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The Canada School Journal.

AND WEEKLY REVIEW.

Vol. X.

TORONTO, APRIL 16, 1885.

No. 15.

Table of Contents.

| | PAGE |
|--|------------|
| EDITORIAL :— | |
| The World..... | 169 |
| The School..... | 169 |
| Class Legislation..... | 170 |
| Specialized Colleges..... | 170 |
| Ladies' Colleges and Government Book-Making..... | 171 |
| SPECIAL ARTICLES :— | |
| The Four School Arts..... | 172 |
| Literary Culture among Teachers..... | 172 |
| EXAMINATION QUESTIONS..... | 173 |
| A Proof..... | 173 |
| Prize Competition..... | 174 |
| PRACTICAL DEPARTMENT — | |
| Language-Story Lessons..... | 175 |
| Primary Drawing..... | 175 |
| Entrance Literature..... | 176 |
| Physiology in Brief..... | 177 |
| EDUCATIONAL NOTES AND NEWS..... | 177 |
| LITERARY CHIT-CHAT..... | 178 |
| ART AND MUSIC..... | 178 |
| CORRESPONDENCE..... | 178 |
| MISCELLANEOUS..... | 179 |
| QUESTION DRAWER..... | 180 |
| LITERARY REVIEW..... | 180 |

The Canada School Journal and Weekly Review.

Edited by J. E. WELLS, M.A.
and a staff of competent Provincial editors.

An Educational Journal devoted to the advancement of Literature, Science, and the teaching profession in Canada.

—o—TERMS.—o—

THE SUBSCRIPTION price for THE CANADA SCHOOL JOURNAL is \$2.0 per annum, strictly in advance.

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CANADA SCHOOL JOURNAL PUB. CO. (Limited)
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The World.

Gen. Grant, lying at the door of death and receiving a kind, almost affectionate message from Jefferson Davis, is a picture combining much of the instructive with the pathetic. It symbolizes the drawing together of the North and South to join hands across the bloody chasm; and it speaks eloquently of the irresistible might of the conqueror of conquerors. The patient equanimity with which the dying hero is enduring pain and awaiting the call has done much to obliterate the memory of his mistakes, and to draw to him the sympathies of friends and enemies alike.

The situation in the Northwest grows darker. To the fatalities in the Duck Lake skirmish and the massacre in the Battleford district has been added another massacre of some ten or twelve persons near Frog Lake away to the north of Fort Pitt. The troops are pushing forward as rapidly as possible under

the circumstances, and will soon be closing with the hostile bands if the latter stay to meet them. We are still not without hope that a parley may be held with the half-breed leaders and a solution of the trouble reached without further bloodshed. Every reasonable facility should be afforded for such a settlement. The policy of no parley with rebels, which some are advocating, is to be deprecated. It is not as if these were rebels without a cause. Riel's manifesto is worthy of being carefully considered. The distinction between a rebel and a patriot is often exceedingly fine. There seems reason to believe that the conflict at Duck Lake was not sought by the half-breeds, but may have been brought on by the too great impetuosity of Col. Crozier.

At the date of this writing war between Russia and Great Britain seems inevitable. The defeat of the Afghans with heavy loss by the Russian force under Komaroff has pretty effectually destroyed any faint hopes of a peaceful settlement that previously existed. That it was so intended is by no means improbable, though the question as to which was the actual aggressor will very likely have to be left for future history to settle. A struggle between these two great powers is fraught with the gravest possibilities for each, but especially for England, since defeat on the borders of Afghanistan could scarcely mean less than the break up of her great Indian Empire, and might possibly mean a good deal more. To Russia the consequences might perhaps be less serious, though they would be very likely to involve national bankruptcy, and possibly revolution. But once fairly committed to the war, Great Britain is scarcely likely to be the first to cry "enough!" Her immense resources would enable her to stand the strain till Russia's little credit was utterly exhausted, while recent events in the Soudan show that her soldiery still possess that stubborn, indomitable courage that has triumphed on so many bloody fields, and prevented them for centuries from knowing when they were beaten.

The School.

Our appreciative readers will accept our thanks for the kind and encouraging words which are constantly cheering us.

An Ontario Inspector writes: "I shall certainly do my best for the JOURNAL in the interests of my teachers, for I do think a really live paper is the best aid a teacher can have."

A Lady Teacher in New Brunswick says:—"For at least seven years I have been a subscriber to the CANADA SCHOOL JOURNAL, either in my own name or that of a friend; and I find it very useful and would not like to do without it."

An Ontario teacher: "I am well satisfied with your paper."

An American Lady Teacher in the far West, says: "I like the CANADA SCHOOL JOURNAL very much. . . . find it both pleasant and profitable," and so on.

"It is an interesting question what will be the ultimate effect of education on working men as a class. There are many who even now depreciate universal education on the ground that while it is undoubtedly a blessing, its tendency is to make people in humble stations of life dissatisfied with their lot"—*N. Y. Tribune*.

Why "even now?" Surely the *Tribune* does not forget that there have not been wanting, ever since the doors of the public schools began to be thrown open to the masses, croakers, ready to whine about the danger of making the working people discontented with "the station in life assigned them by Providence." But the number of such fogies has been growing small by degrees and beautifully less, and is not at all likely to increase in the future. The intelligent, well educated working man ought to be, and we believe often is, one of the most contented people in existence, provided he gets enough of his earnings to procure him and his the necessities and comforts of a frugal life, and to open for him the channels to the higher sources of pleasure to be found in books. "Universal Education" may never make the labourer content to be deprived of a fair share of the fruits of his labour, and it would be no argument in its favour if it should do so.

As intimated last week we give in this issue the first of a series of some five or six story lessons from the "Quincy Methods." These will convey to our readers a clearer notion of the methods than any description. Whatever be its value, no teacher can afford to remain in ignorance of any book or system which may impart new and useful ideas in relation to the work of the profession. There is, doubtless, much sound philosophy and some sound philanthropy too, in the methods. To what extent the true in them is not new, or the new not true, we do not just now attempt to decide, though we may hereafter have something to say about the new education. We may add, for the advantage of all teachers who wish to know more of the subject, that Selby & Co., of this city have published a series of Kindergarten tracts for free distribution. Copies of these tracts, they request us to say, will be sent to any teacher or other person interested in the "New Education," who will send them his name and address. The address of the firm after May 1st, will be 28 Wellington street east.

The new Astronomical Observatory of the University of Virginia, which is to be opened this week, ought to be a well appointed one. Mr. William H. Vanderbilt, of New York, has given \$64,000 towards it; Mr. McCormick, of Chicago, \$25,000; and the Alumni of the University, \$50,000, besides we know not what other contributions. The Observatory is under the charge of Professor Ormond Stone.

The *Standard* takes the *Chicago Current* to task for using the word *bran-new* instead of *brand-new*. The *Current* defends itself on the ground that philologists have not been able to agree upon the literal significance of *brand-new*, and that no person can pronounce it during the time usually allotted to these two syllables in a running speech. It says further that to attempt to do so would be eccentric or pedantic. "*Bran-new*

appears in conspicuous types in Webster, Worcester, and Cassell's great dictionaries. In the Stormonth work, *bran-new* holds a place by itself, while *brand new* appears in the middle of a paragraph as a variation in the uses of the principal word "*brand*."

CLASS LEGISLATION.

One of the most objectionable bits of tinkering done to the School Act during the recent session was the clause added by the Minister of Education to provide that in cities, towns and incorporated villages the Separate School Boards should have the nomination of one member of the High School Boards. The contention that such special legislation was necessary in order to secure our Roman Catholic fellow-citizens their just influence in High School management is, in itself, a charge of bigotry against the rest of the community. We are glad to know that such a charge could not be sustained. The allegation made in its support that, as a matter of fact, Catholics were never appointed under the present system was, it is gratifying to learn, promptly refuted. A number of Boards are found to have Catholic members as was to be expected in mixed communities. Thus it appears that there was really nothing to justify such a departure from sound political principles. Were it otherwise, the expedient would avail little. If the Protestant majorities were bigoted and factions enough to allow themselves to be influenced by sectarian considerations, it is hard to see how the rights of the minority could be secured by a single representative on the Boards.

So far as we are aware no evidence was submitted to show that the Catholics asked any such special recognition. The clause is extremely objectionable in kind. It introduces a species of class legislation which it is specially desirable to avoid. As a writer in one of the dailies has pointed out, the Orangemen, or any other large class of our citizens have just the same right to be specially legislated for. The qualifications for the trusteeship of the High Schools should be intellectual and moral ones. To introduce a sectarian condition is to establish a dangerous precedent, to turn back the wheels of progress and to do violence to sound principles of legislation.

LADIES' COLLEGES AND SPECIALIZED COLLEGES.

