six bananas, I ate four, then I had two, because six minus four equals two."

Put your four back again. How many have you? What am I writing? (6) What does this mean? (—) Take away so many (3). How many have you left? What does this all say? ($6 - 3 = 3$). Story, etc., etc.

IV. We will let our blocks alone to-day if we can. When I find a boy who cannot think without his blocks, I will let him use them, and Freddie you are a good counter, you may stand here and keep account of all the boys who answer without looking at their blocks. First row rise?

How many twos in six?

Three plus three?

Five and what makes six?

Six minus one?

How many ones in six?

One and how many more make six?

Four plus two?

Six minus four? etc., etc., etc.—*N. Y. School Journal*.

For the REVIEW.]

Be Patient and Wait.

"Let them alone and they will come home."

Don't worry first grade pupils if they cannot read, write, or understand numbers the first three or four months.

All seeds do not take the same time to germinate. I planted some seeds of a delicate ivy, cared for them a while, but after a month or so lost hope of any growth. The pot had another plant in it and was set out of doors. After coming home from a holiday visit I was somewhat surprised to find a heavy crop of tiny ivies.

One year, by impatience, I broke the stalk of a gladiolus. It had been making its way towards the light, but it never grew again. Beware, lest you injure "the tender soul of a little child." Let this slower one enjoy the lesson with the others, do all he can, and some morning you will doubtless find some word form is at last robed in meaning. Perhaps like a bud, suddenly burst into bloom, he knows as much as any one. I recall an instance of a little girl. She was as old as the others, but for three months she remembered no word, in the next three she was first in a bright class, and after the following year, skipped a grade and went on easily.

B. E. D.

Language Lessons.

1. Write the names of—

(a) Ten kinds of vegetables. (b) Five kinds of grain. (c) Eight kinds of metal. (d) Ten wild animals. (e) Five kinds of fish.

2. Write ten words, each one ending with *ing*.

3. Write the following adjectives in a column, and after each write a word meaning the opposite:

thick,	soft,	cool,	right,	high.
late,	wide,	fast,	smooth,	old,
deep,	sharp,	even,	large,	broad.

4. Change these sentences to express *past time*: (a) I lay the book on the desk. (b) We lie down to sleep. (c) The mason lays the bricks. (d) The cows lie in the shade. (e) The old man lies on the floor.—*Teachers' Aid*.

Do not look for wrong and evil,

You will find them if you do;

As you measure for your neighbor

He will measure back to you.

Look for goodness, look for gladness,

You will meet them all the while;

If you bring a smiling visage

To the glass, you meet a smile.

Little Foxes.

Among my tender vines I spy
A little fox named "By and By,"
Then set upon him quick, I say,
The swift young hunter, "Right Away."

Around each tender vine I plant
I find a little fox, "I Can't!"
Then fast as ever hunter ran
Chase him with bold and brave, "I Can."

"No Use in Trying" lags and whines,
This fox among my tender vines;
Then drive him low and drive him high
With this good hunter, named "I'll Try."

Among the vines in my small lot
Creeps in the young fox, "I Forgot;"
Then hunt him out and to his den
With "I Will not Forget again."

A little fox is hidden there
Among my vines named "I Don't Care;"
Then let "I'm Sorry," hunter true,
Chase him afar from vine and you.

—Selected.

Good health, a good appetite, a cheerful disposition, and some say good looks and a genuine love for children, are some of the qualifications on the part of the teacher that go to make up a successful school. Enthusiasm is an essential qualification for every day, and a teacher who is up until twelve o'clock at night cannot be enthusiastic at school next day.—*Am. Journal of Education.*

The newest service rendered by monkeys to mankind was recently illustrated in London. In one of the school districts too many parents reported no children in their families, and in order to ascertain the real number of children in the district the school officers resorted to an ingenious measure. Two monkeys were gaily dressed, put in a wagon, and, accompanied by a brass band, were carried through the streets of the district. At once crowds of children made their appearance. The procession was stopped in a park, and the school officers began their work; distributing candies to the youngsters they took their names and addresses. They found out that over sixty parents kept their children from school. The ingenious measure brought to the school about two hundred boys and girls.

