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The Century Magazine celebrates its quarter-centennial in its November issue with an "Anniversary Number." In honor of the occasion it dons a new dress of type, with new headings, etc., and it appears in a new and artistic cover. Although The Century has reached an age that is unusual among American magazines, it continues to show the youthful vigor and enterprise that have always characterized it. The programme that has been arranged for the coming year contains a number of interesting features.

"We did not have a single Dollar's worth of Real Estate on our hands, Or a single Dollar of Interest in Arrears."

The foregoing was the pleasing and important statement contained in the Annual Report of

The Temperance and General Life Assurance Company

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Much has already been written concerning Mrs. Humphry Ward's new novel, "Sir George Tressady," which has been secured for its pages. There was a very spirited bidding for this novel on the part of several prominent publishers, with the result that the author will probably realize from the serial and book rights of it one of the largest sums that have yet been given for a work of fiction in the English language. The story describes life in an English country-house, and also touches somewhat upon industrial questions. It begins in the November number with an account of an English parliamentary election. It will be the leading feature in fiction for the coming twelve months, other and shorter novels being contributed by W. D. Howells, F. Hopkinson Smith, Mary Hallock Foote, and Amelia E. Barr. There will also be contributions from Mark Twain and Rudyard Kipling (the latter furnishing to the Christmas Century one of the most powerful stories he has ever written); a series of articles on the great naval engagements of Nelson, by Captain Alfred T. Mahan, author of "Influence of Sea Power upon History"; three brilliant articles on Rome, contributed by Marion Crawford, and superbly illustrated by Castaigne, who made the famous World's Fair pictures in The Century; a series of articles by George Kennan, author of "Siberia and the Exile System," on the Mountains and the Mountaineers of the Eastern Caucasus, describing a little-known people; articles by Henry M. Stanley and the late E. J. Glave on Africa; a series of papers on "The Administration of the Cities of the United States," by Dr. Albert Shaw. The Century will also contain during the year a great number of papers on art subjects, richly illustrated. Prof. Sloane's "Life of Napoleon," with its most interesting illustration, will reach its most interesting part—the rise of the conqueror to the height of his power, and his final overthrow and exile. In order that new subscribers may obtain the whole of this monumental work, the publishers have made a rate of \$5.00, for which one can have a year's subscription from November, 1895, and all of the numbers for the past twelve months, from the beginning of Prof. Sloane's history.

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The Educational Journal

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Subscription, \$1.50 a year
in Advance.

TORONTO, NOVEMBER 16, 1895.

Vol. IX.
No. 13.

Table of Contents.

PAGE.	PAGE.
EDITORIAL NOTES..... 195	What Electricity is Doing..... 202
ENGLISH—	Answers to Correspondents..... 202
The Evening Cloud... 196	EXAMINATION PAPERS—
HINTS AND HELPS—	Education Department, Ontario, Public School Leaving Examinations, 1895..... 203
Apparatus in District Schools..... 196	PRIMARY DEPARTMENT—
Language Lessons... 196	Fractions Made Pleasant..... 204
In the Country School 197	Suggestion..... 204
The Sulky Child... 197	Physical Exercise..... 204
Handy to Have in the Schoolroom..... 197	Desk-Work: Tablet Laying..... 205
The Worst Boy..... 197	CORRESPONDENCE—
EDITORIALS—	Certificates and Salaries..... 205
Beautify the School-room..... 198	The University Question Again..... 205
Causes and Effects..... 198	SCHOOL-ROOM METHODS—
A Brief Rejoinder..... 199	The Arithmetic Class. 205
Educational News Notes..... 199	The Rivers of Canada. 206
SPECIAL PAPERS—	BOOK NOTICES..... 207
How to Make School Life Pleasant..... 200	LITERARY NOTES— 207
Busy Work..... 200	
SCIENCE—	
A Lesson in Primary Botany..... 202	
Questions in Primary Physics..... 202	
Why the Maple Sap Flows..... 202	

Editorial Notes.

WE are sorry that the Question Drawer has been overlooked until it is too late to procure for this number the information asked for. Will our friends who have questions remaining unanswered pardon the delay? Any questions in regard to which time seems to be an important element will be answered privately in a day or two, provided the inquirer's name and address have been properly given. Those who persist in sending questions without giving us their true names and addresses, thus neglecting our express condition, have no claim on THE JOURNAL for answers.

"A SCHOOL which trains prize-winners, to the neglect of commonplace or even stupid boys, is not doing honest and truthful work." So said Dr. Parkin, the new Principal of Upper Canada College, in his address at the annual distribution of prizes. This almost axiomatic truth may be used as a touchstone by which the conscientious teacher may test his own work. We fear that there is much in our Public School system, or perhaps we should say, rather, in the false estimates which the school boards too often place upon success at Entrance and other ex-

aminations, to tempt teachers to this kind of dishonesty.

WE hesitated for a time in publishing "Jack Starling's" communication, which will be found in another column, not because we do not agree with his views—that makes no difference about the publication of a letter—but because we were (as we still are) unable to see exactly what he is driving at. Does he object to raising the standard of teachers' qualifications because he fears the increased knowledge will injure the teacher's character, or his efficiency as a teacher, or what? He goes on to maintain, seemingly, that a teacher may, after giving his or her best years to teaching, enter some still higher service and wield still wider educational influence. We may grant it, or we may not, but how does it prove that the teacher who intends to make teaching his profession for life is not likely, other things being equal, to do better work than he who is making it a stepping-stone to some other profession? We do not understand the allusions in such expressions as "the present teachers' movement regarding changes designed to raise the salaries," and "wares of such poor value he needs must seek legislation to find a market for them." What does it all mean?

THE Superintendent of Education for the State of Pennsylvania says some good and true things in his annual report; among others the following, which is of universal application:

"Some future historian will record it as the marvel of the ages that, in the closing decade of the nineteenth century, many parents were willing, in the rich Commonwealth of Pennsylvania, to entrust the education of their children into the hands of persons whose services were not considered worth the wages of a common day-laborer. Indeed, one is sometimes tempted to ask: Do the schools exist for the benefit of the children, or do children come into being that there may be schools and school directors, and employment for teachers? If the latter alternative be accepted, it may be right to appoint the daughter of a citizen for

the reason that he is a taxpayer, or a cripple because he has no other means of earning a livelihood, or a fellow who gets periodically intoxicated because, in this way, his relatives can most easily help him and his to bread; but, if the school exists for the child, then teachers ought to be employed and retained solely upon the basis of merit; that is, upon the basis of fitness for, and skill in, the art of instructing and training the young; and all other interests should be subordinated to the interests of the children, for whose sake schools are established and maintained."

"MANKIND," Arthur Helps has somewhere said, "is always in extremes." This tendency of the pendulum which regulates human ideas to swing from one extreme to the other is illustrated by Dr. Rice's argument in a recent number of the *Forum*, against the use of text-books in schools. We do not know exactly how the average Public school teacher in Canada uses the text-book, or to what extent the old practice of memorizing and "reciting" it page by page still survives. Its methods are, we dare say, almost as varied in this respect as the minds of the individual teachers. But we may safely affirm that the old days of non-intelligent *memoriter* work are well-nigh gone. But from slavish and mechanical repetition from text-books to their absolute expulsion from the schools is a far cry. There are, no doubt, certain subjects which can be more effectively taught without than with text-books in the hands of the pupils, provided the teacher is so thoroughly master of the subject in all its bearings that he can be safely trusted to take its place. This proviso, with all due respect to the many among our readers who have such mastery of the subject, is a large one. We have no doubt that arithmetic, and, in fact, mathematics in most of its branches, can be better taught by the competent teacher without than with a text-book. Grammar easily takes its place in the same category. But in all those branches which rest upon a base of ascertained fact, e.g., political and physical geography, history, etc., the text-book will long be indispensable.

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.

"THE EVENING CLOUD."

BY JOHN WILSON.

1. 1—*Cradled*. Can you see any peculiar force, or appropriateness, or beauty, in the choice of this word, or anything in the appearance of the cloud, as described, to suggest it? (One of the aspects of the cloud on which the poet wished particularly to dwell was its peaceful, restful appearance. Perhaps, too, the peculiar intermittent movement described in lines 5 to 8 may have suggested the soothing motion of the cradle in whose "very motion there is rest." To our thinking it is, however, more probable that there was something in the way in which the cloud appeared to be lying embosomed in the blue ether, near the horizon, which suggested the word, apart from any idea of motion.)

1. 2—*Its braided snow*. What kind of cloud is pictured to your mind by these words? (The teacher can, probably, with a little patience and skill in questioning, develop this idea by getting the more observant of the children to describe different kinds of clouds which they have observed, especially towards sunset. The cloud is evidently not dense or thick, else it would be dark instead of snowy. It is, moreover, not exactly fleecy, or castle-like, but rather floats in thin, semi-transparent, wavy lines, such as are suggested by the beautiful fancy of "braided snow".)

1. 3. What is meant by "the glory"? (It denotes, evidently, not simply the cloud itself, but, rather, the cloud in all its effects and surroundings, especially with the "gleam of crimson" produced by the glowing rays of the setting sun shining dimly through its semi-transparent layers.)

1. 4—*Still radiance*. What is the meaning of "radiance"? What produced the radiance of the lake? Is the surface of a lake often still about sunset? What effect, if any, had the stillness and radiance of the surface of the lake upon the appearance of the cloud, or why should the poet introduce the appearance of the lake into his description of the cloud? (No doubt the crimson-tinged cloud was mirrored in the lake. Mrs. Stowe somewhere describes such a scene, when skies and trees and all surrounding objects are reflected from the glassy surface of a sheet of water, by saying that the on-looker is sometimes almost at a loss to know which is the real world, the upper or the under. The teacher may find out by questioning whether the children have ever observed such a scene, and how many of them have been struck with its beauty. The lesson will fail of a large part of its proper effect if it does not lead them to open their eyes more widely than ever before to such visions in nature.)

1. 5—*Tranquil*. What is the meaning of "tranquil"? Do you see or feel any fitness in the word to express the idea? Can you think of any synonym which seems to express it quite as well? (The teacher will not fail to note the preponderance of liquid sounds in it.) What do you understand by the "spirit" of the cloud? (Dwell a little upon the poetic effect of conceiving the cloud as a living thing guided by an indwelling spirit of its own, or as we should prefer to conceive the poet's idea, as merely the dwelling place or visible habitation, the mantle, of a spirit.) What is the grammatical subject of "floated"? Does the poet mean to say the "spirit" floated, or merely that the "cloud" floated? Give reasons for your opinion. Is, then, the sentence grammatically correct? If not, is the defective construction an allowable poetic license? (We should be disposed to say that it is not, though it is easy to supply "it" as a subject.)

1. 6—"Motion" and "rest" are contradictory or antithetic words, as generally used, since, strictly speaking, a thing cannot be in motion and at rest at the same time. So when the poet says that in the motion of the clouds there was rest he seems to contradict himself and so to make nonsense of the sentence. Yet even a child can see a beautiful meaning and truth in the poet's way of putting his thought. Such a saying, involving an apparent contradiction in terms, and yet conveying a clear idea, is what is known as a "paradox." It is

often used with good effect. Explain, as clearly as you can, what you understand to be the poet's real meaning. (Every boy or girl who knows what it is to recline and sway gently back and forth in a hammock when tired will readily understand how a gentle motion like that of the cloud can be suggestive of rest.)

1s. 7 and 8—*Chanced*. Even a child must have observed how, on the shore of a sheet of water, on a calm evening, a gentle puff of air will now and again rustle the leaves, or fan the cheek, or, perhaps, cause a gentle ripple on the water's surface. If we were to analyze closely, we might note a peculiarity in the form of expression by which a breath or gentle breeze is spoken of as "chancing to blow," as if it produced itself, so to speak. The usage is very similar to that by which we say "it rains," "it snows," using an indefinite, or, as the grammarians call it, an impersonal expression to denote the undefined cause of the effect produced. *Wafted*. Note, again, the well chosen and beautifully expressive word. Elicit, by questioning, the children's ideas of its meaning, to see how fully they appreciate its delicate shade of thought.

1s. 9-14—*Emblem*, etc. The remaining six lines of the poem constitute, it will be observed, but a single complex sentence, and that dependent, for the word "emblem" itself, which is its leading or key word, is in apposition, grammatically, with "traveler," in line 8. An "emblem" is defined as a real or painted object which represents one thing to the eye and at the same time suggests to the mind another and entirely different thing, to which it bears some real or fancied resemblance. The teacher will need to dwell a little upon the word to assure himself that the children understand it. Ask them to give examples of emblems in common use (such as the lion as an emblem of strength, the sceptre and the crown as emblems of sovereignty, etc.) As the construction is slightly complicated, it will be well to ask the pupils for both a paraphrase and an analysis of these last lines. Observe that the last five lines are used simply to modify the word "soul," and, in so doing, to bring out the points of resemblance between the soul and the cloud which justify the writer in calling the latter an emblem of the former. As the cloud travels on to the glowing western horizon, which is glorified by the crimson rays of the setting sun, so the soul is wafted onward towards the glorious gates of heaven. The white cloud is likened to the white robes of the soul; the crimson gleam given the former by the sun's rays to the gleam of heavenly bliss in the latter; the gentle breeze of evening which moves the cloud forward to the glowing west, mercy which carries the soul onward to its glorious destiny; as the ordinary eye sees, on the far horizon, the floating cloud, so the eye of faith sees the departed soul on the verge of the golden gates of heaven. If the class have become thoroughly interested, they will delight in following out these and other analogies. A few grammatical questions will also be in order, such as, What is the subject of the verb "roll"? What part of the verb is "made"? (It will be seen that there is really a defect in the grammatical construction. The subject of "made" must be supplied from the preceding lines. It is not quite clear whether it is "soul" as found in the relative "whose" or (the soul's) "robe," corresponding to the cloud which is but the vehicle of the spirit of the cloud in the emblem. Probably the latter is better. That is, the poet's meaning is probably rather "and which (viz., the robe) is by the breath of Mercy," etc., than "and which soul is," etc.) Can you point out any other instance of poetic license in the sentence? ("peaceful" for "peacefully").