With much of Mr. Houston's letter in another column we heartily agree. In throwing open both lectures and examinations to women, the University has but risen above an old and narrow prejudice, and done an act of simple justice. In establishing local examinations in groups of subjects, and awarding certificates for proficiency in those subjects, it is also putting itself more nearly abreast of the progressive institutions of the day. As Mr. Houston well knows not only have both these movements our warm approval, but we were at least among the first to suggest and petition for the scheme of local examinations for women, which is now being so wisely and happily enlarged.

It is at the same time none the less true that McGill has the honor of being the first institution in Canada to provide com-

plete arts and science courses for women. In other words, to our shame be it spoken, our new department is the only Ladies' College in Canada which is equipped for a full university course. Nowhere else in the Dominion can a class of young women proceed to a degree in Science, or the Arts, under the instruction of a competent staff of professors, without availing themselves of the privilege—in Toronto at least, somewhat ungraciously accorded—of attending lectures primarily adapted and intended for young men alone.

We are not discussing the vexed question of co-education. We have no words but those of commendation for the young women who have by their praiseworthy persistence compelled the opening of the doors of both Arts and Medical Colleges to the moiety of the race which they represent. We are not even expressing an opinion as to whether the fact that the courses in the existing Universities have all and always been arranged by men and for men, renders them less perfectly suited to the wants of woman's mind and life. We are simply stating the well known fact that at present the majority of young women ambitious of a University course, and the majority of the parents and guardians of such young women as well, prefer separate classes, and congratulating them that, in one institution in Canada, such classes are at last available. Nor are we greatly troubled to know that the new institution, for such it virtually is, is not perfect in all its appointments at the outset. It is the nature of living institutions to grow, when once well rooted.

The special courses, examinations and certificates, of Toronto University are a step in the right direction. We wish the movement all success. But so long as it is true, as Mr. Houston admits, that there is a deficiency in the provision for effective instruction these cannot do the work of the Specialized Colleges we have in mind. Living, whole-souled teachers, enthusiastic in their special work, and knowing how to arouse enthusiasm in their students, are the very essence of such colleges. We were not advocating the payment of such from public funds. We have large faith in the voluntary principle in higher education. Nor do we care to see all our machinery for higher education made parts of one colossal institution. We believe in variety, in competition, in freedom for the play of individuality, and the development of a natural and healthful originality in courses of study and methods of instruction. Our cry would be "save us from the country with a single set of books, and a single University College." We believe still that there is a wide gate, and a broad field before the men who shall first establish and operate efficient Specialized Colleges such as we have indicated.

GOVERNMENT BOOK-MAKING.

The deed is done. The Minister of Education has been sustained by the Legislature, and has now *carte blanche* to carry out his mischievous text-book policy. It cannot be that teachers and parents fully realize the grave nature of the educational crisis through which we are passing. By one turn of the lever the responsible hand of one man has put a stop to the

educational progress of the province. Worse than that, he has reversed the motion of the engine. He has inaugurated a policy which, if not checked, will inevitably put the whole system upon the backward and downward grade.

Why Mr. Ross should have so rashly committed himself to the project of a single set of Government-made text-books for the whole province, we cannot conjecture. The act seems little short of infatuation. The system is by no means new or original. It has been tried and found wanting in some of the most progressive states of the American Union. It has been proposed in others only to be vehemently denounced and condemned by the foremost educators. Virginia adopted it in 1874 at an expense of half a million of dollars, only to repeal it in 1877. Vermont tried the same experiment with the same costly and mischievous result. When the scheme was proposed in Pennsylvania, Ohio, Maine, Missouri and other states, such eminent educationists as Hon. J. P. Wickersham, of the first-named, and Hon. Ira Divoll, of the last-named state, were unsparing in their opposition. In fact, a host of prominent educators all over the Union met the scheme in its inception and defeated it with arguments of crushing force.

We have already pointed out many but by no means all the weighty objections to the policy as now established in Ontario.

It takes the choice of text-books out of the hands of the proper authorities, and those best qualified to judge, viz:—the teachers and school boards.

It creates great monopolies under Government patronage.

It violates the fundamental laws of freedom and competition in book manufacturing.

It tends directly away from self-government and towards bureaucracy.

It discourages independent investigation and authorship amongst teachers.

It opens a wide door for official favouritism.

It paves the way for the corruption and abuse of power which almost inevitably creep into great monopolies under official control.

It makes a rapid deterioration in the character of our school books a moral certainty. No government ever did or ever can secure first-class text-books by manufacturing them.

In addition to all this have parents and teachers ever reckoned the immense cost of throwing aside the books now in use, and replacing them with the new series? We ask them to do so. The readers are already forthcoming. Geographies, grammars, history, etc., are we believe, under way. To carry out the system of Government copyright means to go through the whole series from bottom to top. There is no other way of doing it. The sum total of expense is appalling. And then it must not be forgotten that it is about as certain as reason and experience can make it, that the whole set will have to be changed again within five years. It is impossible that the books made by unskilled officials and amateurs can stand in the competition with the productions of the most learned and skilful experts in every department of literature and science. We make the prophesy, bold as it may seem, with confidence. The proof will be forthcoming from time to time, for this text-book question is incomparably the most important educational question now before the people of Ontario. Do thoughtful teachers endorse the new policy? We invite free expression of opinion.

Special Articles,

THE FOUR SCHOOL ARTS.

The four arts may be stated thus: 1. The art of getting accurate and available knowledge from things about us,—we may say more briefly, the art of using our own senses. 2. The art of expressing clearly and systematically what is learned. 3. The art of getting out of books what is in them. 4. The art of using numbers skillfully. These arts are of such prime necessity to every civilized being that the community is justified in insisting that every child shall acquire them; and the elementary schools are created primarily to impart them.

It is a true instinct which, from the earliest times, has made the third the most esteemed and indispensable. Once mastered, the child may be his own instructor. He is given the key to the storehouse of human knowledge, which contains treasures he is utterly impotent to acquire for himself by any other means. We react at present against book-learning, because we have been content to teach how to read, instead of attempting the larger and more fruitful art of getting out of books what is in them. It is the height of educational folly to turn away from books because our own unskilled workmen have misused them.

The first of these arts, which seems the most fundamental, is the one that has come latest into the schools, and as yet we are all clumsy workmen at it. It came in late because nature unaided does so much first. Her processes, are, however, hap-hazard and disconnected. How to look at a thing analytically and with tolerable completeness, so that the consciousness shall play about it long enough for it to become deeply interesting and suggestive is an art capable of being taught by a skilful workman. It is learned like other arts, by doing it under intelligent guidance. Notwithstanding the wretched machine work and formalism which has reigned in the attempt to introduce it, some real progress has been made. When the real teacher comes he makes it an inspiration.

The second art is the natural and necessary adjunct of the first. The use of the senses gives knowledge when their results are made definite and suggestive by language. When shall we learn that language is a means and not an end, and that proper power with it is acquired by using it for its proper end—to body forth a mental product? What dreary drills our little ones suffer in the effort to beat in upon them prematurely grammatical distinctions, and grammatical rules! A child does not want rules. They are a lingo to him—mere farrago which he says over to be counted out. He gets little more profit out of artificial sentences, with whose parts he plays fox and geese to oblige the teacher. He learns to talk most when he talks his own thought. He tells what he has a real interest in, and is guided patiently to put his thought into a complete and proper sentence; then in time into a little paragraph which he builds under apt suggestions; and finally into fairly complete description. Such work is real, vital. It forms the power of speech in him, the power of observation, the power of systematic thought. It is the sort of preparation which he needs for life—to write a letter, or conduct a business, or make a man of science or of letters. Knotty drills on *this* and *that*, *these* and *those*, are pedagogical pop-gun fights, chiefly valuable to entertain holders.

Drill in expression, however, is broader than this. It becomes complete, accurate, lasting when written. "Writing maketh an exact man." It also makes a permanent effect upon a young pupil.

What a clumsy, all-in-a-heap effort to develop constructiveness the ordinary school composition is! A dreary task

"Of dropping buckets into empty wells,
And growing old with drawing nothing up."

Step by step this constructiveness is developed as ideas and words to express them are gained, if the guide knows how to shape the efforts of the young learner so that he can first tell something he has a real interest in and then put it down upon paper. Drawing is another form of expression. If it is little used, even by those who are trained in it, this is because, again, the training is far away from their own mental life. Somehow we must allow the child—we must guide him rather—to use it early and often as an instrument for expressing himself, if we would give it a real place among the arts he knows and uses.—*Intelligence.*

LITERARY CULTURE AMONG TEACHERS.