From one-sixth to one-fourth, or even one-third of the whole school-time of American children is given to the subject of arithmetic—a subject which does not train a single one of the four faculties, to develop which should be the fundamental object of education. It has nothing to do with observing correctly, or with recording accurately the results of observation, or with collating facts and drawing just inferences therefrom, or

with expressing clearly and forcibly logical thought. Its reasoning has little application in the great sphere of moral sciences, because it is necessary and not probable reasoning. In spite of the common impression, that arithmetic is a practical subject, it is of very limited application in common life, except in its simplest elements—the addition, subtraction, multiplication and division of small numbers. It indeed demands of the pupil mental effort, but all subjects that deserve any place in education do that. On the whole, therefore, it is the least remunerative subject in elementary education as now conducted.—*President Eliot.*

Daily find something new and interesting for your pupils. The sameness and humdrum monotony of every day is what kills the interest in all school work. Find something new, or a new way of presenting the old. Even the multiplication table may be presented in so many ways that the interest need not flag until it is thoroughly committed.—*Am. Journal of Education.*

QUESTION DEPARTMENT.

On the 16th of January my attention was called to the presence of tad-poles in ponds quite near the school-house. They were quite numerous. Is not this an unusual occurrence?

I also notice juncos are very abundant. Are they not migratory? The snow-bunting is not as numerous as usual, but the grosbeak, I think it is called, is very common. This last named bird is of brown color, with dark wings. It is touched with red. I found it feeding on the tops of spruce.

Laura M. Connor, Teacher.

De Bert, Colchester Co.

Ans. The observation of tad-poles in the middle of January is not common.

Juncos often remain with us during winter.

The male grosbeak is washed with red, the female being in the more modest olive brown.

J. McD.—To find the lateral surface of a cylinder multiply the perimeter of a section at right angles to the axis by the length of the axis. The rule which you quoted is not correct when applied to oblique cylinders.

(2.) The word "momentum" is simply a convenient term used to denote the product of mass by velocity. When mass is constant, momentum must vary as velocity varies. Momentum does not measure the energy of a body. Two bodies may have the same momentum, and yet the one which has the greater velocity may have twice the energy of the other. A body may have great momentum and yet have less capacity for work than another body with less momentum. It is proved by experience that the kinetic energy of a body varies as the square of its velocity. The terms momentum and kinetic energy relate to different kinds of things.

(3.) Explain how $a - n = 1$. (Hall & Knight's Alg.)

Ans. For particular value this equation may be true, but not as a general equation. We fail to find it in Hall & Knight's Algebra. Please state the page.

E. A. DEW.—What is the height of the barometer column when the atmospheric pressure is 10 grams per square centimeter?

Ans. When the pressure is 1033.3, the barometer stands at 76 c. m. With the pressure at 10, the barometer will be $\frac{76 \times 10}{1033.3} = .735c$ c. m.

(2.) A barometer in a diving bell stands at 96 c. m. when a barometer at the surface of the earth stands at 76 c. m.; what is the depth of the surface of water inside the bell below the surface outside?

Ans. In the one case the mercury stands 20 c. m. higher than in the other. But the specific gravity of mercury is 13.6; therefore the surface of the water outside the bell stands 13.6 times 20 c. m. higher than the surface inside, that is the difference of height is 272 c. m.

(3.) To the law regarding balances there are a few exceptions, such as NO, NO₂ pentachlorid of tungster and a few more. They have not been yet explained.

(4.) Where could I send for rock specimens for the study of mineralogy?

Ans. To the Natural History Society of Boston, or to the Geological Survey of Canada at Ottawa. If native specimens are wanted, they may be obtained by exchange with teachers or from managers of mines at Londonderry, Windsor, Walten, Tennycap, Coxheath, C. B., Gay's River, George's River, C. B., and any part of the North Mountains, also Parrsboro.

"A SUBSCRIBER."—(1.) A person buys 6% city of Toronto bonds, the interest on which is paid yearly, and which are to be paid off at par, 3 years after the time of purchase; if money be worth 5%, what price should be give for the bonds?

The interest on the bonds would be \$6.00 per \$100.00 paid at the end of each year. The first payment would be put at interest for two years at 5%; the second payment for one year at 5%; and the third payment would be \$6.00; in all, $\$100 + \$6(1.05)^2 + \$6(1.05) + \$6 = \$118.915$.

But $\$1.157625 = \1 at comp. int. 5% for 3 years.

$$\begin{aligned} \$1 &= \frac{1}{1.157625} \\ \$118.915 &= \frac{118.915}{1.157625} = \$102.723. \end{aligned}$$

(2.) It is between two and three o'clock a. m. In ten minutes the minute hand will be as much before the hour hand as it is now behind it. What is the time?