WHICH?

Two little old ladies, one grave, one gay,
In the selfsame cottage lived day by day;
One could not be happy, "Because," she said,
"So many children were hungry for bread."
And she really had not the heart to smile
When the world was so wicked all the while.
The other old lady smiled all day long,
As she knitted or sewed or crooned a song;
She had not time to be sad, she said,
When hungry children were crying for bread;
So she baked and knitted and gave away,
And declared the world grew better each day.
Two little old ladies, one grave, one gay;
Now which do you think chose the wiser way?
—St. Nicholas.

Hints and Helps.

APPARATUS IN DISTRICT SCHOOLS.

The following is from *School Education*. Is there anything in it for Canadian teachers and school boards?

Said a director: "I have done buying things for our school. Nothing is cared for. That globe, bought two years ago, is so out of order that no one can use it. Those outline maps and reading charts are badly torn and defaced, when they should be nearly as good as new. Our dictionary is in pieces. No, we can't waste any more money."

The director who gave the above information was somewhat excited, and things were not quite so bad as he represented, still there was ground for his complaint. Many districts in Minnesota have had similar experiences, and are so discouraged that good teachers often find it hard to get what their schools really need.

Where districts have failed to provide closets, tables, or even shelves, for apparatus, reference books, etc., teachers who use reasonable care cannot be held responsible for damage. In such cases their duty may lie in the direction of persuading officers to make adequate provision for the preservation of apparatus and other property.

A district clerk writes: "One year ago I placed a mark on our globe, and there it is to-day engraved in the same old dust. I learn that our wall maps were not unrolled during the past term, although there were two classes in geography. What think you of these things?"

Such complaints are common. They are heard all over the State, and we do not wonder that so many school boards have come to the conclusion that outlays for apparatus do not pay. We are of the opinion that they do not, as a rule, for the reason that so many teachers cannot or will not use apparatus. To have it is not enough. It may be ornamental, but it is dead property.

Our remedy would be to employ teachers known to be competent, and then hold them to strict accountability. The ability to use the globe and other apparatus commonly found in rural schools should be tested by the examiner and indicated in the certificate, so that trustees may know what to depend on. The incompetent should be set adrift.

LANGUAGE LESSONS.

FORMS OF LIE (TO RECLINE) AND LAY (TO PLACE.)

Copy the following sentences, filling blanks with correct form of one of above words:

- Children, — your books aside and give attention.
- I think I will — down on the couch, for I am tired.
- The sick boy — on the bed all day yesterday.
- The cat will — on a rug by the stove.
- I think the pencil is — on the table.
- The men were — a brick walk in front of the schoolhouse yesterday.
- I — my book on my desk, and wish that you would let it — there until the close of school.
- The rain has — the dust.
- I — the key on the desk.
- The cows are — in the shade.
- As soon as he arrived at the hotel the sick man — down to rest.
- He has been — there an hour.
- The soldiers — on the frozen ground several nights.
- The men will — the stones with care.

FORMS OF SIT (TO REST) AND SET (TO PLACE).

- We — under the tree and ate apples.
- the basket on the table, Nellie.
- May John and I — together to study our language lesson?
- James, if you will — that bucket on the bench, you can — nearer the window.
- The duck — on her nest.
- The gardener — on a small box while he — the plants in a bed.
- Henry is — by Robert.

8. Mary was — the flower pots on the bench when we came.
9. Tell the nurse to — the child on the rug, and let it — there.
10. There are four boys — on the bench.
11. The hen is — on twelve eggs.
12. The men are — fence-posts.
13. The boys — by the pond, watching the fish.
14. The doctor has — the boy's arm.
15. — the chair by the door, Sarah.

FORMS OF RISE AND RAISE.

1. Did you see the sun — this morning, William?
2. I cannot — this window.
3. The gardener has — a great many vegetables this year.
4. The waters of the Nile — and overflow its banks.
5. The stone was so heavy that the man could not — it.
6. The farmer — wheat, corn, oats, and hay.
7. Andrew, please — the curtain and let us see the sun —.
8. Shall we — very early to-morrow morning?
9. We — before daylight, and had the sail — before the sun was up.
10. The boy — the box and looked under it.
11. Did you see the kite after it had — above the trees?
12. I have — early every morning this week.
13. Yeast — the bread.
14. After the kite had — above the tree tops it fell, and I could not make it — again.—*School News and Practical Educator.*

IN THE COUNTRY SCHOOL.

BY DR. E. E. WHITE.

The problem here is: Given a school of, say, forty pupils, from five to eighteen years of age, in one room, and with one teacher; to find the best method of instruction. The pupils possess very unequal attainments. These pupils need instruction adapted to their needs each term. The health of teacher and pupil limits each session to about six hours. Further, good instruction must be given in all the common branches.

1. It is not, of course, possible for us teachers to instruct each pupil separately in each branch. Hence the non-classification system must be abandoned. This plan of individual instruction is feasible only in a very small school. I do not think there ever was the unclassified school of which teachers are now hearing so much. No attempt was made in the first schools of which I know in arithmetic. This lack of classification was of undoubted advantage to the few smart pupils, but not to ninety-five per cent.

2. The graded school solution, *i.e.*, on the plan of the city schools. This separates the pupils into at least sixteen grades, which gives at least forty-eight daily class exercises. Such a classification of the one-teacher school is evidently impossible.

The course of instruction must be flexible; smoothness and order must often be sacrificed to the health of teacher and pupil.

3. A third solution of the problem is the three-grade solution. This is based upon the psychological periods of development—the kindergarten, middle, and the advanced or grammar period. This is a natural and simple grading for the country school with one teacher. The pupils from term to term can be reclassified. The essential provision here is that the work of each grade be completed before the pupil is advanced into the next grade.

What the Public Schools need is such an organization as will allow its own teachers and diversely advanced pupils to make the most progress with the best preservation of time and health.—*The Public School Journal.*

THE SULKY CHILD.

HOW CAN HE BE CURED?

One of the causes of sulkiness is frequently to be found in a violated sense of justice. The child perceives, often with too much reason, that he is treated unfairly. He knows that he is weak and cannot avenge himself; he is unable by the very constitution of his being to cry aloud for redress, and the sense of wrong filters slowly into his

heart, corroding everything it touches. It is possible, of course, that this may be the state of the case; but, on the other hand, it is quite as likely that his wrongs are largely imaginary.

There is no denying, I think, that egotism has much to do with sulkiness, and that if the child (or the grown person) could be led to have a juster idea of himself, if he could be persuaded to think less of his own wrongs and give some attention to other people's rights, his malady would be in a fair way of being cured.

Let us be charitable, however, and remember that what may appear like sulkiness is sometimes a dark and gloomy habit of mind which is consequent on physical weakness or upon great antenatal depression on the mother's part.

The sullen child, if it be cured, needs more than any other to be surrounded with silent love—waves of it, billows of it, floods of it, warm and grateful as a tropic ocean. Gloom, discouragement, rebellion, bitterness, cannot last long in that sweet encompassment, and the child must be led to feel, to the depths of his selfish, tortured heart, that here at least there will be inexhaustible mercy and tenderness and sympathy. He must be treated with strict and absolute justice, which is entirely compatible with the highest kind of love; and he must be made happy with suitable companionship and occupation.

Now, all these things—need of love, appropriate discipline, happiness, suitable companionship and occupation—are so many demands of the child's nature which have but one source of supply at this stage of his development, and that is the kindergarten. I did not mean to speak of it for once, but what can you do when it lies directly in your path? A well-ordered kindergarten is the only agency which seems to have any power in dealing with the beginnings of these moral evils.

There are no children on earth to whom it is such a blessing as the selfish and the sulky ones, and to these it comes like an angel of deliverance. It is because the devil which dominates the sulky child is a dumb one, and therefore deaf, that he is so difficult to cast out. He cannot hear reason and he has never learned to speak it, and every avenue of self-expression for the child which we open is a distinct and separate gain. The child draws and colors, molds, builds, and invents, and the demon in his heart begins to oppress him less. The child uses his voice and moves his body in song and game, and still greater relief is felt; he is led to express a thought or an opinion through his absorption in his work; and before long he is free, happy, and unconscious. He is in the society of his equals, those who are of like age and strength and interests; he has occupation which his soul loves; and he is, for the most part, too busy to brood, and too interested in other things and people to think about himself.—*Nora Archibald Smith, in Outlook.*

HANDY TO HAVE IN THE SCHOOLROOM.

Red ink.

Colored crayons.

A bottle of mucilage.

A box of water colors.

A box of rubber bands.

Pads of paper of various shapes and qualities.

Smooth, clean, wrapping paper, and a ball of twine.

Artists' thumb tacks to fasten up home-made charts, pictures, etc.

A rubber pen which costs 25 cents, and is invaluable in making charts on manilla paper.

Some simple remedies—a bottle of camphor for "faints" and other emergencies; a bottle of vaseline; court plaster; soft cloth for bandages; a harmless headache remedy. With these on hand, trifling ills and accidents can be attended to easily, and the child need not lose valuable time by being sent home for care.

A roll of manilla paper for making maps, charts, and pictures. If you must wait to send for it when the brilliant idea seizes you, it may have fled ere you get your materials together. In buying manilla paper, as anything else, *get it by the quantity.*

Plenty of paper and envelopes of good quality, and *matched as to color and size.* Teachers have been known to write notes to parents using stationery that was disgraceful—soiled, crumpled scraps of paper, dingy envelopes, or perhaps no envelopes at all—a large sheet of paper with a small envelope,

necessitating much folding and creasing of the paper. All this affects the teacher's standing and reputation in the community. Many of the large cities furnish to the teachers official stationery bearing a suitable letter-head. This is only right and proper; but in places where it is not done, the teacher should see that her paper and envelopes are "above reproach."

A large manilla envelope for newspaper clippings. These are manufactured expressly for letter files, but are invaluable for scraps. Each one contains twenty-six pockets labelled alphabetically. Fold your scrap to a convenient size with the title on the outside. With a blue pencil underline the principal word of the title, and put the clipping in the pocket under the appropriate initial letter.—*Intelligence.*

THE "WORST BOY."

I have known a boy who was called "the worst boy" in a schoolroom of fifty boys. This teacher was called "the best teacher in town." She was forty years old, and he was thirteen. Her manner was haughty, so was his. She would have her own way if a will had to be broken to pieces; so would he. When he was only three years old, he committed a digression for which his mother asked him to say he was sorry. "But I am not sorry," he said. "Then I will whip you till you *are* sorry," she exclaimed, and forthwith proceeded to apply the rattan to the boy.

Howls and yells followed, the mother resting once in a while to ask—"Will you say you are sorry?" "You can beat me because you are the biggest, but I'll never be sorry," he answered. She went on whipping. Resting again, she demanded—"Will you say you are sorry?" "You can kill me, but I'll never say I'm sorry," he exclaimed, with fury-flashing eye and trembling body. That mother put by the rattan. She was defeated, and ever after he controlled her. She was not wise enough to turn that strong will in another direction instead of opposing it. His teacher was not wise enough to turn his will in the right direction either. Such scenes occurred in the schoolroom between the two! Disgraceful, heartrending. At last, he was expelled from school. His father went to the school committee to intercede for the boy. On the board was a lady. She was touched by the father's appeal, and she influenced the rest of the committee to allow him to return to school.

She sat in an anteroom and watched the teacher and the boy that day, without the boy knowing he was watched. She saw the boy "get through his arithmetic study" long before the rest. Then she saw him "hitch" in his chair. "Stay in at recess for restlessness," observed Miss Strong, the teacher. The lady of the school committee saw the boy take up a book and read. His mouth twitched, his features were convulsed with nervous spasms. "Stay in after school to-night for making faces," commanded Miss Strong, the teacher.

Then the lady of the school committee walked into the schoolroom, and asked the boy to go into the next room with a sealed note to the teacher. The note read—"Set this boy a hard example in arithmetic, and tell him to come back and do it. A. B., of the School Committee."

No one was more surprised than Miss Strong when the school board promoted "her worst boy" into a room two grades above her own the next week. There he did admirably, and now he is one of the brightest business men of Boston.

Nervous children need long recesses, varied exercises, a bright, cheerful teacher, who has not too much of the Napoleon about her, and one who is willing to live and let live if you only give her half a chance!—*Lucy Agnes Hayes, Philadelphia.*

In opinions look not always back;
Your wake is nothing, mind the coming track;
Leave what you've done for what you have to do;
Don't be "consistent" but be simply true.

—O. W. Holmes.

The lands are lit
With all the autumn blaze of golden rod;
And everywhere the purple asters nod,
And bend, and wave, and flit.

—Helen Hunt.

The Educational Journal

PUBLISHED SEMI-MONTHLY.

A JOURNAL DEVOTED TO LITERATURE, SCIENCE, ART
AND THE ADVANCE OF THE TEACHING
PROFESSION IN CANADA.

J. E. WELLS, M.A., EDITOR AND PROPRIETOR.

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Editorials.

BEAUTIFY THE SCHOOLROOM.

IT is pleasing to see and hear so many indications that the old order of things in respect to schoolhouses and schoolrooms is so rapidly changing and giving place to better. One of the many services which lady teachers have done and are doing for the world is in the direction of beautifying the aspect and refining the atmosphere of the class-room.