Some time ago the *Index* savagely arraigned the great mass of teachers as being deficient in proper knowledge and love of literature, alleging that the cultured teacher was the exception among the masses. At the time we commented briefly upon the article, and not with disapproval. We wish that all of our teachers had a higher ambition than many of them seem to have. We could wish for a greater thirst for knowledge. We could desire a broader information, a more thorough literary culture. We do not wish to be misunderstood in this matter. In no profession are there to be found so many men and women of superior culture, profound knowledge and eminent intellectual attainments as in this teachers' profession of ours. The most eminent men in all departments of learning are, or have been, teachers. It is a profession in which brains, above all else, are required. It is a profession of earnest, hard working members, and we glory in belonging to it. It is our boast and our honor. Let no one accuse us of casting slings at the calling. It is because we love it, because we would see it become more dignified, because we would have its power and influence more widely acknowledged, that we are free to criticise whenever we may deem advisable. Now it is a fact that many—we do not say all, far from it,—of the teachers in our graded schools, and in our country and village schools particularly, are woefully lacking in desire to obtain a more complete equipment for their work in the way of study. There is a vast mine of wealth in this grand literature of ours that to them is unknown, not because the delving is difficult, but because of sheer lack of interest. It often happens that many teachers are persons of limited acquirements, whose education has been the price of hard toil and perhaps privation, and who have made themselves what they are. Such teachers are apt to be students, and to them we have nothing to say. Give them time and it will be no fault of theirs if they do not widen their horizon. Then there are those who have had every educational advantage, who have had the instruction of the best teachers in the best colleges. To most of these we need say nothing. But there is a class, and it is the large class, too, among our teachers, who utterly neglect any form of self-improvement. What little reading they do is not of a high order, confined perhaps to the latest novel or magazine, no solid brain food, nothing to make mental fibre. These are the teachers, too, who most need every opportunity to grow mentally. The thought of study, of self improvement rarely troubles them. Their aspirations are not lofty. They do not try to advance, consequently they continually retrograde and wonder why it is that they have so little success, so small salaries; why it is that other teachers are preferred to them. It is enough that they plod through the same weary, dreary routine of school room work year in and year out. Some of them wear out, some of them drop

out, but there are always more to fill their places. How we wish that all our teachers might be controlled by a desire for higher and better knowledge, for constant advancement. No matter how distinguished may be the attainments of any one, the moment that private study, private reading, hours of self-communion about work ceases, that moment begins the backward progress, if we may use the expression. We are not of those who are continually urging teachers to constantly read books on the "Theories of Teaching" and multitudinous educational journals. Most of them are pernicious; a few only are good. There is a wider range of reading that demands attention. How many of our teachers know anything about the fascination of an hour or two with Walter Savage Landor? How many have studied the literature of rugged old Carlyle? Who of them think of reading Bacon's essays, or the inimitable criticisms of the polished Lowell. How many of them ever think of sitting down to read and study over such a work as George Henry Lewes' "Problems of Life and Mind," or his "History of Philosophy." How many know anything about Keats or Shelley, about Swinburne, Robert Browning or Matthew Arnold, and Emerson and Thoreau, and Wordsworth, or the dozens of other names that flood the mind as we write. In that list is better company than one will find in many a day, and yet by those who most need such companionship they are severely let alone. It is not a pleasing state of affairs. It is not a favorable commentary, but it is a true one. The fault there, how to eradicate it is a question; how to prevent it is a better one. What can be done? What has been done, has been of little value evidently. Does the remedy lie in the inculcation of a loss of good, wholesome mind-making literature, in the children of the present age? We may be wrong, but we think it does. Let us emphasize the fact that intelligence and broad range of reading are co-existent. One may become narrowed by special work, unless he places himself in contact with the great minds of fiction, of science, of philosophy. The teacher's views must be wide. To instruct others in their business; to do this well requires discrimination, intelligence, tact, knowledge of human nature, and other forces that the mind that exists in a rut cannot be expected to possess. Again let us remark that to thousands of intelligent thinking teachers these words do not apply. They need no spur. They merit no criticism. They are progressive, and we honor them; but there are those in a swamp of self-complacency, who every year sink deeper and deeper in the fatal bog. There is danger and we hasten to hang out this red light. We shall be free to utter even more radical views on this subject, and we shall not expect to be free from criticism. We welcome it, for there is bound to be an awakening all along the line, and we want our flag in the very front rank of this battle. One thing we are assured of, we have the warm, earnest, hearty support of the representative forces of the teacher's profession. We believe that, with us, they look forward to the time when a higher standard of literary culture among teachers shall be required and obtained.—*Iowa Central School Journal.*

In the "Memoir of Adiel Sherwood, D.D." recently published, the story is told of a young man who stumbled grievously over the old definition, a noun is the name of a thing, as horse, hair, justice. "What is a noun, then?" he said: "but first I must find out what is a horse-hair justice." He meditated upon this for several days, until seeing his father seated in his legal capacity as Justice of the Peace in the old horse-hair settee, he exclaimed, with delight:—"I have found it; my father is a horse-hair justice, and therefore a noun."

"You Americans," said an Englishman to a young lady, "have no ancestry to which you can point with pride." "That is very true," she assented; "most of our ancestors came from England, you know."—*New York Independent.*

Examination Papers.

ANNUAL EXAMINATION OF THE FANNING SCHOOL, MAEPEQUE, P. E. I.

ENGLISH.

GRADES VI. AND VII.—PARADISE LOST, BOOK I.—325.—FANNING SCHOOL.—JOHN A. MACPHAIL.

- "What though the field be lost?
All is not lost; the unconquerable will,
And study of revenge, immortal hate
And courage never to submit or yield,
And what is else not to be overcome;
That glory never shall his wrath or might
Extort from me!"
 - "Here followed his next mate,
Both glorying to have escaped the Stygian flood,
As gods, and by their own recovered strength,
Not by the sufferance of supernal power."
"Him haply slumbering on the Norway foam
The pilot of some small night-foundered skiff
Deeming some island, oft, as seamen tell,
With fixed anchor in his scaly rind
Moors by his side under the ice, while night
Invests the sea, and wished morn delays."
- Analyze passages *a* and *b*.
 - Paraphrase passage *c*.
 - Parse the italicized words.
 - Make notes on:—"Norway Foam," "Night-Foundered Skiff," "Invests," "Stygian Flood," "Supernal Power."
 - Explain the meaning of:—
"How the heavens and earth rose out of clouds."
"As far as God's and heavenly essence can perish."
"Who holds the tyranny of heaven."
"The sulphurous hail, shot after us in storm
"O'erblown hath laid the fiery surge."
"Tuscan Artist."
"His ponderous shield, iliteral temper
Massy, long, and round behind him cast."
"To be the mast of some great admiral."
 - Comment on the following passages:—
"Since by fate the strength of gods
And this empyreal substance cannot fail."
"Hope never comes, that comes to all."
"Our labor must be out of good still to find means of evil."
"The mind is its own place, and in itself
Can make a heaven of hell, a hell of heaven."
 - Describe the appearance of Satan and of his "dungeon" or place of punishment, quoting from Milton when necessary.

GEOMETRY.

GRADE VI—BOOK I.

- Bisect a line, defining each term used and proving each proposition referred to.
- What *data* must be had to prove two triangles equal *a*, in every respect *b*, in area?
- Book the truth of your statements.
- What results follow, one line falling upon two parallel straight lines?
- Prove two sides of a triangle are greater than twice the line joining the vertex and the middle of the base.

HISTORY—1625-1660.

GRADES VI AND VII.

- Trace the descent of Charles I. from Henry VII.
- Compare the personal character of Charles I. with that of his father.
- Contrast the armies of Charles I. The Parliament Cromwell.
- Trace the causes that lead
(a) To the final expulsion of the Long Parliament
(b) To the restoration of Charles II.

5. What part did the Scots and Irish play in the rebellion ?
6. What were the following :—Petition of Right, Divine Right, ship-money ?
7. Who were—Hampton, Land, Strafford, Bradshaw, Rupert, Essex, Monk, Ironsides ?
8. Assign events to the following dates :—1625, 1628, 1642, 1649, 1653, 1660.

ARITHMETIC.

GRADES VI AND VIII.

1. Simplify :—
$$\left\{ \frac{1\frac{1}{4} - 1\frac{1}{2}}{1\frac{1}{4} \times 1\frac{1}{2}} \right\} \div \left\{ \frac{4\frac{1}{2} \times 3\frac{3}{4}}{6\frac{1}{10} - 1\frac{1}{2}} \right\}$$
2. Find the value of :— $17.25 \times 5.4 - \{ 74024 \div 97.4 \}$
3. Of the four.—Sum invested, amount of simple interest, Rate per cent and time. Given any three ; find the fourth.
4. How much money (sterling) must be invested in the $2\frac{1}{2}$ per cents at 105 to yield an income of \$2,267.86 $\frac{1}{2}$ after deducting an income tax of 7 pence in the pound.
5. Sold 25 cwt. hay for \$220 being $\frac{1}{2}$ more than cost. Find the gain per cwt.
6. Bought a horse for \$234; how much must I ask for him, that I may strike off 10 % and still gain 25 % on my outlay ?
7. Trees are planted 9 feet apart around a rectangular field containing 8 acres, one of whose sides measures 320 yards. How many trees will be required ?
8. A and B can mow 24 acres in five days. B and C can mow 9 acres in two days, and A and C 4 acres in one day. How many acres can each mow per day ?

A PROOF.