Let the minute hand point to x minutes after 2, then the hour hand points to $(10 + \frac{x}{12})$ minutes after 2, and they are apart $(10 + \frac{x}{12} - x)$ minutes.

Ten minutes afterwards the minute hand points to $(x+10)$ min., and the hour hand to $(10 + \frac{x+10}{12})$ min.

and they are apart $\left\{ x+10 - (10 + \frac{x+10}{12}) \right\}$ min.

$$\text{Then } x + \frac{10}{12} - x = x+10 - (10 + \frac{x+10}{12})$$

$$x = 5 \frac{10}{11} \text{ min. after 2.}$$

(3.) A merchant in New York wishes to pay £3,000 in London. Exchange on London is at par; on Paris 5 francs, 25 centimes per \$1.00; and on Amsterdam 40 cents to a guilder. The exchange between France and England at the same time is 25 francs to £1, and that of Amsterdam on England $12\frac{1}{2}$ guilders to £1. Which is the most advantageous, the direct exchange, or through Paris, or through Amsterdam?

$$\begin{aligned} \text{By direct exchange, } £1 &= \$4.86\frac{2}{3} \\ £3000 &= \$14600 \end{aligned}$$

$$\begin{aligned} \text{Through Paris, } 5.25 \text{ fr.} &= \$1.00 \\ &= \frac{\$25 \times 1}{5.25} \end{aligned}$$

$$£1 \text{ or } 25 \text{ fr.} = \frac{3000 \times 25 \times 1}{5.25}$$

$$\begin{aligned} £3000 &= \frac{3000 \times 25 \times 1}{5.25} \\ &= \$14285\frac{1}{4} \end{aligned}$$

Through Amsterdam, 1 guilder = 40 cents.

$$£1, \text{ or } 12\frac{1}{2} \text{ guilders} = 12\frac{1}{2} \times \$.40$$

$$\begin{aligned} £3000 &= 3000 \times 12\frac{1}{2} \times \$.40 \\ &= 14640 \end{aligned}$$

Therefore he has to pay less by Paris.

SCHOOL AND COLLEGE.

The school-house at Middle Coverdale, Albert Co., has been painted and the interior thoroughly renovated, and made bright and pleasant. Miss Alice G. Gale, of St. John, is the teacher this term.

Truro Academy sends out a neat calendar for 1895-96. Principal Campbell has five associate teachers, among them the veteran Mr. James Little, who is without a peer in Nova Scotia as a teacher of mathematics. The library contains 400 volumes. There are fair appliances for the study of the sciences, especially of mineralogy. The list of prizes and medals offered is large. The class record is superior.

Many of the readers of the REVIEW will learn with deep regret of the serious illness of Mr. F. O. Sullivan, of St. Stephen.

Inspector Mersereau is visiting the schools of Restigouche County this month.

There having been no snow during the early part of January, Inspector Carter took up his work in St. John city. He expects to be engaged in Charlotte County during the latter part of January and February.

At a meeting of the executive of the St. John County Teachers' Institute in December last, a tentative programme was arranged. It was hoped by many of the St. John teachers that they might be able this year to accept the invitation of the Charlotte County teachers to meet with them in St. Stephen. It is probable, however, that such meeting will not take place this year, as there are some difficulties in the way,—one being that such joint meetings are not provided for in the regulations. The St. John teachers, however, hope that in the near future, all difficulties will be overcome, as the excellent results attending last year's joint meeting induce the teachers in both counties to desire its early repetition.

A very excellent suite of furniture has been placed in the Lake school, Kars, Kings Co. It is highly appreciated by the pupils.

The school-house at Barnsville, Kings Co., N. B., has been thoroughly renovated; it now presents a very creditable appearance.

BOOK REVIEWS.