There was a keen if unintentional sarcasm in the words of the young teacher, who, writing to a friend, said: "I am in my schoolroom; hence, you can easily imagine my surroundings without description." The implication, of course, was that all Public School rooms are so much alike that to be familiar with one is to have a picture of each. But this, happily, is no longer so. Why should it be so? Why should not every schoolroom have an individuality of its own; something to please the eye and charm the fancy; something in its artistic arrangement and decorations worth describing to a friend? The reason is, we suppose, to be found, not so much in lack of taste on the part of the teacher as in lack of means for supplying anything beyond the simplest furniture and most necessary apparatus. But why should this be so? Do not teachers ignore a strong force in the development of both taste and morals when they neglect to make the school-

room, so far as it may be in their power, attractive and even beautiful? Do not parents commit a great blunder when they lavish money in the decoration of fine parlors at home, in which their children spend scarcely an hour in the week, and fail to supply means for the tasteful adornment of the schools in which they spend most of their waking, indoor, moments throughout the most susceptible years of their lives? The silent influence of beautiful and artistic surroundings will often do more to cultivate and refine the taste than scores of lectures.

The improvement of taste that would result from this constant association of study and learning with agreeable and beautiful surroundings, would be of itself a most valuable factor in education. The vandalistic proclivities of the most reckless users of the pencil and jack-knife are checked by the prettiness and tastefulness of the articles upon which they are most likely to be exercised. While the unpainted pine board almost irresistibly invites the whittler's attack, none but the veriest Goth will mutilate a beautiful bit of furniture. A universal instinct compels those who stamp unhesitatingly, with the muddiest boots, over a naked and not over-clean floor, to use the door-mat before venturing upon one brightly carpeted. A still more important consideration is that the taste for neatness and prettiness, once formed, will, in most cases, attend the pupil through life, leaving its impress upon his person and home in all the future, and contributing in no small degree to the increase of those little comforts and adornments which make the home attractive, and promote domestic happiness and virtue.

CAUSES AND EFFECTS.

"AT no time in the history of the world has education been more diffused among the common people, and at no period have nervousness, excitability, brain-exhaustion, and insanity been so prevalent." These statements are both probably facts. Whether and to what extent they stand related as cause and effect, is another matter. *Post hoc* is not always *propter hoc*. It is, unhappily, but too easy to point out other more obvious and more deplorable antecedents, which may be the causes of the "national nervousness," which bears so many evil fruits. Never, probably, in the history of the world were so many in mad haste to grow rich, not by persevering and healthful industry, but by trading and speculative methods, which lead to constant nervous tension and anxiety. Never before were there so

many deleterious compounds, and fiery, poisonous decoctions, used as food and drink, depraving the appetite and sowing in the system the seeds of physical, mental, and moral disease. We are much mistaken if the weight of evidence does not indicate such sources as these, and the hereditary tendencies flowing from them, as much more prolific of the nervous derangements in question than any over-stimulation of the intellect in the public schools.

It is eminently true that "brain work is needful and healthful," and we believe it is true of the child as well as of the man or woman. Other things being equal, we have no doubt that the child whose brain is properly and even vigorously exercised, with due regard to physical conditions, such as the need of abundant rest, and exercise and recreation in the open air, will develop a better physique and live a longer and healthier life, than that one whose early years are little more than a round of mere animal functions and delights. It is to be hoped, however, that few originals for such a picture as the following can be found in Canada, albeit the evil effects upon body and mind are due, not so much to real over-work of brain—for, as a matter of fact, the brain can't work, and won't work, through such weary stretches—as to the unhealthy atmosphere of the schoolroom, and the want of the fresh air and exercise which nature demands. Let the teachers of Canada study the picture, and see if it is true to the life of any school or locality with which they are acquainted. If so, the sooner they begin to agitate for reform the better:

"Over-pressure, undue anxiety, violent passion, worry without needful rest and fresh air, always mean a premature wearing out of the machine. A brain under such disadvantages will not live out half its days. To appreciate our danger in this respect let us look at our school studies. In some of the more advanced classes we find that from fifteen to eighteen studies are required in five days of every week, not to speak of Sunday schools. Take school hours, and add to them, say two hours of evening or morning study, and we have for close mental application as many hours as are needed to do the daily work of a robust adult mechanic. To state this is to show the folly of our system of education when exercised on the young and tender brains of the coming race."

This picture of school life was drawn by a Canadian writer (we think) about ten years ago. To what extent is it a true picture to-day?

A BRIEF REJOINDER.

TWO or three remarks in Professor Squair's second letter may seem to require a few words in reply.

We are sincerely glad that Professor Squair so distinctly disclaims any intention of hinting the slightest want of respect for the Western University. Referring again to the passage in his first letter which gave occasion for our remark of which he complains, we cannot but think that he owes us some thanks for having given him the opportunity to make this frank denial. We were not "unfortunate in our choice of words" without having read the sentence in question more than once, to see whether it might not be capable of some other interpretation. Even now we cannot be persuaded that our misconstruction of its meaning was due wholly to our own lack of perspicacity. That is, however, a secondary matter.

We do not wish to prolong this discussion, but, after again reading our first article, we are constrained to say that if Professor Squair will kindly point out to us the word or words in it which place on the young shoulders of the Western University "the heavy responsibility of being a model to institutions older, richer, and stronger than itself," he will lay us under a special obligation.

We cheerfully admit the force of our correspondent's claim that in the undergraduate courses of the University of Toronto a good deal of work is done which in many American institutions is done in the graduate courses, and that this is a fact of the highest importance in this discussion. To what extent this admission modifies or nullifies the incidental criticism in one of our first articles, to which Professor Squair has so strongly objected, we shall leave to the reader to judge. Comparisons are invidious, and extensive inquiry, for which we have neither time nor inclination, would be required in order to even approach a settlement of the question on the basis of fact. Perhaps some of those students, of whom there is now a goodly and increasing number, who have both graduated from Toronto and taken post-graduate courses at American universities, would be best qualified to speak on the point.

Just here let us say, without attributing any unkind intention to our critic, that we feel that we have been somehow placed in a false position before our readers. These might be pardoned, should they get the impression that we are assailing the University of Toronto, than which nothing is, or has been, farther from our wish or intention. Whatever we have said by way of criti-

cism was merely incidental, had reference to what we believed to be undeniable fact, and was entirely free from hostile feeling or purpose. Touching our allusions to past history, which Professor Squair calls into question, we shall by no means undertake the invidious and ungrateful task of raking over the ashes of the dead past. We have simply to say that we have, as we do not doubt many of our readers have, somewhat vivid recollections of a day in that history when the inefficiency of certain professors and the difficulty of obtaining their replacement made some departments of instruction in the University almost a by-word; when it was with the greatest difficulty that affiliated institutions could obtain such modifications in the *personnel* of examiners, and in the mode of conducting examinations, as we are sure Professor Squair would be the first to admit were demanded by the simplest justice; when the doors were forced open for the admission of women, even to the annual examination in Arts, only by dint of strong outside pressure; when the conservative forces within the University opposed and delayed such innovations as the establishment of a chair in Political Economy, etc.

Such reminiscences are distasteful to us. We will not pursue them. We recognize the genuineness, we do not say the completeness, of the reforms which have been wrought, largely, we do not doubt, through the influence of men of progressive spirit, such as Professor Squair himself within the institution, but generally originating in outside pressure and newspaper criticism.

As to the question of financial support, we have but one word to say. Can it be that so fair-minded a gentleman as Professor Squair does not see the essential unfairness of comparing, with respect to the liberality of supporters, the Provincial University, originally founded and handsomely endowed from the public funds, with denominational institutions established and supported wholly on the voluntary principle, and relying mainly upon the gifts of some one denomination, instead of upon the liberality of the whole people?

In dismissing this subject, we may be permitted to express our regret that we should have even a mild controversy with a friend whom we highly esteem and to whom we have been indebted in the past, and hope to be in the future, for valuable literary favors. We should also, perhaps, explain that our references to the Western University have been purely incidental. We have no right, whatever, to speak for that institution, and it is not in the

slightest degree responsible for anything we have said. We have not, we believe, the honor of the acquaintance of more than one of its professors, and it may be that its authorities may not even approve of much that we said.

EDUCATIONAL NEWS NOTES.

[Postal card items are solicited for this column. They may be local, but must be of more than merely local interest.]

DR. CHARLES D. CURRY, B.A., has resigned the position of Inspector of Schools for the county of Haliburton. Mr. Freer, of Toronto, has been appointed his successor, his duties to commence Jan. 1st, 1896.

THE superintendent of schools in Pennsylvania has established an Autumn Arbor Day in that State. In favor of the innovation it is said that many trees may be planted with quite as good results in the autumn as in the spring, while the attendance of children in the schools is much larger in the fall.

ONE of our exchanges comments on a report that a teacher in Florida attempted to make a seventeen year old girl fall in love with him by thrashing her severely. It is not claimed that the attempt was successful, though it is said that the girl's mother threatened to kill the teacher—whether on the same general principle deponent saith not.

THE *Public School Journal*, Illinois, says that when this century closes, ninety per cent. of the elementary teachers in the United States will be women, and the great majority of these women will be young and comparatively inexperienced teachers, and that it is safe to say that not more than one-fourth of the women engaged in teaching will make it a life business, and that the average teaching period of the other three-fourths will not exceed four years.

A WARM debate was brought on recently in the Toronto School Board, on the following motion: "That henceforth, whenever a vacancy shall occur in the principalship of any of our schools containing eight or more class rooms, the same shall be filled by a male teacher, holding a first-class certificate, and having at least five years' experience in teaching under a certificate accepted by the Board." Dr. (Mrs.) Stowe-Gullen led a vigorous attack upon the limitation to male teachers, contending that women were perfectly competent to hold such positions, and that such a distinction was invidious in the extreme. The clause was finally referred back to the Management Committee, which introduced it.

AT the commencement exercises of the Woodstock Collegiate Institute, a week or two since, Mr. John Millar, B.A., Deputy Minister of Education, delivered an able address on the subject of Higher Education. He dwelt upon the improvement which has been wrought in the condition of the masses of the people by the advance of education. He combated the statement often heard that education has not benefited the poorer classes, and quoted facts and figures extensively to prove that it has wrought powerfully and successfully for their elevation. "The cry of danger from over-education," he exclaimed, "is false, misleading, and injurious in its effects. There can never be too many high-school graduates if their education is of the right kind."

AN interesting discussion took place at the recent meeting of the West Middlesex Teachers' Association, on the teaching of Physiology and Hygiene in the schools. Mr. R. F. Wilson, of London, who introduced the subject, urged that, in order that teachers may be fitted to handle this subject with pleasure and profit to pupils, they should read much more and know much more than the text-book contains. This remark is true in regard to almost every subject in a school curriculum, but needs special emphasis in connection with a science subject such as the one in question. Mr. Wilson and others who took part in the discussion dwelt particularly upon the advisability of utilizing little accidents, such as are of frequent occurrence on the play-ground, to impress useful physiological lessons upon the minds of the children.

Special Papers.

"HOW TO MAKE SCHOOL LIFE PLEASANT."*

BY MISS L. COUSINS, WILTON GROVE, LONDON.

In this paper I shall simply state what I consider some of the requisites for a pleasant school, and outline briefly a few of the methods I have used in my own school.

Assisting in making the time spent in teaching pleasant, as well as profitable, for both teacher and pupil, is a duty, we, as teachers, owe to one another. As the schoolroom is the scene of our labors, the place where so much of our time is spent, we should make it as attractive, as pleasant, as is in our power.

We believe that the teacher has much to do with making it so. Has it not been truly said, "Like teacher, like school"? Of the teacher I have not much to say, but I believe that, among other qualities, she should possess those of patience, as there are so many causes for anxiety and worry every day; hopefulness, since there is danger of being discouraged, when we fail after striving hard; cheerfulness; it has a powerful influence on the children, producing better work; sympathy, so as to enjoy having children about her, not necessarily "love children;" love does not come to order anywhere, but it is necessary for her success that she should catch the contagion of a happy laugh and feel a genuine heartache over their little troubles; kindness, as "Like begets like," therefore, will not the children be kinder to her, and we usually find that kindness is the best means to bring happiness to the scholars, as well as to control them; love of order, also, is one of the most important qualities. Order is as necessary in a school as in the army. It renders government easy, preserves quiet, saves time, and prevents injustice.

We eat to live; we study to live; children go to school for life purposes. The measure of success of the teacher is not the amount the pupils learn, but rather the mental activity that exists. The teacher who can create an interest has the elements of success in her, but that interest must be properly directed. There must be some control of the pupils. It is best for them, leaving education out of the case. There must be a distinct plan, and it must be followed. For instance: the teacher gives the direction that when she strikes the bell, the class is to rise promptly, and then upon a given signal to pass to the recitation bench. The bell strikes; all rise but two or three. The teacher should signal all to sit again, showing only by her look that she is displeased—pausing with her eye on the tardy ones. Then will follow another signal for rising. All doing this well, she expresses it in words, or by a smile, and gives the next signal. And so with entering and leaving the schoolroom, replying to questions, arranging work on slates, keeping in order the desks and similar things. We, by having a plan, and attending to every detail, educate our pupils by training their powers in systematic methods, and, at the same time, make our own work much easier and pleasanter. Thus we say much pleasure is derived from making a plan and attending to all the details.

This pleasure is increased greatly by enlisting the help of the pupils, as no school work is so pleasant or successful where the children are not taught self-government. I would not wish them to think I have a self-interest in it. They must be self-governing for their own good; such discipline is worth more than mere text-book knowledge. The presence of the teacher should not be necessary to maintain order; therefore, it is well to accustom the pupils to being alone at times. They are pleased to have one of their number take charge.

One Monday morning, thinking I would be late before returning from my boarding place, I said to one of the boys, "Albert, if I am not at school at nine, you may ring the bell, and take charge." I was in time, but once later, owing to a heavy rain, did not reach school until 9.30. The scholars were at their work, and were glad to have the teacher late. It does not often happen. That would not do, as we seek to be all we expect of our pupils, although it did occur again when the roads were blocked, and

this time, as before, I found them at their work, one of the largest girls acting as teacher.

We have classes conduct themselves. I might outline one method my pupils find pleasant, and I trust they profit by it.