The following proof of the formula $A = \pi r^2$, may be of some service to the readers of the SCHOOL JOURNAL :—

From centre "A" describe a number of closely fitting concentric rings (resembling somewhat the annual growth in a cross section of a log). It is clear that the area of a circle is made up of the areas of the edges of their rings.

Draw a diameter *b c*. (vertically).

Then suppose the outside ring or circumference to be cut at *b* and straightened out at right angles to *b c*, and similarly each of the remaining rings until the centre "A" is reached. It will be now seen that an isosceles triangle has been built up, having the circumference of the circle for base, and the radius of the circle for perpendicular height.

Hence Area of Circle = Area of an isosceles triangle whose base is the circumference of the circle, and perpendicular height the radius

$$\text{of the circle— or Area of Circle} = \frac{c \cdot (2 \cdot r)}{2} = \pi r^2$$

Com.

Prize Competition.

ARITHMETICAL PROBLEMS.

FOR FOURTH CLASS—BY LEX.

1. Bought eggs at the rate of 5 for 2 cents. How many must be sold for 14 cents to gain 40% ?
2. A tank is 8 ft. long, 5 ft. 4 in. wide, and 4 ft. 6 in. deep. Find the number of gallons it contains, having given that 1 cubic foot of water weighs 1,000 oz., and that a pint weighs $1\frac{1}{4}$ lbs. Ans. 1200 gallons.
3. Susan can knit a pair of mittens in $\frac{2}{3}$ of a day, and Sarah can knit a pair in $\frac{3}{4}$ of day. How many pairs can both knit in a day ? Ans. 4 pairs.
4. In a square lot containing $1\frac{1}{2}$ acres, how far is the centre from each side. (Give answer in rods.) Ans. 8 rods.
5. Simplify $2\frac{1}{2} \left(\frac{2}{3} \div \frac{2}{3} \text{ of } \frac{2}{3} \right) + \left(\frac{2}{3} \div \frac{2}{3} + \frac{1}{3} \right)$ Ans. $4\frac{2}{3}$.
6. A rectangular field containing 15 acres is 60 rods long. How many trees 20 feet apart will be required to plant it around. Ans. 165.
7. How long will it take a train 20 rods long, and going at the rate of 15 miles an hour, to cross a bridge 15 rods long ? Ans. $20\frac{1}{2}$ seconds.

8. A boy spent \$3.20 more than $\frac{2}{3}$ of his money, and had \$4 left. How much had he at first ? Ans. \$11.52
9. Bought a Jersey cow in England for £18 11s. 6d. Paid for passage to Canada £2 15s., where I sold her for \$140. Find my gain in Canadian currency ? Ans. \$36.46 $\frac{1}{2}$.
10. A can do a piece of work in $\frac{1}{2}$ of a day, B can do it in $\frac{1}{3}$ of a day, and C can do it in $\frac{1}{4}$ of a day. How long will it take all working together to do it. Ans. $\frac{1}{4}$ of a day.
11. Sold two horses for \$150 each, on one I gained 20 %, and on the other I lost 20 %. (1) Find my gain or loss on both ? (2) Find my gain or loss per cent on both ? Ans. (1) \$12 $\frac{1}{2}$ lost, (2) 4 % lost.
12. A dealer in Brampton expends \$200 in Scranton coal. He pays \$4.50 per long ton for the coal in Scranton. The freight from Scranton to Brampton is fifty cents a long ton. He sells it in Brampton at \$6.50 a short ton. Find his total gain ? Ans. \$91.20.
13. If a merchant sells tea at 60c. a lb., and gains 20 %, what % will he gain if he sells at 77c. a lb. Ans. 40 %.
14. How many lbs. of tea at 70c. a lb. must I mix with 50 lbs. at \$1 a lb. in order to sell the mixture at 80cts. a lb. without loss. Ans. 100 lbs.
15. Divide \$840 among A, B and C, so that B may have \$100 less than A, and \$40 more than C. Ans. A \$360, B \$260, C \$220.
16. The diameter of the driving wheel on an engine is 7 ft. How often will it revolve in going 2 miles ? Ans. 480 times.
17. A and B can do a piece of work in 4 days ; B and C in 6 days ; A and C in 8 days. How long will it take A and B and C together to do it ? Ans. $3\frac{2}{3}$ days.
18. Find the cost at 30 cents a sq. yard of plastering a room 30 ft. long, 20 ft. wide, and 16 ft. high. Wainscoting 4 ft. high. Ans. \$60.00.
19. Telegraph poles are placed 8 rods apart, and a train passes one every $4\frac{1}{2}$ seconds. How many miles an hour is the train going ? Ans. 20 miles.
20. From 200 acres take 199 acres, 3 rods, 39 rods, 30 yds., 2 ft., 36 in. Ans. 0.
21. A farmer sold 100 geese and turkeys, receiving for the geese 75 cents each, and for the turkeys \$1.25 cents each, and for the whole \$104. Find the number of each ? Ans. 58 turkeys ; 42 geese.
22. A has a hog weighing 300 lbs., and B has another weighing 500 lbs., C buys both hogs weighed together for 5 cents a lb. The three men agree that A's hog is worth $\frac{1}{2}$ cent a lb. more than B's and shall be paid for accordingly. How much per lb. will each receive for his hog ? Ans. A $5\frac{1}{4}$ cents, B $4\frac{1}{4}$ cents.
23. A can do a piece of work in 8 days, B in 6 days. They work together for 2 days when A quits. In what time will B finish it ? Ans. $2\frac{1}{2}$ days.
24. A publisher printed an edition of 10,000 copies of a 12mo. book of 336 pp.; how much paper did he use, allowing 1 quire to each ream for waste ? Ans. $307\frac{1}{2}$ reams.
25. Find the cost of a log 12 ft. long and measuring 28 inches in diameter at \$2.00 a standard ? Ans. \$3.92.

A CHEAP AND RELIABLE PAINT FOR SCHOOL BLACK-BOARDS.

We receive so many inquiries concerning the paint used on the University black-boards, we have concluded to print the recipe in full, and keep copies on hand to supply to our friends.

To any subscriber of the EXPONENT we will send it free on receipt of stamp.

To any one who is not a subscriber we will send it, and the NORMAL EXPONENT, one year, for 50c.

RECIPE.

| | | |
|---------------------|--------------------------|---------|
| $\frac{1}{2}$ lb. | Lampblack | 10 cts. |
| 2 lbs. | Flours of Emery | 25 cts. |
| $\frac{1}{4}$ pt. | Japan Dryer | 5 cts. |
| $\frac{1}{2}$ pt. | Copal Varnish | 10 cts. |
| $\frac{1}{2}$ pt. | Boiled Linseed Oil | 5 cts. |
| $2\frac{1}{2}$ qts. | Turpentine | 20 cts. |

1 gal. Blackboard Paint..... 75 cts.

This will cover 150 square feet with two coats. These materials must be applied with a stiff brush, and stirred up from the bottom, at every brushful, to keep the grit thoroughly mixed with the liquid materials.—The Normal Exponent.

Practical Department.

LANGUAGE.—STORY LESSONS.

PURPOSE OF THE LESSON.—

First. To arouse thought.

Second. To stimulate expression.

Third. To quicken imagination.

Fourth. To train in recalling.

Fifth. To exercise in the use of language.

Sixth. To form the habit of attention.

PREPARATION MADE BY THE TEACHER.—Composing the story, making out the lists of words to be used, planning, and practising the drawing.

PREPARATION MADE BY THE PUPILS.—Their natural love for stories, and all the training that they have had in thought and its expression.

PLAN OF THE LESSON.—Tell the story of the Farmer and the Fox. Make it graphic, by skotching the objects introduced, whenever practicable. In the course of the narrative, bring in as many words belonging to the children's written vocabulary as possible, writing instead of speaking them; thus leading the pupils to observe the words used, and making the exercise also severe as a review in reading.

THE FIRST LESSON.

GENERAL EXERCISE.

The teacher is conducting a writing lesson. She stands at a blackboard on the right side of the room, and all the children, sitting sidwise in their seats, face her, and make on their slates the letter as she writes it on the board.

Suddenly, before the attention has begun to flag, before a child has begun to tire, she calls out, "Lay your pencil on your slate, place your slate in the middle of your desk, and face front."

Stopping lightly to the board opposite their seats, as the children turn, she continues, as if thinking aloud, while her quick eyes take in at a glance every lounge in the room, "I am looking to see who sits the best."

Apparently the desire to shine as a bright particular star is common, for with one accord the children bring their feet together, sit farther back in their seats, fold their hands, and hold up their heads, waiting for the verdict.

"I am afraid I can't tell now, there are so many," is her decision, after an instant's smiling survey; "but I can tell you about something else that has a—" turning to the board, she writes; "Nose!" call out the children; "like," beginning to skotch, "that"—having made the nose of a fox:

"A fox!" "A rat!" "A fox!"