TEACHER'S MANUAL OF NATURE LESSONS, for common schools, by John Brittain, Instructor in Natural Science in the Provincial Normal School, Fredericton, N. B. Cloth, pages 115, price 50 cts. Publishers, J. & A. McMillan, St. John, N. B. The author of this little book is so well known to teachers in New Brunswick and to many in Nova Scotia, that he needs no special introduction. His work in natural science in the New Brunswick Normal School and in the Summer School of Science has won for him deserved recognition as an enthusiastic and capable teacher. In the little book before us, which is a guide rather than a text-book, there is a course of work in natural science outlined, which, if followed out with zeal and knowledge will lead to the best results in cultivating the observing powers and infusing a spirit of exact investigation in the pupils of our schools. In the hands of the earnest, self-reliant working teacher, this book will be made to accomplish its mission, which, as modestly stated in the preface, "only aims to be a useful index to some elementary chapters in the Book of Nature." Part first suggests a series of nature lessons in primary grades, with directions for carrying them out. Part second outlines a series for intermediate and advanced grades with more minute details and suggestions how the work may be systematically carried out in the mineral, plant and animal world with the proper apportionment of work in the different grades. The author gives a list of books which

should be read in order that the lessons outlined may be pursued with advantage. He also offers to procure for teachers, at a moderate outlay the minerals, apparatus and chemicals necessary for the experiments in the course. This will be a great advantage to teachers; and with the books, materials and this manual, there should be a marked improvement in the quality of the instruction in natural science in our schools. One strong point of this manual is that it comes at a time when there is a need of it to give proper direction to the teacher's work; and the means taken to ensure success on the part of the energetic and industrious teacher have not been overlooked. The publishers, Messrs. J. & A. McMillan, have made the book of convenient form, and with clearly printed and beautiful pages.

INDUCTIVE PSYCHOLOGY: An Introduction to the Study of Mental Phenomena. By E. A. Kirkpatrick, B. S., Ph. M., Instructor in Psychology in Winona (Minn.) State Normal School. Pp. 208. Price 80 cents. Kellogg & Co., New York and Chicago. In what way is the study of psychology really helpful to the teacher? Does it supply him with a mass of valuable facts and theories, which he can readily use in his teaching? We are told that anatomy supplies the surgeon with invaluable information; that an intimate knowledge of physiology and pathology is indispensable to the physician. Is psychology equally valuable to the teacher? Many fondly hope and believe it is; but there are sceptics. The positive scepticism, or at least mild distrust, of psychology, entertained by many practical teachers, is unfortunately too well founded.

The psychology taught has been, too often, thinly disguised metaphysics—valuable, no doubt, for the theologian and metaphysician, but quite unsuited for the teacher. But even where the psychology taught has been really scientific, the teacher's needs have been ignored. Abstract principles, general statements with a number of more or less well chosen illustrations, are set before the teacher in formal and imposing array and recommended to him as thoroughly sound. Unsuspecting and enthusiastic, he appropriates everything and goes forth happy in the possession of an "open sesame" for all the doors to the mind of the most brilliant dunce. Disillusion soon follows. His patent methods and sure remedies prove useless. Why? Principally because the psychology he has studied is little more than guesses at truth. Psychology, as a science, is still in its infancy.

Until psychology can rank with the physical, or even the biological sciences, it can give but little really valuable information to the teacher. If this be so, is it worth the teacher's while to study it? Certainly, and for this reason: the teacher teaches not books but minds. It is not his duty to impart information but to assist the development of minds. Hence his supreme interest is not in masses of cut and dried information, but in growing children. He must be a psychologist, whether he wills it or not. He must be interested in and observant of mental phenomena, otherwise his pupils are sealed books to him. The study of psychology, then, may be valuable for a teacher, if it develops an interest in things psychological, if it practises him in methods of observing mental phenomena; and further, if it familiarizes

him with certain mental facts and helps him to distinguish between important and unimportant phenomena. Psychology cannot give him many valuable generalizations or laws; but the study of it may make him a psychologist.

If this be the object of the teacher's study of psychology, what kind of a book and teacher does he want? Not a book confining itself to abstract statements; nor a teacher who conveys his information in the form of essays. The first thing a teacher or book must do is to open up the problems—set the student thinking—suggest right methods—and above all to awaken an interest. This the book before us does better than any introductory treatise known to the writer. The author's intentions are excellent. Mr. Kirkpatrick's book does not profess to be more than an introduction. The student who is really interested in psychological questions will find it necessary to have near him a good book of reference—such a book, for example, as Baldwin's larger work on psychology, or James' "Principles," though the latter is perhaps too unsystematic.—W. C. M.

THE TIMON OF LUCIAN, with notes and vocabulary, by J. B. Sewall; pages 145. Publishers, Ginn & Co., Boston, Mass., and London. This edition of Lucian's Timon has been edited under the supervision of Wm. C. Collar and John Fetlow, so well known in connection with Ginn's "School Classics." The Greek text is very clear and the pages attractive.