We have head and foot in our classes. A class goes to some part of the room where the pupils will not disturb the teacher and her class. No. 1, the pupil at the head, steps out in front of the class, so that all may hear better, and No. 2 asks him a question. If No. 1 cannot answer, No. 2 answers and steps up to the place of No. 1, and No. 3 asks No. 1 a question. But if No. 1 answers the question of No. 2, he steps to his own place, and No. 2 steps out to be questioned by No. 3, and so on around the class. They find this as pleasant as many games played in their homes. Frequently the children ask permission to prepare questions on the lesson.

Then I keep a record of their standing in the class. We believe in variety; therefore, some weeks I keep all, and other weeks I keep a record of those only at the head and the foot, marking "1" for head and "o" for foot. The pupil who is head at the close of the recitation receiving "1," then going to the foot and working up again. It causes them to work harder. Freddie, who is good in arithmetic, but not in grammar, said to his mother the other evening, when urged to get "1" in grammar, "Mamma, I might as well try to fly as get to the head in grammar, but I can get there in arithmetic, if Charlie is not ahead of me when we go up to the class." So Freddie tries to keep ahead to be ready for arithmetic.

This month we keep the standing of all for each recitation.

In the teaching of the lesson we seek to make it attractive by simple illustrations and experiments, and the children look upon the studies as subjects of real interest, not as distasteful tasks to be mastered because they are compelled by a school authority.

But there are times when the children tire of their lessons, no matter how attractively they are presented, and sometimes more is needed in the schoolroom. It is then we turn their minds in another direction. For such times we have brightening exercises. It may be a simple exercise-song, a march around the room, some calisthenic exercise, a story read or told, or it may be a match in word-building, finding words, in geography, in arithmetic, or in spelling; but these matches are usually reserved for Friday afternoon.

Rewards, which should be given to the child to cheer him, to strengthen and encourage him to hold fast to the right, and which should be valued by him as a token of the teacher's interest in his work, should be often given, but it is better to rely chiefly on the look of approval, or word of encouragement.

Promises, too, are sometimes good incentives—promises, such as "to read a story," "to work on the blackboard," to work at some favorite study, to draw from the chart, or to be given some privilege.

We have few interruptions. We do not favor borrowing, so if a pupil must borrow a book, he must do so during playtime. If books are thoughtlessly left in the sack at the back of the room, they remain until next playtime, and, as no two pupils of one class sit at the same desk, the thoughtless pupil cannot study from his companion's book. All, or part of recess, is forfeited by any larger pupil leaving the room during class hours. When hats and caps are in the room, the hooks, not the boys' heads, are the places for them. If they must be on the heads, then the boys must go outside.

I think it is a good plan for the teacher to play "visitor" occasionally. After having left the room, walk in, speak to the children, notice how they speak in return, try to see how the room and children look to a stranger. We generally agree that something ought to be changed.

It is well to start the day pleasantly. A bright smile, a kindly word before school opens, does much towards establishing the success that is to crown the day, as nothing is more catching than a cheerful expression. In my school a pleasant rivalry exists between some of the pupils and the teacher as to who shall be first in giving the morning's greetings. A cheery "Good night" is helpful also.

Suitable verses and mottoes, containing helpful thoughts, put on the blackboard, are a means of help to teacher and pupil.

The interior appearance of the schoolroom has a direct moral influence, and may aid or hinder very materially. Therefore, it is important to have it clean and attractive. The teacher and pupils can do much towards giving it a home-like appearance by putting on its walls decorations, such as pictures, cards, calendars, maps, and drawings done by pupils, etc.; by putting plants in the windows and on the teacher's table.

It is well to have the plants started at home, both in pots and in hanging baskets. The children care for them all the winter, and are pleased to show them to the teacher, if she is in their home any time.

Another attractive feature is a corner furnished with a table and some chairs. This corner may be called the "reading room," for here the children will gather to read the pleasant stories from their own papers.

On rainy days the pupils are apt to remain at home. It is well to have something interesting, something that the teacher knows her pupils really enjoy. The absent ones will hear of it, and if it occurs a few times they will not wish to remain away.

Any trouble that will make the pupils consider the schoolroom a pleasant place will more than repay the teacher. It is hard to be pleasant when we are uncomfortable, no matter what may be the cause of the discomfort. In the schoolroom it frequently arises from lack of proper ventilation. It has been said that every man should be as choice of the air he breathes as of the food he eats, and a teacher is bound to double carefulness, for she has control of those who do not yet know how to take care of themselves. Therefore she will often have her pupils stand in files, not ranks, so that there may be room for vigorous up and down movements of the arms, while she opens doors and windows, if only for a few moments, to change the air, and bring more oxygen to the young lungs.

This exercise is a rest and helps to lighten labor. Anything can be done with pupils who take an interest in the work, and who feel that they are necessary to the correct doing of things. But little can be done if they do not feel this, so give them something to do, something apart from their lessons—it may be to ring the bell, to clean the blackboard, to keep tablet cards in place, to fold papers properly, to fill ink-wells—something to do. Teach them to know it is their school, not the teacher's.

I think that children should be taught the Golden Rule—that others have rights which each one is bound to respect, just as he would have his own respected. If whispering disturbs his neighbor, he must not indulge in whispering. If careless and imperfect recitations hinder the progress of the class, it is his duty to do better. If promptness and regularity are for the general good, then he must be as regular and punctual as it is in his power to be. Thus a feeling of personal responsibility will be developed.

We can by stories and talks impress on the pupils' minds that no good thing is got except by hard work, and that we are after good things, and that no teacher can make scholars of them unless they apply themselves. They will understand it and act on it, work better, and, as pleasure is found in work, so will that add to it in the schoolroom.

If we can insure the co-operation of the children we shall have one strong means of making our schoolroom pleasant.

BUSY WORK.*

BY MISS BLANCHE E. CULLEN.

The great problem for educationists to-day is the study of child-nature. It is a manifest truth that there is a method in the child and a method in the subject of study. The difference in the teacher's profession, as in all other human employments, between the skilled and unskilled practitioner depends, in a great measure, on a knowledge of the best rules and methods which have to be used, and of the principles which underlie and justify those rules. Many object to methods, and I would never recommend one to be used unless it were based on some underlying principle.

One has said, "Studies perfect nature and are perfected by experience, for natural abilities are like natural plants, that need pruning by study, and studies themselves do give forth directions too

* Read at the last meeting of the West Middlesex Teachers' Association.

* Read at the October meeting of the East Middlesex Teachers' Association, 1895.

much at large except they be bounded in by experience."

How much, then, ought we, as teachers, being brought in daily contact with the mind of the child, to study how to prepare the external materials that will so operate upon the forces of the mind as to bring about the best possible results!

To attain this end do we not need ever to have freshness of mind? For the spirit is constantly tending to fix and embody itself and to become the letter, unless we are always on our guard. We know that it has often been the case, in religious history, that a great reforming movement, which has begun in, perhaps, a very effective protest against formalism and mechanical religion, has in time come to have its own watchwords and firmly fixed usages, and has ended by being just as cold and unspiritual as that which it has sought to supersede. And this has been no less true in the history of education.

As Fitch has aptly put it: "The new thought, the bright, rational method, seeks to embody itself in a rule of action. While this process is going on, all is well, but when it ends, and the rule is arrived at, then comes the relapse into verbalism. Routine is always easier than intelligence. And among the most worthless of all routine is—not the traditional routine of the mediæval schools, which is known to be mechanical, and is accepted as such—but the routine at first devised by enthusiasts, and afterwards adopted by dull, uninspired people, who think that they can learn the method of Socrates, of Arnold, or of Fröbel as they could learn a system of calisthenics or of shorthand. It is very touching to hear of the end of Pestalozzi's career. He is described as pointing with his finger to the blackboard, to his diagrams, and to the names of the qualities of objects, while the children repeated mechanically his favorite watchwords, which they had learned by heart. Those words were once full of meaning but they had ceased to represent real intellectual activity on the children's part or on his. They had become dead formulas, though he knew it not. And so will it ever be with us if we lose the habit of looking at all our methods with fresh eyes, of revising them continually, and impregnating them anew with life. In our work nothing can be so effective as the voice, the enthusiasm, the personal influence of the teacher, whose crowning qualification is sympathy.

Every teacher who honors her work will be honored in it; every schoolmaster who makes himself proficient through a live interest in his pupils as well as his methods is more to be desired in a community than the man with many millions. The school man or woman who realizes himself or herself privileged in daily work and hourly opportunity is a source and means of inspiration to every student or citizen who comes that way. The teacher who is watching the exigencies of the day, with the purpose of doing his part in mediating between the growing youth and the matured world, is one of the strongest elements in progression.

Such are the conditions of early life that the teacher has comparatively little to do with the training of the animal senses, smell, taste, and sensitive touch; at most he can only act as the parents' assistant in seeing that the pupils refrain from any undue indulgence of their appetites while under his charge.

Although this may be the case, the teacher has a much wider field before him, viz., to work up the raw material, the impulses and interests, or spontaneities of the pupil. Writers use different terms to define the native capabilities of the child, but we may be satisfied to know that there are certain activities which it is our duty to organize and develop.

How can this be done? We are told that every system of education is based upon the laws of growth, both of a single faculty and of the succession of faculties that constitute the intellect, and also that the exclusive training of a single faculty is impossible. What is the first great step in education? It is manual training based on the watchword suggested by nature, *Action, Action, Action*, directed to *Things, Things, Things*. Some think that young children try to learn too much from books; that they do not receive sufficient physical exercise, and that too much study of subjects above their powers to comprehend has a tendency to weaken their love of knowledge.

It is coming to be believed the height of folly to keep young children, and even older ones, all day at work upon subjects which do not interest them particularly, which they cannot fully appreciate, and

hence cannot easily remember. This has a tendency to unfit the child for usefulness when he grows older.

The difference between the *study of books* and learning the *manual arts* is this: With the former, after the work has been memorized, comes the examination, when the pupil is questioned on his work in a manner, not always legitimate. The result is not satisfactory to either teacher or pupil, because, the interest being gone, the memory fails to retain all or nearly all that is beyond his years and experience. But training in the manual arts being actual experiences, they remain in the mind till they are properly digested and assimilated, and, as there is no premature search after what he knows, no fear of questioners and questions, the thoughts of the child ripen, and we see, and he feels, that he has gained some knowledge.

In manual training we have now found our foundation-stone on which to commence our work of building up the raw material. The perceptive senses, touch, sight, and hearing, are gatherers of concepts on which other faculties expend their efforts. Perceptive touch precedes sense of hearing and sight, and should receive first formal training given by the teacher. The hand should be trained, not only as a perceptive sense, to discriminate, with the utmost delicacy and facility of touch, the tangible qualities of the many forms with which it comes in contact, but also as an organ of expression, to delineate with ease and exactness any concept which the mind desires to represent. Both of these ends may be attained by the same exercise. Thus moulding, drawing, writing, spelling with pen, and use of tools in construction, if used systematically, give finally to the hand automatic swiftness, not only in gaining ideas, but also in committing them to memory.

The sense of sight is trained by exercises upon visible objects, judiciously arranged, color first, and then shape, while the sense of hearing is trained by listening to significant and musical sounds.

In juvenile education the true method consists in presenting to the senses of the child objects of such natural interest as will call forth the absorbing spontaneities that excite the strong efforts of the will, and so finally result in the power of steady attention. The higher spontaneities springing from trained effort constitute our practical knowledge.

As manual training is the first great step in education, it behooves us to have a course in Busy-Work in accordance with the above statements.

What I have said has reference to the theory side of educational work, but we must now look at the practical application of it.

Theory looks at the subject in view of the full scope of all its possibilities; practice singles out only what is of present utility and neglects the rest. The invention and ingenuity of the teacher will thus be called upon to prepare and present what is of present utility under existing circumstances. Theory aims to get a wider and wider view, so as to grasp the subject in all its bearings and contemplate the entire range of possibility, but practice, on the other hand, strives to narrow its field of view and specialize its act of attention to the situation that is actually now before it.

The two attitudes of mind are in this respect, opposed to each other. The theoretical shrinks from action and defers it, wishing to keep the question open till all the possible phases of it have been inventoried; the practical attitude desires to close the question and decide at once in view of what is already known.

It is said "Thought expands, but lames; action narrows, but intensifies."

I shall now enumerate some of the ways in which this action is induced by concentration of mind on some special phases of the subject. I shall first mention some of the ways which have been tried in our primary rooms.

Moulding clay has been used for the pupils to model such objects as vegetables, fruit, etc. Book I. of the Collegiate Drawing Course, recommended at the last association, will be useful here, as the objects drawn therein may be modelled in clay and then drawn by the pupil, who will be much more interested than if he had drawn it from the real object, or a drawing of the object. Have a few samples; pupils are new at it, as we have just gotten clay.

Cards have been used on which in one column are perforated by the teacher, and seen by the pupil, the list of key-words, and in the other column the corresponding phonic forms to be taught. Great

stress should be laid on the phonic form, as, owing to the incompleteness of our alphabet, the phonic form may have more than one sound. (Have samples.)

Gage's Busy-Work Book, in which drawing and writing can be done. I have bought a copy of it, if any of you would like to see it.

Folding Paper.—I have some books here that show what might be done in paper-folding, if it were carried far enough. I think we should adopt any kindergarten work where it is profitable and practicable to do so.

Leaves have been gathered, which have to be drawn and outlined by the pupil.

Pictures cut up as puzzles, which pupils can put together cut.

I am convinced that this is a mere beginning of what can be used as a means of employment for the scholars.

Here are some ways which we hope to try in the future:

- (1) Stringing beads.
- (2) Stick-laying.
- (3) *Weaving*.—It is said "the combination of color in this occupation sets it apart from all others, for in no other part of the hand work is combining color an absolute necessity. Mathematically considered, weaving seems one of the most practical means by which to illustrate to children the relationships of number, for it is impossible for the child to weave his strip up and down, in and out, without counting and estimating the effect of two strips or threads up and three down. It also gives the child an understanding of many industries now performed by machinery, and acquaints him with processes now employed in the production of many articles, thereby relating him to much that surrounds him.

(4) Cases with letters or words in, corresponding to a printer's case, from which pupils may build up sentences. The same letters or words beginning with the same letter could be put in one section of the case.