The teacher goes on, unheeding the children's guesses. "This—" she writes; "Animal," pronounce the children; "that I am going to tell you about," she resumes, drawing rapidly as she talks, "has a sharp nose, sharp—" writing *eyes*, "and pointed—" writing *ears*; "Eyes and ears!" chorus the class. "And he has whiskers," drawing them as she speaks; "A rat! A rat! A cat!" call out the class; "and a long bushy—" writing *tail*.

The children pronounce the word and follow it immediately with the guess—"A squirrel!" Utterly unmindful of these, the teacher continues, "He doesn't wear a—" writes; "Coat!" say the children; "like yours," facing about, and pointing to a little fellow who has just arrived at the dignity of his first ulster; "nor like yours," indicating a small girl, whose new cloak is still a source of envy to half the little women in the room; "neither is it like mine."

"It is made of—" writes; "Fur!" declare the children; "and sometimes it's—" writing *red*; "and sometimes—" writing again, *black*; "Red and black," call out the class; "and sometimes it's silvery."

"A fox!" "A silver fox!" guess the children as the teacher completes her sketch, and a fox stands displayed upon the board.

"Yes," says the teacher, "it is a—" writing *fox*. "This fox was so very sly—what does it mean to be sly?" is the unexpected question. One hand only is raised. "Grace."

"When any one wants to do things that are not right, and not let any one know about it."

"Yes, I think it is," comments the teacher; "and this fox had grown so old that he couldn't—" writes; "Hunt!" interpolates the chorus; "the way he used to," proceeds the teacher, "so he made up his mind that he was going to do something else. Now he didn't mind stealing—what is stealing, Jack?"

"To take things when there didn't anybody say you might."

"Ruthie."

"To take things when nobody knows it."

"Albert."

"To take things that aren't yours."

"Yes, to take things that belong to some one else, without leave. It is right to do so, children?"

"No'm!" "No'm!" "Never!"

"But this fox didn't know any better; he didn't know how to get anything to—" writes; "Eat!" chorus the children; "any other way. Now off over here," indicating a spot high up at the farther end of the board, "lived a—" writes; "Farmer!" call out the class; "and he had a large—" she draws a house, and then writes the word, and the children call it out.

"And then just here was his—" writing *barn*, and as the class pronounce the word the teacher begins to draw it, saying as she does so, "but he didn't keep his—" writing *hens, chickens, turkeys, ducks, and geese*, and the children read as fast as she writes, "in the barn; but back of the barn there was a yard,"—making a fence,— "and at the end of the yard was a hen-house," drawing it with rapid strokes, "and here he kept all his—" pointing to the words which the children read again.

"Hens, chickens, turkeys, ducks, and geese."

"That will do for to-day; to-morrow I shall want to have you tell me all that I have told you, and see how many of these words," pointing to the list on the board, "that I had in my story you can put into yours." From "The Quincy Methods."

PRIMARY DRAWING—HINTS AND DEFINITIONS.

(From Professor Walter Smith's Teacher's Manual.)

THE THREE HISTORIC LINES.

Apelles, who lived more than twenty-one hundred years ago, was the most distinguished of Greek painters. Protogenes, living at the same time, was also a famous Greek painter. The two were fast friends. On a certain occasion Apelles paid a visit to Protogenes, who was then dwelling at Rhodes. When Apelles entered the studio of his friend, he found only a servant there. Taking up a brush, he drew a straight line across a canvas on the easel. As he was about to leave, he said to the servant, "Tell your master, when he comes in, that that man" (here he pointed to the line he had drawn) "wishes to see him." After a little, Protogenes returned; and his servant gave an account of what had happened. Looking at the line, Protogenes perceived that his friend Apelles had come to see him; for he knew there was no other man in Greece who could draw so beautiful a line. He took up the brush,

and draw a second straight line beside the first, and, going out, said to his servant, "Tell that man" (here he pointed to the line drawn by Apelles), "when he comes in, that that man," (here he pointed to the line drawn by himself) "will be very happy to see him." Upon the return of Apelles, the servant did as he was directed. Apelles looked at the line drawn by his friend, and saw that he was surpassed. He took the brush again, and, putting his whole soul into the effort, drew a third line between the first two, and more beautiful than either. When Protogenes saw this line, he felt it would be vain to attempt to excel it. Thus runs the story. But it is further related that the canvas bearing these three lines of such marvellous beauty was carefully preserved for centuries at Rome. It is proper to add, however, that it is a matter of dispute whether the line, in this anecdote, meant a mere abstract line, or a sketch of some subject.

An art-students' association, of which the author was a member, took for its motto,—Nullus dies sine linea; and each member bound himself to comply with it strictly. The association interpreted the motto to mean, that no day was to be regarded as finished until the drawing or sketch of some subject had been made. He who retired to rest without having made his line—that is, drawing or sketch (it might be no larger than his thumb-nail,—was deemed to have broken his pledge. In this case *line* meant many lines,—a picture of some sort.

Every person, in whatever he does, no matter how slight the thing, gives some indication of his quality. Unless he can draw a beautiful line by itself, he cannot draw beautiful lines in combination for a design for a picture. But do not infer, from the anecdote of the two Greek painters that any amount of time and labor can be profitably spent in drawing naught but meaningless lines. There are teachers who tell their pupils that at least an hour should be given to the freehand drawing of a square,—a fearful waste of time and labor! When a perfect square is required, instruments must be used to draw it. When the object sought is the power to judge of proportion, that can be as well acquired in the execution of drawings which impart knowledge and improve the taste. Avoid all needless consumption of time and labor.

Hear what Apelles himself has to say about the matter. "My friend Protogenes excels me in all things but one: he never knows when to take his hand from the canvas." By this the great painter implied that laborious finish is not the thing of first importance. Do not, however, conclude that careless, slovenly work is ever to be tolerated; for it is not. Shun extremes.

QUESTIONS.—What is a point? a line? Describe the different kinds of lines. When are lines parallel? What is a surface? Describe a plane. Other kinds of surfaces. What is a solid? How many dimensions has a line? a surface? a solid? Name the three kinds of straight lines. What is a horizontal line? a vertical line? an oblique line? How are all these lines regarded as drawn? How is the drawing-book to be regarded? How should you work when finishing a drawing? What is said of judging distances?

ENTRANCE LITERATURE.

[Prepared for the CANADA SCHOOL JOURNAL by Mr J. D. McIlmoylo, Head Master, Separate Schools, Peterboro.]

THE SKATER AND THE WOLVES.—PAGE. 115.

Line 3.—Sequestered lakes. Apart, hidden or away from others.
Line 7.—Mazy streamlet.—Turning or winding in every direction.
Line 7.—Fetters.—Irons for the feet or ankles of prisoners—the ice is meant here.

Line 9.—Otter.—The water animal—a species of the weasel family—lives entirely on fish—has valuable fur. Its gait is a sliding motion. "Otter slides" is a term used by hunters for the places these animals have to watch and slide into the water to catch fish. The skin of a large otter sometimes measures when stretched six and seven feet in length.

Line 12.—Reucounter. A casual combat, or running counter to or against.

Line 15.—Dusk. Partial darkness, dim twilight.

Line 16.—Skate. What two meanings has this word?

Line 17.—Peerless moon. Without a peer or equal—the peers of England were once equal to the king but not so now. A prisoner is tried under British law by his peers on a jury, a nobleman by noblemen, a commoner by commoners.

Line 19.—Fleecy cloud,—resembling the white fleeco of a sheep.

Line 22.—Jewelled zone.—The glittering caused by the reflected light from the moon on the smooth ice of the narrow river made it appear like a zone or belt studded with gems.

Line 37.—Reverberated,—re=back and verbor=a lash, to beat or cast back a sound.

Line 40.—Appalled,—palleo=to be pale, terrified.

Line 47.—Like an arrow, &c.,—a simile.

Line 57.—Bonighted,—overtaken by night, from be and night, often used figuratively to denote being in ignorance.

Line 64.—A few sounds more,—Supply "give me."

Line 71.—Nature turned me, &c.,—What does he mean?

Line 75.—One thought of home,—Supply the elipses. Stretched tension.—The excitement of the situation would cause the skater to use all his energies—hence his muscles would be hard and stiff as if stretched.

Line 87.—Seemed to dance,—His frightened senses made everything around him appear unreal.

Line 90.—Involuntary motion,—Not caused by the power of will or choice.

Line 93.—A-head,—Figure of speech Prosthesis—prefixing a letter to the beginning of a word.

Fleeced with foam,—The saliva from their mouths coming in contact with the air and falling on their breasts, made them appear as covered with fleeces of wool.

Line 96.—The thought flashed,—That he could escape by turning aside when they came too close.

Line 105.—Baffled rage. Anger produced by being deceived.

Line 112.—Sanguinary antagonists. Bloody foes or enemies.

Line 114.—Had my skates failed. Supply "if" before my.

Line 116.—Fissure. A slit or narrow opening.

Line 112.—Have its tomb. Where?

Line 121.—How fast—can tell. Only those who have been near death can tell what it is like.