THE CIVIL SERVICE READER, by T. Evan Jacob, B.A.; pages 201, linen, price 2s. Publishers, Macmillan & Co., London. This book with *The Civil Service Essay Writer* (price 1s.) and *Companion to the Civil Service Essay Writer* (price 1s. 6d.) by the same author and publisher, will be found of great service to students preparing for civil service examinations.

THE PRINCIPLES OF ARGUMENTATION, by George Pierce Baker, of Harvard College, 414 pages, \$1.25. Published by Ginn & Co., Boston. It is often the painful experience of most of us that we feel that we have valuable thoughts and convictions which we would impress upon others for their good or our own advantage, yet we are unable to do ourselves or our subject justice, simply because we have not been trained to marshal and present our arguments in the most effective way. It is to remove this difficulty that Professor Baker has written. We have read his book with much pleasure and can readily believe that under his teaching indifference or even intolerance to the subject would readily change to growing interest. The processes used apply to every day life, and its principles should be understood by every intelligent man.

ILLUSTRATIVE BLACKBOARD DRAWING, by Miss W. Bertha Hintz, 53 pages, 30 cts. Published by E. L. Kellogg, New York. In the large majority of schools it is impossible to have the services of a specialist in drawing. In any case every live teacher wishes to be able to illustrate any subject she is teaching by blackboard sketches. Well this is just the book that will give her the needful help.

AN EXERCISE BOOK OF ELEMENTARY PRACTICAL PHYSICS, by R. A. Gregory, F. R. A. S., 184 pages, 2s. 6d. Published by Macmillan & Co., London and New York. This book consists of practical problems in physics, beginning with the simplest exercises in measuring distances, then measurement of geometrical figures, weighing, specific gravity, the use of the barometer, the mechanical powers, physical qualities of gases, distillation, etc. Very great attention is given to the metric system throughout. Blank spaces for the solution of problems are left after the exercises. The problems are admirably graded. There is no place for cram with such a book, and for a book on science that is the highest praise.

THE SENTENCE METHOD OF TEACHING READING, WRITING AND SPELLING, by Geo. L. Farnham, M. A., 55 pp., 50 cts. Published by C. W. Bardeen, Syracuse, N. Y. Owing to our anomalous spelling, but more still to bad methods of teaching, many precious years of young lives are needlessly spent in learning to read. The phonetic system used alone is tedious and barren of results. Probably any one method is not as good as a combination. Our author recommends the sentence method, taking the sentence as the unit of thought. Taught in this way, the pupil soon learns unconsciously to know words, and afterwards letters and their powers. We believe that any teacher faithfully using the methods recommended by the author will easily teach his pupils to read, write and spell in half the average time generally devoted to these subjects. We have tried the method and found it successful.

OBJECT LESSONS FOR INFANTS, by Vincent T. Murché, Vols. I and II, pages 176 and 199; price 2s. 6d. each. Publishers, Macmillan & Co., London. These books, like the Elementary Science Series, by the same author, recently reviewed in these columns, have for their purpose the training of children in observation; teaching them to handle natural objects in all possible cases, and then to describe them. It further aims to develop a love of nature and an interest in living things. The books are of great value to primary teachers who would lay a good foundation in nature work.

BOOKS RECEIVED.

PRACTICAL PLANE AND SOLID GEOMETRY: London, Macmillan & Co.

METHODS OF MIND TRAINING, by Catharine Aiken: Harper Bros., N. Y.

THE CONNECTION BETWEEN THOUGHT AND MEMORY, by Herman T. Lukens, Ph. D.; D. C. Heath & Co., publishers, Boston.

VARIED OCCUPATIONS IN STRING WORK, by Louisa Walker: Macmillan & Co., London.

MACMILLAN'S GEOGRAPHY, Book VII.; PRACTICAL INORGANIC CHEMISTRY: Publishers, Macmillan & Co., London.

HEART OF OAK READING BOOKS, in 6 vols. THE ARDEN SHAKESPEARE: Publishers, D. C. Heath & Co.

NATURAL DRAWING COURSE, including the text-books, teachers' manuals, drawing books, cards and materials, Publishers, Ginn & Co., Boston.

PREMIER LIVRE DE FRANCAIS: Publishers, D. C. Heath & Co., Boston.