(5) Blank books used for extra reading books, in which children can write the sentences they have built.

(6) Free-hand cutting with the scissors. In the library of the Children's Buildings at the World's Fair were several framed pictures cut by a boy of ten years.

One of these pictures told the story of the fairies coming at midnight to dance among the flowers. The action and character of the entire scene was the result of creative power.

(7) Little bags filled with corn, the corn being used for number or for outlining their new word in the reading lesson, etc.

We have been looking at the practical side of Busy-Work; we will now look for a few minutes at some of its advantages:

- (1) Satisfies impulses.
- (2) Cultivates senses.
- (3) Aids attention.
- (4) Influences the will.
- (5) Makes hand and eye instruments of the mind.
- (6) Prepares way for memory.
- (7) Develops individuality.
- (8) Prevents idle irksomeness and identifies pupil with material of the world, and makes him feel usefulness ahead of him.

(9) Forms right habits, viz., *obedience, thoughtfulness, carefulness, and economy*.

We have now seen the benefits a child receives from a system of Busy-Work. If its adoption be so beneficial, will not the rejection be equally injurious? Shall we neglect our opportunities and help to fill the poorhouses, the prisons, and who knows but even the gallows, or shall we do our utmost to send forth bright and shining lights, who will leave their footprints on the sands of time?

Let us, then, our work pursue,
Though but little we may do;
Though the path be sometimes steep,
Let us still our courage keep,
Ever in our place to be,
Though the end we may not see;
This reward we shall have won,
That our duty we have done.

To gather instruction from the pages of a book, you must understand them; and you cannot understand without consideration and thought.

—George Macdonald.

Science.

Edited by W. H. Jenkins, B.A., Principal Owen Sound Collegiate Institute.

A LESSON IN PRIMARY BOTANY.

Material—The common white lily—Trillium.

This lesson is intended as an introductory one. The lily is chosen because comparatively simple, pretty, and large. Each student has a complete plant.

Give the pupils a chance first.

T.—Observe the plant carefully, and be ready, when asked, to tell something you observe about it.

After a few minutes of observation the teacher calls upon as many pupils as have observed anything. As the answers are given, points previously unobserved by some are brought to their attention, and they are stimulated by the success of others to more careful scrutiny. The following are a few answers that have been given by pupils:

The flower is white.

There are three leaves.

The stem is smooth.

There are little stalks inside the flower.

In the middle of the flower is a little bulb with three little curled tails.

The bottom of the plant is swollen.

The leaves have veins.

So far, everything has been accepted as correct, and no order has been observed in the description. As the observation continues and new points are called for, the teacher will often notice that when one pupil is describing something he sees about the root other pupils are observing the flower, and are not therefore ready to confirm or disagree with the observation about to be made. At this stage he might call the attention of the class to the lack of readiness of all to confirm the observation made (due to the cause above mentioned), and require pupils to state the cause of their delay and to suggest a remedy. He will have no difficulty in getting some such answer as, "Let us take up one part at a time." This answer is an indication that the pupils have recognized the main parts of the plant.

T.—What parts are there in this plant?

P.—Root, stem, leaf, flower.

T.—With which part shall we begin?

Various answers are suggested, and in an introductory lesson it is as well (in order to keep up the interest) to let the majority govern. Suppose the flower is chosen.

T.—All grasp your plants by their flowers and fold them up. Some have them by the petals, others by the sepals. Teacher calls attention of the class to the fact that all have not grasped the same parts.

T. (to a girl who has grasped the petal)—Why did you not hold the plant up in the same way as Mary (who has hold of the sepal)?

P.—She has hold of a leaf, and a leaf is not a flower.

T.—How does the part you have hold of differ from the part Mary is holding?

P.—The part I am holding is white; hers is green.

T.—Is that the only difference? Compare their shapes.

P.—They are very much alike, differing only in color.

T.—Then if Mary's is a leaf, what is yours?

Teacher here submits the violet, hepatica or spring beauty, to the pupil, and also to several pupils, and asks her and them to point out the flower in it. This generally settles the question as to the flower.

T.—Now, tell me all you can about the flower.

Many answers are given, and in the same way as the plant was divided into parts, the pupils soon discover that the flower is also divisible into parts. The names of these are given.

Very few technical terms were introduced in this lesson, and only when necessary to avoid round-about phrases, *i.e.*, the green part of the flower, the white part of the flower, the little bulb in the centre.

In this lesson simple descriptions in ordinary language were accepted.

The other parts of the plant were taken up in a similar manner, the lesson occupying two spaces of thirty minutes each. A third and very important

lesson was spent in making the pupils draw the whole plant one-third natural size, the leaf, the sepals, and petals natural size, and the stamens and pistil about three times their natural size. Care was taken to see that no slovenly work entered here.

During the second lesson, pupils were asked to express their agreement or disagreement with the observation as given by any pupil, and, in case of a disagreement, those disagreeing were asked to give their descriptions.

Many teachers begin the lesson with drawing alone. This silent expression, while valuable, does not give that training in language for which botany is so suitable.

QUESTIONS IN PRIMARY PHYSICS.

The following questions are submitted in answer to a correspondent:

1. Express 1.03 centimetres in kilometres, and find the volume of a sphere whose diameter is 98 millimetres.

2. Express the weight in kilograms of the water at 4°C., which (a) will fill a box whose dimensions are 10 metres, by 40 centimetres, by 50 millimetres.

(b) If the same quantity of mercury as of the water in (a) weigh 4500 kilograms, what is the specific gravity of mercury?

3. (a) Illustrate methods of finding the specific gravity of

(1) Turpentine, (2) a piece of cork, (3) oxygen gas.

(b) A square stick whose side is 1½ inches floats with 6 inches of its length immersed in water and with 8 inches in a liquid. Compare the weights of equal volumes of the water and the liquid.

4. Which is greater, an acceleration of 40 miles an hour per hour, or two feet per second per second?

(b) What is meant by "g," and how may its value be experimentally obtained?

(c) An arrow was shot vertically upward and returned to the earth in ten seconds. Find the height attained.

5. Give an experiment which goes to show that energy of one kind may be transmuted into energy of another kind. Also an experiment to illustrate the transmutation of matter.

6. Convert a reading of 40°C. to Fah. and 40° Fah. to C. How are the fixed points on a thermometer obtained? Twenty grams of lead shot at the temperature of steam were poured into ten grams of water at 10° C., and the resulting temperature was 11.5°C. How much heat does it take to raise ten grams of lead 20°C.?

7. Give laboratory experiments which go to show that matter is composed of minute particles separated by spaces, and that these particles are in constant motion.

WHY THE MAPLE SAP FLOWS.

The maple tree is active in the summer and passive in winter. Pressure, suction, and zero are conditions of the tree when not in leaf, when at rest and passive. Varied weather, as to temperature, is the cause of these varied conditions. Under certain conditions the whole tree may be in pressure, or the whole tree may be in suction, or it may stand at zero. Again, a part of the tree may be in pressure while another part of the same tree may be in suction.

When the tree is in pressure it is throwing out moisture sap, whether tapped or untapped. When the tree is in suction it is reversed, taking in moisture or water, whether the tree is tapped or not. When the tree is tapped the pressure becomes visible. To make the suction visible, connect a glass tube to the spout (a round wooden one) by rubber, fill the tube with water or sap, or even syrup (when the tree is in suction), and you will see the contents passing down the tube, and, of course, the same is passing into the tree. Pressure and suction exist all the same if the tree is not bored, but, being unseen, it is recognized little even by vegetable physiologists.

Pressure can be measured with the steam gauge, and also with a mercurial gauge, while suction can be measured with a mercurial gauge only.

The highest pressure that I have noticed was 34 pounds on a square inch. This would hold a column of water over sixty feet high. The pressure of the atmosphere at the sea level is 15 pounds

upon a square inch. This amount of pressure is exerted on every square inch outside surface of the tree, and is balanced by the same amount of internal pressure, so that the 34 pounds pressure, internal, was in excess of the outside pressure; hence, even if a tree is not tapped, there must be moisture passing to the surface through the pores and connecting with the atmosphere until equilibrium is restored, and suction or zero is reached.

If certain conditions produce pressure, then reversed conditions must produce suction, the opposite condition. When the tree is neither in pressure nor suction, then its condition is zero. In good sap weather, as a general law, the tree is in pressure during the day and in suction through the night. In poor sap weather zero conditions prevail.

Pressure. What is it? This can only be understood by an understanding of the internal make-up of the tree. It is supposed that there are 100,000,000 cells in every cubic inch of maple wood. These cells are supposed to be like small boxes, with covers, piled one upon another, so that there are two partitions between every box or cell. These cells are filled with gases, air, and water, together with some other materials or elements. Now, then, we are prepared to understand the philosophy of the pressure. As the sun warms up the outside of the tree, the air and gases expand in all the cells so warmed up, occupying a larger space, so that the pressure must be proportionate. It is not so much the expansion of the cells as it is their expansible contents.

The moisture or watery parts are forced out through the pores of the tree, and, if a small maple tree is carefully scraped to the wood, instantly the whole surface will be covered with tiny drops of moisture, showing what is taking place all over the surface. If, then, a tree is bored, the pressure is liberated so much, and if a gauge is attached to the tree it will show it, and even measure the amount. Now, then, a vacuum results. As a cool night is coming on these expansive elements are contracting, thus doubly increasing the vacuum. Now, then, pressure changes to suction, and the glass tube shows it. The equilibrium of the tree is restored.—*Scientific American.*

WHAT ELECTRICITY IS DOING.

Protecting, lighting, and heating houses.

Street cars are propelled by electricity.

Elevators are run by this power.

Church bells are rung and organs played by the same agent.

Messages are sent around the earth, letters stamped, fire alarms rung, teeth filled, food cooked, fans moved, hair cut and singed, disease diagnosed, men killed, irons warmed, sewing machines set in motion, the cradle rocked, all by this invisible agent.

And the half is hardly told.

ANSWERS TO CORRESPONDENTS.

Why do leaves turn red, yellow, etc., when the frost comes in autumn? LUCAN.

ANS.—The green color of leaves is due to a very abundant supply of chlorophyll. This is present in such quantities that it overwhelms and obscures other colored pigments also present. Sunlight and a sufficiently high temperature are necessary for the production of chlorophyll. In the fall, when the weather becomes cold and there is generally a decreased amount of light, the quantity of chlorophyll produced is greatly diminished, so that the other pigments begin to appear.

DEAR MR. EDITOR.—Will you kindly let me know, in the columns of THE JOURNAL, what the secondary and tertiary colors are, and how formed; also explain shade, tint, and hue?

Could you inform me where a good work on Object Lessons can be obtained?

IDEALA.

ANS.—"Longman's Object Lessons," by D. Salmon, revised by John F. Woodhull, is an excellent book. The publishers are Longman, Green & Co., New York.

Your other questions will be answered in the next JOURNAL.

W. G. Morrison, Kerfott, Manitoba, asks for solutions to the Senior Leaving papers in Chemistry and Physics for 1895.

In the next issue we shall attempt to finish the Primary Physics paper and begin the Senior Leaving work.

Examination Papers.

EDUCATION DEPARTMENT, ONTARIO,
ANNUAL EXAMINATIONS, 1895.

PUBLIC SCHOOL LEAVING.

HISTORY.

Examiners: { J. J. CRAIG, B.A.
J. C. MORGAN, M.A.

1. Name an important battle in the reign of Richard III. Why was it important? Give fully the events that led to the battle.
2. Sketch the events that led to the Revolution of 1688. What benefits did the English nation receive from the Revolution?
3. State the principal causes of the French Revolution. Show how England became involved in war with France at that time.
4. State the geographical position of the following places, and the chief historical event with which each is associated: Yorktown, Cawnpore, Amiens, Austerlitz, Khartoum.
5. Give an account of the Reform Bill of 1867, and the Education Act of 1870.
6. Sketch the campaign which ended in the Conquest of Canada.
7. What brought about the Constitutional Act of 1791? Give its chief clauses and note any defects.
8. When a measure is introduced into the Dominion Parliament, name the successive stages through which it passes before it becomes a law.
Values—12, 12, 12, 16, 12, 12, 12, 12.

GEOGRAPHY.

Examiners: { J. J. TILLEY.
J. F. WHITE.

1. (a) Why is it that in some parts of the Arctic regions there are nearly six months of day and six months of night?
(b) State clearly why there are four seasons in the Temperate Zone.
(c) What would be the effect on the seasons if the axis of the earth were perpendicular to the plane of its orbit?
2. (a) Draw an outline of the Canadian Pacific transcontinental railway, and of its tributary branches in Ontario.
(b) Show the position of the cities situated on the main line or branches.
3. Name in order the waters through which a ship would pass in sailing from St. Petersburg to Chicago.
4. (a) Name four of the principal manufacturing centres of Great Britain and Ireland, and state for what manufacture each is noted.
(b) Name four of the principal seaports in Great Britain and Ireland, and describe the foreign trade carried on at each seaport.
5. Name four of the most important British colonies, and give the principal export trade carried on by each of them.
6. Show how the geographical position of Britain has affected the progress of the nation and the occupations of the people.
7. Where and what are: Orinoco, Havana, Cal-lao, Tasmania, Ulundi, Sunda, Tigris, Nepaul, El-burz, Etna, Elba, Idaho?
Values—15, 16, 16, 16, 12, 13, 12.

ARITHMETIC AND MENSURATION.

Examiners: { D. ROBB.
J. J. TILLEY.