Line 122.—Grim original. Ghastly picture of death.

Line 123.—Can tell—how fast, &c., is the object of this verb.

Line 122.—Grim—formerly meant grinding the teeth—now of forbidding aspect.

Line 124.—Bayed—barked—comes from the sound.

Line 125.—Kennel—a house for dogs. Fr. chien = a dog—it also means a gutter.

Line 127.—Denizen—an inhabitant—give its various meanings. Wolf—(A. S. wulf) a rapacious animal of the dog family.

Whitehead.—The author of this selection is an obscure writer of

whom little or nothing is known. He appears to belong to a class of writers who occasionally contribute articles to magazines and newspapers, but not in sufficient quantity or of such quality as to bring them under the notice of the great biographers. Several gentlemen of the name of "Whitehead" gained literary prominence in England at different periods. This narrative is well written.

PHYSIOLOGY IN BRIEF.

The average number of teeth is 32.

The average weight of an adult is 140 pounds and 6 ounces.

The weight of the circulating blood is 28 pounds.

The brain of a man exceeds twice that of any other animal.

A man annually contributes to vegetation 124 pounds of carbon.

One thousand ounces of blood pass through the kidneys in one hour.

A man breathes about twenty times a minute, or 1,200 times in an hour.

The average weight of a skeleton is about fourteen pounds. Number of bones 240.

The average weight of the brain of a man is three and a half pounds; of a woman, two pounds and eleven ounces.

A man breathes about 18 pints of air in a minute, or upwards of seven hogsheads a day.

Five hundred and forty pounds, or one and one-quarter pints of blood pass through the heart in one hour.

Twelve thousand pounds, or twenty-four hogsheads four gallons, or 10,728½ pints pass through the heart in twenty-four hours.

The average height of an Englishman is 5 feet 9 inches; of a Frenchman, 5 feet 4 inches; of a Belgian, 5 feet 6½ inches.

The average of the pulse in infancy is 120 per minute; in manhood, 80; at 60 years, 60. The pulse of females is more frequent than that of males.

One hundred and seventy-five million holes or cells are in the lungs, which would cover a surface thirty times greater than the human body.

The heart sends nearly ten pounds of blood through the veins and arteries each beat, and makes four beats while we breathe once. — *American Journal of Education.*

SOME PRACTICAL ARITHMETIC.

STATEMENT: This room is—by—by—feet. the lot is—by—rods. The door is—rods from the style.

1. How many feet in compass is the room?
2. How many feet of flooring in it?
3. How many squares of plastering in it? No reduction. Why?
4. The compass multiplied by the height will produce what? Explain why the length multiplied by the width will produce square units. What is the unit of measure?
5. A crayon box is—by—by—inches. How many will the room hold? How many crayons in a box? How many in the room?
6. How much wheat will the room hold?
7. What would the wheat be worth at 95 cents per bushel?
8. Which is the heavier, corn or wheat? (By the bushel.)
9. How many bricks could you lay on the floor? How many would lie edgewise? How many stand on end?
10. How many could you place in the room? What would they be worth at \$6 per thousand?
11. How many cubic yards of sand will the room hold?
12. The walls of the room are— inches in thickness. What area does the house occupy?

18. What is meant by area? By linear measure? By dimension? by solidity? Is a volume of air 6 by 8 by 10 feet a solid?

14. The blackboard is—by—feet. How many square feet does it contain? Has area any depth? Why?

15. How many square rods in the lot? How did you determine this?

16. Posts are placed—feet apart. How many are used to the panel? What is a panel? What are the dimensions of a fencing plank? The contents?

17. How many posts are used in fencing the lot?

18. The fence is five boards high. How much lumber in it?

19. Make out and receipt bill for the lumber at \$14 per thousand. — *Our Country and Village Schools.*

Educational Notes and News.

The total cost of the schools in Prince Edward Island last year was \$142,319.64, of which the Government contributed \$105,185.09.

Prince Edward Island had 428 schools last year, an increase of four over the number for the year preceding. The number of teachers employed was 484, of whom 264 were males.

The number of pupils enrolled in the schools of Prince Edward Island last year was 21,488, being 348 more than the year preceding. Of these 441 were studying Latin, 1,0 Greek, 510 French, &c.

The highest salary received by a school teacher in Prince Edward Island last was \$900, the lowest \$130 and the average for male teachers of the first-class was \$376.44, for male teachers of second-class \$294, for male teachers of the third-class \$223.47. Female teachers of the first-class \$256.29, for female teachers of the second-class \$235.35, for female teachers of the third-class \$160.81.

The Public School Superintendent of Prince Edward Island again in his report recommends the appointment of a third inspector. He says that "Altogether the past year has been the most satisfactory in its educational results since the introduction of the Free School system. The improvements that specially mark this year are as follows:—

- "1. An increase in the average daily attendance and in the enrolment of pupils.
- "2. A greater degree of proficiency on the part of candidates for entrance to the Prince of Wales College and Normal School.
- "3. The introduction of Agricultural Chemistry into the Public School course.
- "4. A greater degree of attention given in Orthography and English Composition in the Common Schools.
- "5. The large number of schools in operation. Out of the 495 School Departments in the Province, 480 were in operation throughout the whole year. Of the remaining 15 Departments, 4 were in operation for half the year, and 3 for a shorter period."

N. Robertson, B.A., now Head Master, Smith's Falls High School, was for three years Classical Master in Perth Collegiate Institute, and had been re-engaged there at an increased salary, but was at his own request released to accept the higher position he now holds.

Mr. G. A. Irwin has resigned his position as teacher in the Lindsay Public School, and Mr. S. H. Armour, of Bobcaygeon, has been appointed in his place.

There are 104 High Schools in Ontario with 11,843 pupils, costing \$45.07 per pupil. The total expense last year was \$384,946, of which sum the 347 teachers were paid \$266,316.

The number of High School pupils who matriculated in any Ontario university last year was 277—increase 5; entered mercantile life 768—decrease 113; became occupied in agriculture 583—decrease 60; joined the learned professions 868—increase 117: The average salary of Head Masters was \$1068; 52 Head Masters were graduates of Toronto University; 95 of all Canadian Universities, Toronto included; and 7 of British Universities.

The Petrolia High School seems to be progressing finely under the mastership of Mr. S. Phillips. Though it has been in operation but a short time it has an average attendance of nearly 100.

The National Convention of American teachers takes place at Saratoga in July.

A successful entertainment was recently given by the pupils of the Listowel High School. The programme consisted of choruses, songs, duets, instrumental selections on the piano and by the mouth-organ band, dialogues, readings, etc. The performers were nearly all pupils or ex-pupils of the school. The audience was large and appreciative. Something over \$40 was realized, which we understand is to be devoted to establishing a gymnasium in connection with the school.

The Petrolia High School Literary Society gave a very successful literary entertainment the other evening. The pecuniary object of the entertainment, viz., to raise funds for the purchase of a musical instrument for use in the school, was realized, over \$100 having been taken. The exercises consisted of choruses, solos, duets, tableaux, recitations, readings, etc. The amount raised shows that the attendance must have been exceptionally good.

From the report of the Minister of Education it appears that the total number of Public Schools in Ontario during the last school year was 5,316; the number of Teachers is—male, 2,829; female, 4,082; total 6,911. Average salary—male, \$122; female, \$271. Total school population, 478,791. Total attendance 464,369, average attendance 215,561 of girls 220,308, and boys 243,675. Total expenditure \$3,108,429. Cost per pupil \$14.42. Total sum paid to teachers \$2,210,186. Of Separate Schools there are 194, with an attendance of 26,177, costing \$11.20 per pupil. The total cost was \$153,611; the 297 teachers were paid \$91,702.

PRINCE EDWARD ISLAND.

The annual examination of the Fanning School, Macpeque, Prince Edward Island, in connection with the Cumberland Scholarships and Prizes, was held 24th March. It was conducted by Chief Superintendent D. Montgomery. The Prize List was based on the results of his examination, and the records of the school as kept by the Principal, Mr. John A. MacPhail. The scholarships and prizes arise from an endowment fund placed in the hands of trustees for the purpose by Mrs. Cumberland, Leamington, England, daughter of Ex-Governor Fanning. The income amounts to \$146 per year. The examination was made a public occasion, and there was present a large number of visitors to witness the proceedings. Following is the list of the prize winners.—

FANNING SCHOOL CUMBERLAND PRIZE LIST.—JOHN A. MACPHAIL, PRINCIPAL, MARCH 24, 1885.

Scholarships.—Mary Laura Hodgson. *Grade VII.*—*First Prize:* Erskine Johnston Keir. *Grade VII.*—*Second Prize:* Jamie MacNutt. *Grade VI.*—*First Prize:* Clara Jane Runsay. *Grade VI.*—*Second Prize:* Anne Craig. *Grade V.*—*First Prize:* John Owen MacGougan. *Grade V.*—*Second Prize:* Mary Jessie Ramsay. *Grade III.*—*First Prize:* William Scott Bearsto. *Grade III.*—*Second Prize:* Lizzie Crozier. *Grade III.*—*First Prize:* Emma Bearsto. *Grade III.*—*Second Prize:* Ernest Moraisson. *Grade II.*—*Prize:* Mary Bearsto. *Grade I.*—*Prize:* Emma Larkin. *Primary Grade:* William Murphy.