HINTS ON TEACHING ARITHMETIC; STRANG'S GRAMMATICAL ANALYSIS, Parts I. and II. The Copp, Clark Co., Publishers, Toronto.

POLITICAL ECONOMY, for High Schools and Academies, by Robert Ellis Thompson, A. M., S. T. D.: Publishers, Ginn & Co., Boston.

DER TROMPETER VON SAKKINGEN, edited by Carla Wenckebach: Publishers, D. C. Heath & Co.

SYLLABUS OF GEOMETRY, by G. A. Wentworth, A. M.: Publishers, Ginn & Co., Boston.

ENGLISH IN AMERICAN UNIVERSITIES, edited by Wm. Morton Payne: D. C. Heath & Co., Publishers, Boston.

POPE'S ESSAY ON MAN, edited with Introduction and Notes by E. E. Morris, M. A.: Publishers, Macmillan & Co., London.

February Magazines.

Late issues of *Littell's Living Age* contain many papers of more than usual interest and value. Among others may be mentioned "Lord Salisbury," by Augustin Filon; "Matthew Arnold in his letters," by Alfred Austin; "Kashmir," by Sir Lepel Griffin; "The Air Car, or Man-Lifting Kite," by Lieut. B. Baden Powell; "Corea and the Siberian Railway;" and many others which show

that the recent reduction in price from \$8 to \$6 does not mean any lowering in value of material. . . . The *School Review*, for February, is the second number issued from the University of Chicago Press. The admirable typography and excellent press-work put this magazine mechanically on a par with our best publications. The February number contains an interesting table of contents. . . . Magazine readers will enjoy a rich feast in *The Chatauquan* for February. The case of "The Turks in Armenia," is stated by Francis De Pressensè. Sydney A. Dunham, M. D., contributes the second of a most valuable series of scientific articles on "The Air we Breathe." "The Composition of Food, and its Use in the Body," is the subject of an interesting article, by Prof Thos. Grant Allen, M. A. . . . The *Atlantic Monthly* has its usual interesting table of contents for this month. The March number of this Magazine will contain an interesting article for teachers, based on an inquiry made of ten thousand teachers and superintendents of public schools concerning the actual status of teachers and the schools in every part of the Union, . . . Sir Edwin Arnold has contributed to the February *Forum* a delightfully interesting study of the Queen, entitled "Victoria, Queen and Empress." This paper is the first of a series of reigning European sovereigns, which will appear in future numbers of *The Forum*.

McGill University, Montreal, Faculty of Arts.

EXHIBITIONS AND SCHOLARSHIPS OFFERED FOR COMPETITION AT THE OPENING OF THE SESSION, SEPTEMBER, 1896.

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Subjects.—As stated in Calendar of 1895-96, page 25.

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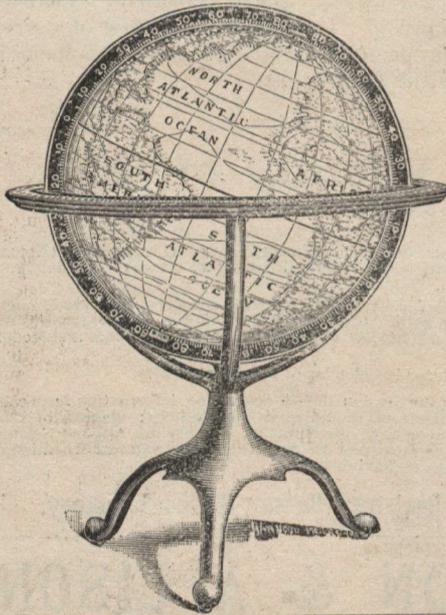
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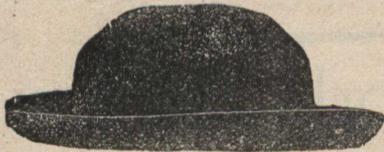
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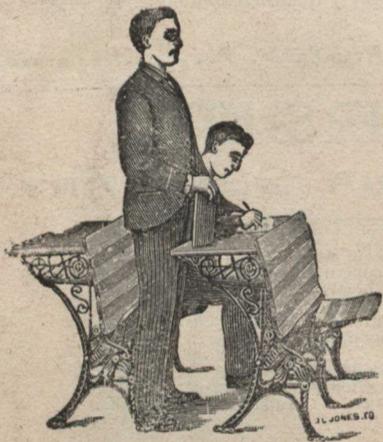
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