1. (a) Resolve 34650 and 43890 into their prime factors, and from inspection of these write in *prime factors*:
(i) their L. C. M. and G.C.M.;
(ii) the quotient when the second number is divided by the first.
(b) Simplify

$$(i) \left(\frac{\frac{1}{2} - \frac{1}{3} + \frac{1}{3} - \frac{1}{4}}{\frac{1}{2} + \frac{1}{3} + \frac{1}{3} + \frac{1}{4}} \right) \div \left(\frac{\frac{1}{4} - \frac{1}{4} - \frac{1}{8} - \frac{1}{8}}{\frac{1}{4} + \frac{1}{4} - \frac{1}{8} + \frac{1}{8}} \right)$$

$$(ii) \frac{.5 - .3}{.5 + .3} + \frac{.83 + .2}{.75 - .125}$$

2. A bookseller gives a discount of 5% for cash, and allows teachers a second discount of 10% on all cash prices. A teacher paid \$5.13 for a book; what is the marked price?
3. What is the value of a house if the insurance premium of $\frac{3}{4}\%$ on $\frac{2}{3}$ of its value, including 50 cents for the policy, equals \$6.50?
4. A. and B. entered into a partnership to carry on a mercantile business for one year. A. put in \$900 at first, and at the end of 4 months withdrew \$300. B. put in \$600 at first, and at the end of 4 months put in \$300 more. They gained \$3,000. What was each one's share of the gain?
5. \$1200. Toronto, Oct. 12th, 1892.

One year from date we promise to pay John Smith, or order, twelve hundred dollars, with interest at 6% per annum. Brown & Jones.
Endorsed as follows: Oct. 15th, 1893, \$1,000; April 15th, 1894, \$200. How much remained due Oct. 15th, 1894? (*Reckon the time in months.*)
6. A retired farmer invests 40% of his capital in $3\frac{1}{2}\%$ per cent. stock at 90, and the remainder in 4 per cent. stock at 95; his income is \$698 per year. What capital has he invested?
7. The base of an isosceles triangle is 20 feet, and each of the two equal sides is $15\frac{1}{2}$ feet. What is the altitude of the triangle?
8. A man can run the length of the diagonal of a rectangular field containing 6 acres, whose sides are as 5 to 12, in $3\frac{1}{4}$ minutes; find his rate of walking in miles per hour.
Values—5+5+5=15, 5+5=10, 25, 25, 25, 25, 25, 25.

BOOKKEEPING AND PENMANSHIP.

Examiners: { J. C. MORGAN, M.A.
J. J. TILLEY.

NOTE.—A maximum of fifteen marks will be allowed for Penmanship. This award will be based upon the character of the writing in the answers to question 4.

1. (a) Write a short letter to Messrs. Catchem & Co., Toronto, about goods shipped to you by them, the quality being, in your opinion, not up to that of the sample.
(b) Write their reply, accepting your estimate of the value of the goods.
2. (a) How can you test, in Single Entry, whether your posting is correct or not?
(b) What are some of the defects of Single Entry?
3. Explain clearly the meaning of the following terms: Voucher, Assets and Liabilities, Non-negotiable Note, Days of Grace, Ad Valorem, and Commercial Paper.
4. Work out the following set, using Day Book, Cash Book, Bill Book, and Ledger:
Toronto, May 1st, '95, rented a store from J. Shield @ \$20 per month and began business. At time of commencement I owed Turcotte & Co. \$21 and had \$250 in cash, mdse. worth \$345, a note at 60 days for \$73, dated Jan. 15th, '95, against J. Bell, and Tarbutt & Son owe me \$16.25 on contra account.
May 2. Sold J. Larneek, on account, 37 yards velveteen @ \$2.25 per yard.
May 3. Paid Turcotte & Co., on account \$12.75.
May 6. Tarbutt & Son gave me an order on W. Williams to pay their account in full.
May 7. Gave away \$5, lost \$5.
May 8. Bought mdse. (Invoice \$237.84) from J. Macdonald & Co., paid cash \$100, and gave my note for balance. Spent \$1.35 on repairs.
May 10. Sold Turcotte & Co. 100 barrels apples @ \$4 and groceries amounting to \$21.40.
May 11. Paid for putting up shelves in store \$12.40, postage, etc., \$3.
May 13. W. Williams paid by cheque on bank the order of May 6th.
5. (a) Write out the note in the above against J. Bell.
(b) Write out the order on W. Williams.
Values—6, 6, 6, 14, 35, 6, 6.

CHILDHOOD BRUTALIZED.

The action of the Boston School Committee in voting to prohibit the practice of vivisection in the public schools is condemned as unnecessary in certain quarters, on the ground that vivisection has not been adopted here and is not likely to be adopted; but the friends of sound and wholesome education will be inclined to believe that the bar has been put up none too soon. In other large cities of this country teachers have taken it upon themselves to adopt vivisection for the purpose of instructing young pupils in the elements of anatomy and physiology; and where vivisection is not employed it is becoming the custom, far too often, to resort to the dissection of the bodies of dead animals for the same purpose.

There is such a thing as brutalizing the youthful mind. By dwelling upon the material aspects of life there is danger of crushing out that feeling of sympathy and wonder which is the bloom of childhood, and the source of all the multiform pleasures associated with the cultivation of the imaginative faculties.

A child naturally regards domestic animals with something like a sense of comradeship. The dog, the cat, the horse, are to the children playmates and friends. Stories of the devotion of these members of the lower order of creation to their human companions are numerous and authentic. And to children the charm of living pets is no doubt largely due to the fact that they are endowed with the mystery of life. In them the child personifies his own thoughts and emotions. He asks that the pet be treated as he is treated; he fancies that he understands its language; he is happy if his pet is happy, and sorrowful if his pet is hurt or ill-used. Take this same child, with all his fresh and ingenuous sympathies active, into the schoolroom, and confront him with a demonstration upon the body of a puppy or a kitten, and what is the result? One of two things. Either he is irreparably wounded in his sensibilities and shocked into such utter loathing that the lesson, as a means of acquiring facts, is valueless; or his curiosity hardens his heart, and from that time on the child is lost in the devotee of science. If the child is naturally cruel, his disposition to cruelty is increased many fold. It will be hard to make him understand that vivisection may not be practised outside of the schoolroom as well as in it, or that if his pet is merely a bundle of bones, muscles, and nerves, it is anything more than a mechanical toy, or deserving of any more considerate treatment.

It is well that children should be taught at an early age the fundamental principles of hygiene, but colored plates and charts will supply all the details of physiology or anatomy that they need to know, and scientific instruction in these branches may with every advantage be postponed till the finer qualities of the mind and the appreciation of moral obligations have attained a fair degree of development. There is no such sacred object in the world as the mind of a young and innocent child, and those who would debase and brutalize its activities will have much to answer for.

The truth is that the movement to introduce vivisection, or at least dissection, into the schools, is part of the mistaken tendency in educational circles to hold that education consists in the acquirement of facts. To learn facts, to learn more facts, to learn as many facts as possible, at the expense of ideality and originality of thought—this is the apparent aim of modern scholastic instruction. By and by the world will see its mistake and realize that the true education is a fostering of the essential faculties of the individual. Then school committees will not be obliged to vote that in schools under their supervision vivisection shall not be practised.—*Boston Beacon.*

BETTER to stem with heart and hand

The roaring tide of life than lie

Unmindful, on its flowery strand,

Of God's occasions drifting by.

—J. G. Whittier.

THE only joys that last are those we give.

—Ella Wheeler Wilcox.

A YOUNG man should fight on the right side, regardless of the size of the army.

—George Macdonald.

Primary Department.

FRACTIONS MADE PLEASANT.

RHODA LEE.

Calling, the other day, on a friend who I knew took a very great interest in the education of her children, I inquired how Dora, a bright little girl of seven, was liking the new school. She had attended a private school for a short time, and, as it was not satisfactory, had been recently sent to the Public School. I was not surprised, but was none the less pleased, to hear how perfectly satisfactory the teaching of the Public School was. "Dora is delighted with school now," her mother said; "talks incessantly about her teacher, and, judging from the account she gives of her lessons, I would say Miss M——'s methods were decidedly good. But what pleases me most," she continued, "is the fact that the children seem so happy at school. To-day she came home in great glee over a lesson Miss M—— had given them." She had taken them up to her table, eight at a time, and brought out from her cupboard a large red apple—one of a barrel sent from her home in the country. This she had cut into *halves*, *quarters*, and finally *eighths*.

Dora had been able to tell what she had learned. When Miss M—— cut it into *two* parts, each was a *half*; when she cut each half again, there were *four* pieces, and these were *quarters*; when she divided the quarters there were *eight* pieces, and each was an *eighth*. Those who had clean hands put the pieces together again; two *eighths* made a *quarter*; two *quarters* made a *half*; and two *halves* made the *whole apple*. After they talked about it a little longer the eight pieces were put on the ledge until recess, and, joy of all joys, they were each given a piece of teacher's apple to take to the yard.

As I know something of Miss M——, and her methods of making things interesting—not easy; there is no merit in making things so easy that a child never has to make an effort—I could readily picture to myself the interest that Dora and all the other little people would take in a lesson of this sort.

After a while I saw the little girl who had given such a good account of her lesson. "By the way, Dora," I said, "are all the boys and girls good in your class at school?" "They generally are," she said; "nobody likes to be bad, Miss—— is so nice."

The rule of love made that child speak so of her teacher, and I happen to know that her opinion is voiced by the majority of her class. These are facts that I am writing.

There are scores of teachers whose pupils speak thus of them. Would there were none otherwise! Kindness, tempered with firmness, and a heart in touch with child life, are the requisites to a happy, cheerful atmosphere in the school-room.

SUGGESTION.

RHODA LEE.

I. WRITTEN ANSWERS.

A written answer is always preferable to an oral, except when there is no possibility of a difference of opinion. There can be no development or growth without independence of thought, and only in written answers can we be sure that every child is thinking for and depending upon himself. In oral answering, the timid, backward, and indifferent pupils are quite content to let the "leaders" do the answering, and gradually get into the habit of waiting for their answers before venturing one of their own. The ideal school exercise is one in which each pupil sees, hears, and thinks, for himself. Of course, we cannot always take time to have answers written, but, when possible, let it be done, and so be assured that every child is relying upon his own thinking powers, and not on those of others.

II. WORD DRILL.

In addition to the blackboard teaching of new words in the book lesson, it is often desirable and necessary that a thorough drill on the words be given, to insure automatic recognition. There are several ways in which I am accustomed to conduct this drill. If on the blackboard, the curtain comes into use. (a) I write two words behind the curtain, draw it aside for a moment, cover again, and ask for the words. Or (b) write four or six words on the blackboard, drill on these for a few minutes, then draw the curtain and erase one. Remove the curtain and ask the children to tell which word is missing. Doing this with all the words, in turn, impresses them very satisfactorily.

(c) The children and I read the words of the lesson alternately:

Teacher, *Fred*
Class, *and*
Teacher, *Will*
Class, *are*
Teacher, *going*
Class, *to*
Teacher, *the pond*.

(d) Boys and girls read words alternately.

(e) Each row of girls or boys, in turn, read a word.

(f) We begin at the end of a paragraph and read the words backwards. The recognition of the words must be automatic before a child is permitted to read a lesson aloud. There must be no stumbling over words to interfere with thought-getting, without which there can be no right expression.

III. ACCURATE COPYING.

Writing a part of the reading lesson with the utmost care regarding capitals, punctuation marks, paragraphs, etc., is an excellent exercise. A little done well is of infinitely more value than the whole lesson done "after a fashion." Occasionally vary the exercise by having the words written in columns: (a) Arranged alphabetically, according to initial letter:

and, both, coat, day,
are, bends, down,
as, boys, does,
a, but, etc.
aunt. [Second Primer, Lesson I.]

(b) According to the number of syllables. (This exercise is more suitable for older pupils):

one, forenoon,
gave, Ellen's,
her, mamma,
note, Fanny.
that,
had,
come,
from.

[Lesson XXV.]

IV. PHYSICAL TRAINING.

I earnestly hope no primary teacher, in the rush of work, neglects the physical needs of her children. The sacrifice of the physical to the mental is a sad mistake. Children cannot, should not be asked to, sit still any longer than twenty minutes at the outside. They should have a change of position and occupation at the end of that time, if not before. Time is not wasted, and much benefit is derived from five minutes spent in a cheery song, a brisk march, or suitable calisthenic exercises. Do not make a toil of it, but bear in mind that it is to be a relaxation. Take care of the ventilation; teach your children, if they do not already know, how to breathe properly, stand aright, and care for their health generally.

PHYSICAL EXERCISE.

POSITION.—Stand erect; eyes steadily in front; shoulders thrown back, arms hanging by side with fingers closed; feet in front, heels four inches apart, and toes turned out, forming an angle of 45°.

1. Right hand thrown to chest, and back to position, *four times*.

2. Left hand same as right in No. 1.

3. Both hands same as right in No. 1.

(a) Both hands upon chest, fingers closed.

4. Right hand thrown horizontally to front, and back to chest, *four times*.

5. Left hand same as right in No. 4.

6. Both hands same as right in No. 4.

7. Right hand thrown horizontally to right, and back to chest, *four times*.

8. Left hand thrown horizontally to left, and back to chest, *four times*.

9. Both hands, combining Nos. 7 and 8.

10. Right hand thrown upward perpendicularly, and back to chest, *four times*.

11. Left hand same as right in No. 10.

12. Both hands same as right in No. 10.

(b) Position with arms at sides, fingers closed.

13. Right hand upon chest, thrown horizontally to front, back to chest, and then to position, *four times*.

14. Left hand same as right in No. 13.

15. Both hands same as right in No. 13.

16. Right hand upon chest, thrown horizontally to right, back to chest, and then to position, *four times*.

17. Left hand upon chest, thrown horizontally to left, back to chest, and then to position, *four times*.

18. Both hands, combining Nos. 16 and 17.

19. Right hand upon chest, thrown perpendicularly upward, back to chest, and then to position, *four times*.

20. Left hand same as right in No. 19.

21. Both hands same as right in No. 19.

22. Arms akimbo.

23. Hands in the usual place when class is in order.—*Smart's Manual of Gymnastics*.

DESK-WORK : TABLET-LAYING.

If, earnest primary teacher, you would like a form of busy work that is educative, absorbing, and delightfully quiet, try tablet-laying.