REV. GEORGE MACMILLANS PRIZE FOR COMPOSITION.

First Prize: Erskine Johnston Keir. *Second Prize:*—*Junior:* Mary Jessie Ramsay.

THE PRINCIPAL'S PRIZE FOR LATIN.

Susan Richards Stewart.

THE PRINCIPAL'S PRIZE TO THE MOST POPULAR PUPIL.

Erskine Johnston Keir and Bertha Bearsto. Awarded to the latter.

Literary Chit-Chat.

Mrs. Susanna Moodie, the author of "Roughing it in the Bush," "Life in the Clearings," and other popular Canadian books, died the other day at the residence of her son-in-law, Mr. J. J. Vickers. Mrs. Moodie was a daughter of Thomas Strickland, Reydon Hall, Suffolk, England, and a sister of Agnes Strickland, the well-known author. The story of the struggle through which she passed, in common with many of the early settlers in Ontario, is graphically told in her "Roughing it in the Bush." She died at the ripe age of eighty-two.

Richard Grant White, the well-known Shakespeare scholar, and student of philology, died last week in New York, aged 64 years. He was long a distinguished contributor to the *Atlantic Monthly*, and other American magazines.

A new book by Mr. Stanley, the African explorer, will shortly be issued by Harper Bros. The title of the work will be "The Congo and the founding of its new state; a Study of Work and Exploration." It will have many maps and illustrations.

A new story, the scenes and characters of which are drawn from an almost virgin soil, is "Pilot Fortune," by Mariau C. L. Reeves and Emily Read. The incidents are drawn from the lives of the inhabitants of Bryer Island, in Nova Scotia, a "hurly-burly of dark rocks where the eddies never rest."

The Novelist, John B. Alden, New York, publisher, has been changed from newspaper form, to the much more convenient and attractive of a magazine.

"Across the Chasm," is the title of a new novel about to be issued by the Scribners. Its title seems to indicate that it deals with relations between North and South, and the publishers claim that it is a hit.

Art and Music.

The earliest known occasion of the name *pianoforte* being publicly used was in a play-bill dated May 16, 1767, a copy of which is preserved by the Broadwoods of London. The piece announced was the *Bejgar's Opera*. Part of the attraction is thus given:—"Miss Buckler will sing a song from *Judith*, accompanied by Mr. Dibdin upon a new instrument called '*pianoforte*.'"

In one corner of a poorly lighted rear room on the fourth floor of a house in Salzburg, stands a bust of the author of *Don Giovanni*, on the base of which is inscribed, in four languages, "Mozart's cradle stood here."

Some important criticisms have been given lately in Boston papers upon concerts which *did not take place*, but it is not only in America that these mistakes occur. The great Hanslick, the most prominent critic of the world, a few years ago fell into the same trap. Leaving a concert before it was over, he wrote in his paper the next day, "Herr X. sang two Schubert *Lieder* with his usual beauty of expression; while, alas! Herr X. had a sore throat, sent an excuse, and did not sing at all."—*Musical Herald*.

The Kellogg-Huntington concert in the pavilion of the Horticultural Gardens, on Friday evening last, was a rich treat to lovers of music. Miss Kellogg was warmly greeted on her re-appearance after six years of absence. Miss Huntington sustained the fine reputation she is rapidly achieving, and the renderings by the Buffalo String Quartette Club, of various selections from the masters, contributed largely to render the entertainment one of the best.

A festival of two week's duration will be held by English actors, at Shakespeare's Birthplace, beginning April 20. Performances of the poet's plays will be given at the Memorial Theatre. Unless a mob of Baconians appear to disturb the scene, the participants will doubtless enjoy themselves.—*The Current*.

Correspondence.

THE ONTARIO PROVINCIAL UNIVERSITY AND COLLEGE.

To the Editor of THE CANADA SCHOOL JOURNAL.

SIR.—In your issue of April 6th there are two articles on which I would like to say a few words. In one of them you imply that women in Ontario are less advantageously situated than women in Quebec in the matter of university education. In the other you advocate the establishment of "special courses and specialized colleges." I propose to show that the Provincial University system, if it were not "crippled for want of funds," as you admit it to be, would fairly meet the wants of both the women and the specialists without going to the expense of erecting new institutions.

At present all women who desire to do so can come up on the same terms as men to the examinations in Toronto University, and can attend the classes in University College. They can enjoy all the advantages afforded by a foundation of more than three quarters of a million of dollars in the shape of tuition, library, museums, and laboratories. True, they must take the lectures at the same

time and in the same place with men, but they have their separate retiring rooms, and before next session the accommodation provided for them will be amply sufficient. The time-honored practice of lecturing to mixed classes in our Normal Schools implies co-education to the same extent and of the same kind as is now practised in the Provincial University and College. As more women than men go to the Normal School I see no ground for supposing that women will long continue to keep away from University College on account of the presence of men.

I have no wish to do any injustice to McGill College, but the present arrangement of courses in that institution contemplates co-education in the above sense. True, this is only for women taking elective honor courses, but you must remember that the chief objections to co-education are social and moral, and I have yet to learn that the women who take a pass course are not as well able to take care of themselves in mixed company as the women who take honor work. In no proper sense of the expression, "a well-equipped Ladies' College," is there one to be found at McGill.

The curriculum of Toronto University and College is an exceedingly flexible one, and the system of tuition is equally so. The regular undergraduate can exercise important options which enable him to make his course narrower and more thorough as he goes on, and he is allowed to take his classes in the College to suit the course he selects. Moreover, any one who chooses to pay for partial courses in University College can attend the lectures in those courses whether he has passed an entrance examination or not. And lastly, the University has established a system of special examinations under which a student may be examined in groups of subjects and get a certificate according to his standing in one or more of these groups whether he has matriculated or not.

That such an arrangement as I have described is equivalent to a special college your own illustration will show. A student who wishes to take a special course in English can pay for the lectures in that course in the college and be examined in an English group in the University. The only drawback is the want of teachers in the college, and I humbly submit that public money would be better spent in adding to University College staff than in establishing either "special colleges" for students of both sexes, or another University College for women alone. By the time we have one well-equipped institution of learning which is open to both sexes we may see our way clear to establishing another for those women who decline to avail themselves of the present facilities for obtaining a university training. While I want to see women fairly treated I do not want to see them get more than their share of what is too little for all who are dependent on it. Nor, to do the women justice, are there any signs that they want anything more than equal rights with men in the Provincial institution, except to see it made more efficient.

WM. HOUSTON.

Toronto, April 11, 1885.

Miscellaneous.

PEN PICTURE OF BISMARCK.

He is no elegant orator, rather the contrary, but he can lead a debate like no one else. Only a few days ago he spoke seven times in one afternoon, each time with more energy and spirit, proving that his health is indeed restored. Several members had already spoken and the house was still empty, when suddenly members filed in from all the doors, and the benches began to fill. A rumor had been circulated that Bismarck would appear, and shortly afterward a narrow door near the president's chair opened, and a tall figure entered. Suddenly soft bells are heard in all parts of the house. The electric bells in the reading room, the committee room, and in the journalists' rooms are sounded to announce the arrival of the chancellor, who has shown that he will speak presently, for with one of his pencils, more than a foot long, he has noted down something on the loose quarto sheets before him with letters not less than an inch deep, and this is a safe sign that he intends speaking.

The president bows to him, and Prince Bismarck rises to "take the word." He is certainly more than six feet high; over his powerful chest and broad shoulders rises a strangely-rounded, well-shaped head of enormous dimensions, and with no hair upon it, so that it looks like a dome of polished ivory. Thick, white brows hang over his eyes like two icicles. These brows give his face a dark and frowning expression, and the look which glitters in his eyes is cold and somewhat cruel—at least in parliament. His mustache is also thick and gray and conceals the mouth entirely. The whole face is covered with folds and wrinkles, broad rings surround his eyes, and even his temples are covered with small wrinkles.

When he begins to speak the color of his face changes from pale to red, and gradually assumes a light bronze shade which gives his powerful skull the appearance of polished metal. It is a surprise to hear Bismarck speak for the first time. The soft, almost weak, voice is out of all proportion with his gigantic frame. It sometimes becomes so soft that we fear it will die out altogether, and when he has spoken for a while it grows hoarse. The chancellor sometimes speaks very fast, sometimes very slowly, but never in a loud tone. He has no pathos whatever. Some of his most remarkable words, which in print look as if they had been spoken with full force, as if they must have had the effect of a sudden thunderbolt on the audience, are in reality emitted in an ordinary tone of well-bred conversation.