If you are unfamiliar with it, please give it this test before deciding that it is not available.

From light cardboard or Bristol board, cut twenty oblongs, each one inch long by one-half inch wide. Cut ten of the oblongs in halves, making twenty squares one-half inch on a side. Cut ten of the squares in halves diagonally, making twenty triangles. These will be sufficient to experiment with, though each pupil should have twice or thrice as many for his desk-work.

Fancy yourself a child and arrange the tablets you have cut into pleasing designs. You will be surprised at your own interest in the work.

If you need further convincing, let two children vie with each other in forming designs, and note their concentration. Then we are sure you will want tablets for your pupils.

If you have great patience, you yourself can cut enough for your school. Then you will need only Bristol board, scissors and time! But, if you find the cutting too great a task, almost any printing office will cut them for a trifle. Probably the most satisfactory way is to purchase them already cut from the Ad. Builder Co., Bullitt and Main streets, Louisville. This company furnishes oblongs by the thousand for a small sum. The teacher can cut part into squares and triangles, or, if she prefers, can purchase these forms also, at slightly increased expense. The work is most attractive when two or three harmonious colors are used.—*Indiana School Journal*.

Correspondence

CERTIFICATES AND SALARIES.

To the Editor of THE EDUCATIONAL JOURNAL :

SIR,—I have quite often noticed letters in your columns bearing on the subject of teachers' qualifications, and, as a rule, the writers have not taken very commendable ground. We all agree that education is a good thing, but are we not putting a premium on instruction rather by the raised (?) standard? It was a favorite expression of Mr. S. B. Sinclair, at Hamilton Model School, that "it is much more important what a child grows to be, than what it grows to know." I'm not fretting about the present teachers' movements regarding changes designed to raise the salaries. It's all bosh to say that a man who intends to stick to the profession is a better teacher than one who does not. Many a young man and young woman has

given his or her best years to the teacher's work, and then given it up to become a foreign missionary. Taking it for granted that the life of such has been what it should be, it will bear ten times more influence in true education than the whole life of one who has mastered all the Greek, Latin, etc., in the universe, and whose wares are of such poor value he needs must seek legislation to find a market for them. A beloved teacher suffering in China, leads out the heart, the mind, and the soul. Why be one sided?

"The rank is but the guinea's stamp,
The man's the gold for a' that."

The guinea can show itself as readily in high-fangled teachers' certificates as anywhere else. It is just as great an error.

"JACK STARLING."

Nassagaweya, Ont.

THE UNIVERSITY QUESTION, AGAIN.

To the Editor of the EDUCATIONAL JOURNAL :

SIR,—Would you kindly grant me the privilege of replying in your columns to some points raised in your article of November 1st in reply to my letter of October 26th?

It appears that you interpreted a remark in my letter as a sneer at the Western University. I can assure you that I had no intention of speaking disparagingly of the youngest sister in our university family, and I think you were unfortunate in your choice of words when you so characterized my remark. I have nothing but the kindest feelings towards the Western University. I am personally acquainted with some of its staff, have had correspondence with one of them regarding the conduct of his work, and sincerely hope that success in a large measure will crown all the efforts of the institution. If any body has been unkind to the Western University it is THE EDUCATIONAL JOURNAL, which, in the first article, placed on its young shoulders the heavy responsibility of being a model to institutions older, richer, and stronger than itself.

Regarding the character of the work done in the University of Toronto, I must reiterate what I said before, that we in our undergraduate courses do a good deal of work which in many American institutions is done in the graduate courses—a point of the highest importance in this discussion. Not only so, but we have several graduate students pursuing courses in our laboratories and lecture-rooms, and we have accommodation and facilities for more in several departments. I am not at all prepared to admit that we cannot "in any way bear comparison" with American institutions in this respect. On the contrary, I believe that our equipment will compare favorably with that of more than one university in America offering instruction in graduate study. It is good to have the thing, even if you do not have the name.

As to the persons responsible for the inadequate endowment of the university, you say the blame must be put, if anybody is at fault, on governors, professors, or students, who have failed to evoke affection and liberality in the friends of the University. But this does not appear absolutely certain. It is, surely, not unknown to you that there are few, if any, colleges and universities in this country which do not complain of lack of funds, and most of these are closely connected with denominational bodies, and so have a strong sentiment to appeal to in their supporters which does not exist in the case of the University of Toronto. Are we to assume that all these colleges have been remiss in their duty? Is it for this cause that they have so small a hold on the loyalty or affection of their constituents that they cannot get money enough to do their work as they would like? Rather than charge an unfortunate condition of affairs, common to all the universities, upon the universities themselves, which have during our whole history met fairly well the demands of the country upon them, would it not be fairer to say that this is a poor country as yet, and that those who happen to have money do not always value education as highly as they ought?

In connection with the matter of the unprogressive character of State universities in general, I am still patiently waiting for the historical facts which you say are not far to seek. Until they are brought forward, I shall content myself with believing what I stated was my belief in my former letter.

Respecting the unprogressive character of the University of Toronto, in particular, I am glad to know that, in your opinion, it is a matter of past history. But I hope you will pardon me if I say that I doubt very much whether you can establish that even in "past history" the University of Toronto was behind the others in efficiency and progress. I know something of the history of the "Parliamentary inquiries" to which you refer, and have just been looking into some papers connected with those of thirty-five years ago, from which it appears that one of the charges made against the University of Toronto by her enemies of that period was that she was *too* progressive. It was charged, for instance, that too many courses were offered to undergraduates, and that professors in History and English Literature, in Modern Languages and the like, should be dispensed with. Does that look as if the University's windows had to be battered in by kindly outsiders to let in the light? No, whatever opening of windows there was, came from the inside, and so, I firmly believe, it will ever be.

J. SQUAIR.

University College, Nov. 11th, 1895.

School-Room Methods

THE ARITHMETIC CLASS.

BY M. L. WATKINS.

I had a class put into my hands last fall, as usual, that had been taught, supposedly, all about fractions. It was for me to teach them percentage, and to do it in quite a short time. I am one that believes in doing mental cultivation in teaching every study, and especially in teaching arithmetic. I find I am hampered by the want of a solid foundation in each class as it comes into my room; I mean by this that they have no power of clear thinking.

I am obliged to spend a month in getting them to understand fractions, the last subject they studied. I put on the board $\frac{3}{4} \times \frac{2}{5}$, and ask what it means. They tell me it means multiply. I say "What problem does this represent?"

This is a "poser" to them. I lay down 48 splints on the table, and say, "Represent the problem."

The class consists of bright boys, and they know a good deal, but their teacher has taught them to operate on figures—they know nothing of numbers. I, you see, offer them numbers.

Well, we spend some time talking, I refusing to tell. I put the figures on the blackboard, and they look at them. I have done this for several years, and sometimes it is several days before they work it out, sometimes an hour. Meanwhile, we go on to something else.

Usually, one boy will offer this: he portions out 48 into 8 parts—6 splints in a part—and lays aside 7 parts; this makes 42. Then he mixes up the splints in the 7 parts and divides them into 3 parts, and puts aside 2 parts—28.

"Tell me, in this case of 48 splints, what is meant by $\frac{3}{4} \times \frac{2}{5}$?"

"It means 28."

"What is the sign?"

"It is of multiplication."

"And have you multiplied? That is, is 28 a larger number than 48?"

This leads to further study, and they conclude that the sign \times should be *of*. I merely ask questions, do not tell. They conclude that the problem $\frac{3}{4} \times \frac{2}{5}$ is really $\frac{3}{4}$ of $\frac{2}{5}$ of 1; in figures, in the case I gave them, it is $\frac{3}{4}$ of $\frac{2}{5}$ of 48 splints.

We work over this until they obtain the idea that every expression in figures may be represented in objects.

I give out this: "Seven birds sat on a fence; one-half flew away; how many were left?" They will say $3\frac{1}{2}$. They are working in figures, not numbers. They will soon learn to say, "That cannot be; the problem is impossible."

The aim of my work is to set them to *thinking*—they come to me with some facility with figures, but with little power to think concerning numbers. The questions above are but a small part of those I ask; I do not propose puzzles exactly, but questions they must think to reply to. I want to make them as active mentally in the arithmetic class as they will be afterwards physically in playing baseball.

There is such a thing as considerable celerity in manipulating figures and very little understanding of numbers. One boy brought in this problem he had worked in the preceding class, $\frac{12}{25} \times \frac{3}{4}$ and, by changing and cancelling, produced $\frac{3}{5}$; it was a piece of jugglery with figures. I believe pupils must understand what they do; such a feat as the above gives no power of thought. I gain a great deal by keeping the idea of the baseball game before me as a model for class work. In that they understand what they are about.

Many questions are proposed to young pupils in arithmetic that they ought not to waste time over; these should be delayed until they reach the high school. It is far better that boys and girls study natural history or physics and acquire mental power, than to work out problems that demand sleight-of-hand merely. I do not like to see a bright boy puzzling out things in arithmetic. All the best authorities say that arithmetic and geometry should demonstrate themselves. "A boy had 4 apples and bought 4 more, how many had he?" This is a case of *seeing*—the pupil sees that the boy has 4 and 4, and when he knows what 4 and 4 are, he sees that he had 8.

The best teachers endeavor to give a pupil power to see through a problem. They begin by practising him to see through two steps, then three, and so on. There must be a good deal of practice—as in the baseball game.

In reviewing in fractions I have a large card, and put on $\frac{1}{2}$; then call numbers, as 12, 28, etc. In order to save time they put down 10 answers, and these are compared; then 10 more, and so on. Then $\frac{1}{3}$ is put on the card, and 10 numbers called—this is done rapidly; then $\frac{2}{3}$, and so on.

Then $\frac{1}{2}$ of 12 is $\frac{1}{2}$ of what? Ten of these. $\frac{1}{3}$ of 12 is $\frac{1}{3}$ of what? Ten of these.

I have had 500 such questions answered in twenty minutes.

$\frac{1}{2}$ is a half of what? Ten of these.
 $\frac{2}{3}$ is a third of what? Ten of these.

This gives celerity with figures, and this is necessary; but working out these with numbers is also necessary until they see there is a reality.

I take 48 splints and show 6, and then 24, and ask for a problem; $\frac{1}{3}$ of 48 is contained how many times in 24? Or 24 is how many times $\frac{1}{3}$ of 48?

My conclusion is that the reason so many boys fail in arithmetic is, that they are dealing with nebulous materials instead of real materials; with figures instead of numbers.

It must be constantly borne in mind in the elementary classes that there is a distinct difference between numbers and figures; the latter are the arbitrary symbols that represent numbers. To learn to use figures is really a language lesson; to make the pupil learn the language before he knows numbers will certainly destroy that innate love for knowledge that is a priceless gift from the Creator.—*The School Journal.*

THE RIVERS OF CANADA.

BY MISS M. A. WATT.

Our lesson-chart said "Rivers of Canada." I had sketched an outline of Canada on the board (though we had a large putty-map, five feet by four feet, made by pupils under my directions, I wanted something clear and sketchy); on the map I marked Hudson and James Bays; the Rockies; the St. Lawrence and its lakes; the Great Bear and Great Slave Lakes, with the Mackenzie running out of them into the Arctic Ocean; the Winnipeg Lake, with the Saskatchewan, Assiniboine, and Red Rivers running in, and the Severn and Nelson out into Hudson Bay and the Fraser River. I had noticed that my class had very misty ideas about the direction of rivers and the slope of land, thinking, in spite of teaching, that north was *up*, and that the St. Lawrence emptied its waters into Lake Ontario, as "water naturally runs down."

"This, then," thought I, "must be the first part of our lesson; the rivers and their names must come afterwards."

I had a bottle of water, a large sheet of blotting-paper to keep things neat, a cup, a slate or two, a trough of boards placed at an angle of 120°, and I met my class with good courage. I should have liked to have had a sprinkler to illustrate better the rainfall, but our can had lost its rose.

"Now, boys and girls, I want to teach you a very useful lesson, and I shall be pleased if you can find out for yourselves what it is. I think you are all clever enough, if you watch me closely."

I held a slate in my right hand, level, and poured water on it. It spread all over the slate. I laid it carefully down. I took a second slate and held it slantingly, and poured on water. The water ran downward, spreading somewhat.

"What did you notice about the first slate?" "What about the second?" (The first level, the second slanting.)

"What did you notice about the water on the first slate?" "What about the second?" (Water spread all over first, ran down second.) "Why this difference?" (Difference in way of holding slates.)

I then took the trough and poured water into it, from sides and end, first holding the trough pretty level, then giving it more and more of a slant.

Again, I took the slate and poured water on it, and tried to get the stream into narrow compass enough to pour into the mouth of a pickle bottle held below it. But the stream was broad, quite different from that in the trough.

"Which makes the better stream, the slanted slate or the trough?" (The trough.) "Why?" (The trough has its sides slanted, and itself is slanted as well.) (Three slants better than one.)

So far all was well, but the link between the trough and the rivers of Canada had to be forged. I wished that there might have been rain that day, but there was none.

I took the bottle, and, approaching the edge of the platform, I said, looking as if I were about to suit the action to the word:

"If I were to pour this water on the floor, and you saw it running in a stream to that corner, what would you learn about the floor?" (That the floor sloped or slanted in that direction.)

"Well, I shall not pour it on this time, but you can try it, if you like, in the yard. And, when it rains, you can easily learn where the slopes are in the road. If I tell you this line on the board is to represent a stream of water, and that it runs from A to B, which is higher, A or B?" (A is higher.) "Why does the water run from A to B?" (Because A is higher, and water naturally runs downwards.)

I drew aside the curtain from my sketch, and pointed to the Mackenzie (because it was the one most likely to be mistaken, as *up* on the map). Almost at once I came face to face with a difficulty. I had neglected to give the point that would lead them to know the probable beginning in the event of a stream ending and beginning in large bodies of water, as the Mackenzie does.

"Which way does the Mackenzie run?" A division ensued; some thought into the Arctic, some considered the Great Slave Lake more likely to be its outlet.

I briefly reviewed north, south, east, and west, found that north was not *up* and south was not *down*; then the questions were asked:

"Which is larger, the Arctic Ocean or the Great Slave Lake? Then which is more likely to be in the larger and deeper hole in the ground? Which is likely, then, to be lower, and to have the Mackenzie flowing into it?"

So the Mackenzie was marked with an arrow pointing northwest, to the Arctic Ocean.

The Fraser had its arrow fixed; the St. Lawrence was discussed, reference made to a sketch (taken from the High School Geography) on the side blackboard, of "From Lake Superior to the Falls of Montmorenci," and an arrow pointing northeast indicated its course, towards the Gulf of St. Lawrence. The central drainage system was especially interesting. From the falling of rain on the Rockies to the mighty tides of the Saskatchewan and Assiniboine, as they flow into Lake Winnipeg at north and south ends respectively, to be carried on to the Hudson Bay by the Nelson and its companions at last. Incidentally the pupils used the names of the rivers, they drew on their slates, pointed to the putty map, and I drew other unnamed rivers to show the drainages into the Hudson Bay, the James Bay, and St. Lawrence River.

Questions were asked by pupils. Near the end of the lesson, after a serious moment of deep consideration, a grave and important question, indeed, was asked by a young philosopher. He noticed that the rivers emptied into large bodies of water, and with puzzled brow he inquired:

"How is it they all end in big bodies of water? They all do on the map."

Though amused, I did not show my amusement, but said:

"We have about five minutes left, and any one who can answer Robbie's question may come up and whisper his answer in my ear as I sit at the desk."

Many and ingenious were the answers, some wide of the mark, others gropingly near, befogged with words, but the germs of thought were there, and I felt that the lesson had not been a failure.

We have since then examined the rivers and their origin, the rivers and their slopes, the rivers and their outlets, and the country drainage by them, as well as the character of the streams, whether rapid and full of falls, or broad, slow, and placid. Their suitability for navigation was touched upon. In the meantime the names and positions of the rivers have impressed themselves deeply, without any dry memorizing to disgust the pupils.

WORD MEANINGS.

What wonderful new meanings sometimes rise
In words grown old in memory! We throw
The worn small coins of talk, and scarcely know
Through the dust of use the thought that in them
lies.

These are for common handling. What we prize,
The golden guineas made our own by slow
And deep experience, not so lightly flow
Into the world's great coffers. When one dies
The name we know him by becomes so dear
We henceforth hoard it. So the holy thought
Of love we hold too precious and too high,
To jingle for the passer-by to hear;
And with a hush the laboring mind is brought
To that Great Name whose echo fills the sky.
—Curtis May.

SUGGESTIONS FOR GOVERNMENT.

1. In making or enforcing rules look back to your own childhood; recall your own experiences, your impulses. Put yourself in the place of the child to be governed, then act.

2. Regard all pupils as trustworthy until you find them otherwise. Children rarely forgive a teacher who suspects them of wrong when they are innocent.

3. Encourage them to be truthful by remitting penalties as far as possible when they make a full and free confession.

4. Common sense and the ability to judge the guilt or innocence of a pupil is a requisite in successful government.

5. Allow pupils the largest liberty consistent with their welfare and the welfare of the school, and when restrictions are placed on them explain the necessity for such restriction.

6. Do not attempt to compel pupils to inform on one another under threats of punishment. Rather let your own tact govern you in the detection of an offence.

7. Explain to your pupils the necessity of proper deportment and prompt obedience.

8. Do your own governing as far as possible; it weakens your authority to call upon the Superintendent or the members of the School Board for assistance.

9. Give no unnecessary commands.

10. Make only such rules as you are willing to enforce.—*Raub's School Management.*

It is a very bad symptom in a school when a considerable number of the pupils are ever ready to manifest their pleasure at the success of mischief and wrong. I was once present at an interview between the lady principal of a high school and a young man, one of her pupils. The young man said to her rather petulantly: "I'd like to know what you have against me. I haven't been doing anything." The teacher replied: "I can tell you very quickly what I have against you. You are always on the side of wrong. You show that you are pleased when any disorder occurs, or when anything wrong is done in the school. I want to find you on the other side." The young man stood convicted; the teacher had made her case.—*Samuel Findlay.*

Book Notices.

POPULAR READINGS IN SCIENCE. Gall and Robertson. A. Constable & Co., publishers, Westminster. Price, 4s. Pp. 467. Illustrated.

In this volume the latest results of modern scientific enquiry in various fields are presented in narrative form. It is for general readers, who have not the time to spend in acquiring the methods or principles of scientific research. Chemistry, Biology, and Physics are the sciences which form the basis of the work.

HIGH SCHOOL PHYSICAL SCIENCE, PART I. Copp, Clark Co., Toronto, Publishers. Price, 50c.

The authors of this little book are Canadian teachers of long and successful experience. It was confidently expected, therefore, that their production would merit its authorization by the Department; and this it appears to have received very early in its preparation. In the absence of a preface, the publishers' accompanying note may be taken as an indication of the aim and scope of the book. This is to meet the requirements of the new curriculum in science for primary and junior matriculation candidates. A comparison of the curriculum with the text-book shows that the work prescribed is fairly well covered. Where the book fails to do so is probably the fault of the curriculum rather than of the authors. The last eleven chapters are exceedingly good, and reveal the wide experience of those concerned in their preparation.

A WORKING MANUAL OF AMERICAN HISTORY. For teachers and students. By William H. Mace, Professor of History in Syracuse University. C. W. Bardeen, Publisher, Syracuse, N.Y.

As the title implies, this is a book containing a topical arrangement of the leading facts in the history of the United States. The chief criticism a glance through the book suggests is that the outline is altogether too bare, though the arrangement of topics and sub-topics is good. Appended to the work are some reprints of interesting historical documents, which must add greatly to the value of such a work. The book will undoubtedly be of great service to teachers and to students who are pursuing their studies unassisted by a teacher, though, like all books of this class, the use should not be allowed to become abuse. As with a translation of a Latin or Greek author, it may be advantageously consulted after the student has made his own independent efforts and researches, never before.

THINKING, FEELING, DOING. E. W. Scripture, Ph.D., Director of the Yale Psychological Laboratory, Chautauqua. Century Press, Meadville, Penn.

This is an exceedingly bright, crisp, readable book, written from the standpoint of the New Psychology, which, leaving to the older introspective psychology the deeper problem of the ultimate nature of mind, seeks to classify and measure quantitatively the various modes of mental activity by the experimental methods of the physicist.

It contains a full, clear, very interesting account of the various methods devised for measuring the delicacy and rapidity of thought and sensation (reaction-times), steadiness of muscular control, etc. These same devices could be used to immense advantage in training the mind to quickness and accuracy of perception, closeness of attention, and consequent strength of memory, and clearness of thought.

The author is not afraid to brighten his chapters with touches of humor here and there, and by no means lacks the assurance of faith in himself and his subject, which also seems to enliven the text.

The illustrations are many and excellent. It is probably the best elementary book on the subject accessible to the general reader.

TRANSLATIONS AND REPRINTS FROM THE ORIGINAL SOURCES OF EUROPEAN HISTORY. Vol. II. No. 4. Monastic Tales of the Thirteenth Century. Edited by Dana Carleton Munro, M.A., and published by the Department of History of the University of Pennsylvania, Philadelphia. Price, 10 cents.

This number of the valuable reprints and translations of hitherto almost inaccessible (for most of us) historical matter which the University of Pennsylvania is publishing is of more than usual interest. It consists of (1) Tales of the Virgin, (2) Tales of the Devil, (3) Tales of Relics, (4) Tales of Confession, and (5) Tales of the Host. The stories are reprinted in modern English, but otherwise unchanged from the form in which the original storytellers left them. The credulity and superstition of the middle ages are brought home very forcibly by these simple tales of what the writers, evidently in all faith, took to be genuine miracles, but whose monstrous absurdity only provokes a passing smile from a nineteenth century reader. The Tales of the Devil are the most entertaining of the series. Some of them are not without a wholesome moral. For example, one of them tells of a man who once, wickedly, but thoughtlessly, told his wife to "go to the devil!" and who was very properly punished by being taken at his word by his Mephistophelian Majesty, who immediately took possession of the woman, entering, as the narrative quaintly and seriously tells, through her ear. All the efforts of priests to eject the intruder were of no avail, and he was rude enough to interrupt church services by horrible roars. As if the least bit afraid the story was a little remarkable, the narrator concludes with, "Moreover that woman was from the Province of Aachen and very well known." Surely masculine profanity must have been no more heard of in that Province of Aachen.

Literary Notes.

The complete novel in the November issue of *Lippincott's*, "In Sight of the Goddess," by Harriet Riddle Davis, deals with life at the Capital. The principal characters are a member of the cabinet, his daughter, and his private secretary, who might also be called society manager for the family; the action is chiefly between the two last. The tale is written with abundant local knowledge and striking ability. Marjorie Richardson's "A Romance in Late Fall" is that of an elderly spinster, whose belated affections were amusingly yet pathetically misplaced. "The Strike at Colchester," by T. B. Exeter, was a strike of women against domestic duties, and speedily came to grief. Geraldine Meyrick sets forth the lofty loneliness of the vocation of "A Poet." "A Brush with Kiowas" describes one of William Thomson's western adventures, which occurred on the Arkansas River in 1856. David Bruce Fitzgerald gives his experience "With the Oyster Police" on the Chesapeake. Owen Hall describes a "Dead City of Ceylon." Dr. A. L. Benedict writes lucidly and most sensibly on "Medical Education and the Education of Medical Men." Charles H. Cochrane, author of "The Wonders of Modern Mechanism," shows how "A

Hundred and Twenty Miles an Hour" may be covered by electricity. "The Pet Meanness"—a diseased form of economy, varying with the patient—is exposed by Francis Courtenay Baylor. Under the heading, "Our Fullest Throat of Song," William Cranston Lawton writes of J. R. Lowell with warm appreciation. The poetry of the number is by Carrie Blake Morgan, Grace F. Pennypacker, and Frederick Peterson.

A series of papers on the "Principles of Taxation," by Hon. David A. Wells, is begun in the November *Popular Science Monthly*. Being based on the wide study which Mr. Wells has given to this subject and his experience as chairman of the United States Revenue Commission of 1865-'66, Special Commissioner of Revenue, later as chairman of a commission for revising the tax laws of the State of New York, and in other like positions, this series promises to be the most important contribution to the solution of pressing financial problems that has appeared in many years.

Economic and scientific questions of great moment are treated in the *Popular Science Monthly* for November. Hon. David A. Wells furnishes the introductory article of a series on "Principles of Taxation." "The Past and Future of Gold" is discussed by Charles S. Ashley. Dr. A. L. Benedict writes on "Consumption considered as a Contagious Disease." Herbert Spencer traces the evolution of "Judge and Lawyer." An English author, H. P. Fitzgerald Marriott, contributes an illustrated article on "Primitive Skeletons, the Flood, and the Glacial Period," in which he describes three prehistoric skeletons recently found at Mentoné. Professor Mary R. Smith, of Stanford University, discusses "Recent Tendencies in the Education of Women." This number contains also the address of Dr. Daniel G. Brinton before the American Association on "The Aims of Anthropology," the conclusion of Professor E. P. Evans' essay on the "Recent Recrudescence of Superstition," and the twelfth of Professor James Sully's "Studies of Childhood," dealing with disobedience. The new volume is marked also by several changes in the style of the magazine. The name of the great publishing house which has always been the proprietor of the *Monthly* now appears in its title, and a new name and new form have been given to two of the editorial departments. New York: D. Appleton & Company. Fifty cents a number, \$5 a year.

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OFFICIAL CALENDAR

OF THE

Educational Department.

November:

- 30. Last day for appointment of School Auditors by Public and Separate School Trustees. [P.S. Act, sec. 37 (1); S. S. Act, sec. 28 (5).] (On or before 1st December.)
- Municipal Clerk to transmit to County Inspector statement showing whether or not any county rate for Public School purposes has been placed upon Collector's roll against any Separate School Supporter. [P.S. Act, sec. 113; S.S. Act, sec. 50.] (Not later than 1st December.)

December:

- 9. County Model Schools Examinations begin (During the last week of the session.)
- 30. Special Examinations for Candidates, who are exempt from attendance at Provincial School of Pedagogy.
- Returning Officers named by resolution of Public School Board. [P. S. Act, sec. 102 (2).] (Before 2nd Wednesday in December.)
- Practical Examinations at Provincial Normal Schools begin. (Subject to appointment.)
- Last day for Public and Separate School Trustees to fix places for nomination of Trustees. [P. S. Act, sec. 102 (2); S. S. Act, sec. 37 (5).] (Before 2nd Wednesday in December.)
- 14. County Treasurer to pay Township Treasurer rates collected in Township. [P. S. Act, sec. 122 (3).] (On or before 14th December.)
- Local assessment to be paid Separate School Trustees. [S. S. Act, sec. 55.] (Not later than 14th December.)
- Municipal Council to pay Secretary-Treasurer Public School Boards all sums levied and collected in township. [P. S. Act, sec. 118.] (On or before 15th December.)
- County Councils to pay Treasurer High Schools. [H. S. Act, sec. 30.] (On or before 15th December.)
- High School Treasurer to receive all moneys due and raised under High Schools Act. [H.S. Act, sec. 36 (1).] (On or before 15th December.)
- 18. Written Examinations at Provincial Normal Schools begin. (Subject to appointment.)
- 19. Last day for notice of formation of new school sections to be posted by Township Clerk. [P.S. Act, sec. 29.] (6 days before last Wednesday in December.)
- Provincial Normal Schools close (Second session.) (Subject to appointment.)
- 22. High Schools first term, and Public and Separate Schools close. [H. S. Act, sec. 42; P. S. Act, sec. 173 (1) (2); S. S. Act, sec. 79 (1).] High and Public Schools end 22nd December; Roman Catholic Separate Schools end 23rd December.

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