Personal attacks upon his enemies are spoken by Bismarck with ironical politeness, and in such an obliging tone as if they concealed the kindest sentiments. But if his anger cannot be heard, it can be seen; his face gradually grows red, and the veins on his neck swell in an alarming manner. When angry he usually grasps the collar of his uniform, and seems to catch for breath. His brows are lowered still more, so that his eyes are almost invisible. His voice grows a shade louder, and has a slight metallic ring in it. The sentences drop from his lips in rapid succession. He throws back his head, and gives his face a hard, stony expression.

But it is difficult to discern when his anger is real and when it is artificial. The chancellor has been seen trembling with rage, and more like the elements let loose than anything else. Once when he thought that the word "Fie!" had been said by one of the opposition party, he had one of his attacks, which would have silenced the house had everyone been speaking at once. With trembling nostrils, with his teeth firmly set, with eyes that emitted fire, and clenched hands, he jumped from his place to the side where the word had sounded. If apologies and explanations had not been offered, who knows how this scene might have ended?

But except upon such rare occasions Bismarck the orator is always a well-bred man. He does not bawl nor shout any part of his speeches, but while giving them their full share of pointed sarcasm he always maintains the form of a political conversation between gentlemen. He has a method of his own for waging war with his opponents. He regards his opponent's speech as a ball of wool, the last sentence spoken being the end which he takes in hand first, and with which he begins to unwind the whole speech as he would unwind the ball of wool. But it is easy to see that while his tongue is speaking his spirit is far in advance of it. He hesitates in his speech, then suddenly recalls himself and puts forth a number of clear thoughts, which it is easy to see occurred to him at the moment.

One of the great charms of Prince Bismarck's speeches is that he never follows any given form or method, but that all he says is inspired at the moment. He commands humor and sarcasm to a high degree, and often at a time when they are least expected, so that even his bitterest enemies are not rarely moved to laughter by his words.—*London Daily News*.

UNCONSCIOUS FAITH.

I have seen a curious child applying to his ear
The convolutions of a smooth-lipped shell
To which, in silence hushed, his very soul
Listened intently; and his countenance soon
Brightened with joy; for from within were heard
Murmurings, whereby the monitor expressed
Mysterious union with its native sea.
Even such a shell the universe itself
Is to the ear of faith; and there are times,
I doubt not, when to you it doth impart
Authentic tidings of invisible things;
Of ebb and flow, and ever-during power;
And central peace, subsisting at the heart
Of endless agitation. Here you stand,
Adore, and worship, when you know it not;
Pious beyond the intention of your thought;
Devout above the meaning of your will.

— Wordsworth.

HENRY FAWCETT.

O strenuous spirit, darkling hast thou shined!
O light unto thy country, who hast lent
Eyes to the dim hope of the ignorant!
Why the great form of Justice standeth blind
Thou dost make plain. From thy immured mind
Thou, as from prison walls, thy voice has sent
Forceful for faculty's enfranchisement,
And free commerce of sympathies that bind
Men into nations; even thy harsh divorce
From the familiar gossip of the eyes
Moved thee to speed sweet human intercourse
By art's most swift and kindly embassies:
So didst thou bless all life, thyself being free
Of faction, that last bond of liberty.—[Spectator.

Question Drawer.

QUESTIONS.

- I. The Lady of the Lake is III class Literature for this year. Can you tell me what will be III class for examinations of 1886? Is any rotation followed?
HULETT.
- II. Kindly allow me to ask, if candidates attending the Entrance Examination in July will be required to scan the practical selections, and give the figures of speech?
- III. What book on Canadian History is the best, until the Primer to be authorized is issued?
SUBSCRIBER.
- IV. What are the date of birth, date of death, principal writings and chief incidents in the life of Whithead, author of "Skater and the Wolves"?
E. A. H.

ANSWERS.

- I. The Literature subjects for 1886 and subsequent years are not yet chosen. The matter is now under consideration and an announcement will be made by the department as soon as possible.
ED.
- II. We have no guide to the nature of the questions which will be set at the Entrance Examinations, but the "Instructions" issued by the Education Department. These "Instructions" which were published in the JOURNAL of Jan. 15, contain no reference to scansion or figures of speech. It seems to us, however, that a candidate might reasonably be expected to understand at least the simpler metres and figures of speech.
ED.
- III. Hughes, and Jeffers' histories are largely used, we believe.
ED.
- IV. The following statement of account will I trust, give a correct answer to "Subscriber's" question, April 2.

| AGENT. | DR. | CR. |
|--------------------------|----------|---------------------------------------|
| To cash in starting..... | \$ 32 17 | By cash paid for goods..\$ 59 91 |
| " Goods " | 57 54 | " Goods of his supply sold..... 26 17 |
| | | " Goods returned..... 31 37 |
| " Cash from sales..... | 102 91 | " Salary..... 25 00 |
| | | " Balance due company 50 17 |
| | \$192 62 | \$192 52 |

For a brief solution, as the goods are all sold or returned, the cash only need be considered, thus, \$32.17 (amount received at first), + \$13.00; (excess of sales over purchase), = \$75.17; and \$75.17 - \$25, (amount of salary,) = \$50.17; balance due by the agent to the company.
H.

V. I do not exactly see the rationale of the solution given to the "truth" question. It would seem quite as reasonable to take it thus: — $\frac{3}{4} + \frac{1}{2} + \frac{2}{3}$; which gives a different answer; $\frac{17}{12}$. Why not take it thus: $\frac{3}{4} + \frac{1}{2} - \frac{2}{3}$? That strikes me as more rational. In that case, the answer would, of course, be $\frac{17}{12}$; or 97 chances for truth against 43 for falsehood.
H.

Sherbrooke, April 5, 1885.

Literary Review.

THE DIAPHRAGM AND ITS FUNCTIONS: Considered Specially in its Relations to Respiration and the Production of Voice. By J. M. W. KIRCHEN, M.D. "The Voice" First Prize Essay. Edgar S. Werner, Publisher, Albany, N. Y. Flexible cloth, \$1 net, postpaid.

To this treatise was awarded the first prize offered by *The Voice*, competition being open to all writers, foreign as well as American. The anatomical division of the subject treats of the diaphragm's location, general shape, gross composite parts, origin, openings, tendon and muscular fibres, minute anatomy, blood supply, lymphatic and nervous supply, relations, embryology and history of development, comparative anatomy and important co-operative structures. The physiological part discusses the function of respiration generally, the movements and varieties of respiration, the action of the respiratory muscles, respiratory action and change of shape and respiratory rhythm of the diaphragm, control of the diaphragm's action incidental functions of the diaphragm change of shape in the trunk during respiration, differences in male and female breathing, certain natural phenomena that occur synchronously with the action of the diaphragm, relation of the circulation of the blood to the action of the diaphragm resulting from extraordinary cause, the comparative physiology of the diaphragm, and functional development of the organ. Under the hygienic heading is considered the diseased conditions to which the diaphragm is subject, the conditions essential to its mature and healthy action, corset and waist-constriction, special exercise of the diaphragm, how to breathe etc. An appendix, written a year subsequent to the essay itself, gives practical conclusions and advice. The book is valuable both for the medical and the vocal professions.

ORGANIC CHEMISTRY, by Ira Remsen, Professor of Chemistry in the Johns Hopkins University: Ginn, Heath, & Co., Boston.

This book assumes only an elementary knowledge of general chemistry. It is strictly an introductory book, and the compounds of carbon which are of real importance to the beginner are the only ones treated. The skill of the author is shown in what he omits, almost as much as in the clearness and simplicity with which he deals with the substances selected. With the aid of this book a systematic course of laboratory work may be carried on. The book meets the wants of the students in our scientific schools and medical colleges.

CLASSICS FOR CHILDREN. Ginn, Heath, & Co., Boston.

Of this admirable series, it is not possible to speak too highly. Thus for *Robinson Crusoe*, *The Lady of the Lake*, *Kingsley's Water Babies*, *Kingsley's Greek Heroes*, *Irving's Sketch-book*, *Swiss Family Robinson*, *Merchant of Venice*, *Tales of a Grandfather*, *Stories of the old World*, *Scott's Quentin Durward*, and *Lamb's Tales from Shakespeare* have appeared. We earnestly wish the whole series was on the table of every teacher in Ontario, and that the pupils of our schools spent an hour every day in reading them and in hearing them read by their teachers. Any teacher who tries the experiment of using these books as supplementary readers will earn the life-long gratitude of his pupils, for he will have given them a taste for good reading by letting them taste good reading.

OUR LITTLE ONES AND THE NURSERY for April comes to us from the Russel Publishing Co., 36 Brownfield St., Boston, full of bright little stories and verses, and pretty illustrations which will gladden the eyes of all the little ones who are fortunate enough to receive it.

A RED-HEADED FAMILY. This interesting paper on the Woodpicker originally contributed to the *Library Magazine*, by Maurice Thompson, is reprinted in the *Elzevir Library* in its new small Magazine form, 2 Cents.