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# The Canada School Journal.

## AND WEEKLY REVIEW.

Vol. X.

TORONTO, MARCH 5, 1885.

No 9.

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### 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.

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### The World.

On Saturday, the 21st inst., the Washington monument which has been thirty-seven years in progress, or rather which was begun thirty-seven years ago, was dedicated at the capital of the United States. This monument is 555 feet high, the highest work of man. It would tower 100 feet above the highest of the pyramids. It is an obelisk of pure white marble, fifty-five feet square at the base, that base resting on the exact spot chosen by Washington himself for a monument to commemorate the revolutionary war.

There seems good reason so far for hoping that Mr. Cleveland will prove equal to the occasion and manfully withstand the torrent of corrupt influence that pours down from every quarter of the political heavens upon the devoted head of every president elect. His choice of a cabinet, so far as known, seems to indicate that he has chosen men of the highest character as well as ability, and his private utterances upon the burning question of the silver coinage are said to indicate that he will be sound and firm in shielding the republic from the great danger of a depreciated currency.

Lieutenant Gordon, who had charge of the corps of observation, despatched last summer to Hudson's Bay and straits, suggests that the rich fisheries of the Bay, which have been worked chiefly by the Americans for twenty years past, belong properly to Canada, and might be used with effect as a make weight in new treaty negotiations with our cousins. The *Weekly* scouts this idea, if based upon the claim that Hudson's Bay can be treated as a close sea, and thinks the riparian rights of the owners of the shore will not be recognized by other nations beyond the three mile limit, and cannot restrict their right to fish in the deep waters.

The construction of the proposed railway from Suakim on the Red Sea to Berber on the Nile, will mark an era in the history of the dark continent. Its primary object is of course purely military, but as it is to be built and worked by a company, it will, no doubt, have a commercial as well as military significance. A step of this kind once taken is seldom retracted. The immediate effect of the road will be to annihilate the toils and perils of the desert march and to bring the Nile within easy reach of the sea coast. But who can fix a limit to the far reaching results such an opening up of internal communication may have upon the destinies of the equatorial world?

Students of Geography will in these times have much to do to correct their maps so as to keep pace with the political changes that are going on in the world. The Congo conference, the Wolseley expedition, the French movement in Tonquin, the Russian advance on the borders of Afghanistan, and the colonizing operations being carried on by Germany, France and Italy will naturally modify the political face of the various sections of the eastern world in which they are taking place. On this continent the presidential negotiations came near to drawing a stripe of a new colour across the Isthmus of Panama, while even in Canada the boundary lines of the great Province of Ontario cannot yet be definitely drawn even by the lawyers.

A resolution has been offered in the Nova Scotia Legislature looking to a popular vote on the question of secession. On the suggestion of the premier it lies on the battle pending the answer of the Dominion Government to the demand for better terms. British Columbia at the other extreme has re-enacted its Anti-Chinese bill in face of the veto at Ottawa and signified its resolution to enforce it. Manitoba is talking loudly about "looking to Washington." Every true Canadian will regret the growing discontent in all the provinces. The outlook it must be confessed is cloudy. It is evident that things cannot long go on in this way and the sooner some means of re-adjusting the terms of confederation on broad principles is found the better for our future prospects. It would be a calamity were these omens all disregarded until some province has taken an irrevocable step.

"Take care of your eyesight," was the advice of Mgr. Capel during his visit to the United States. He was much pleased with the abounding newspapers and schools, but thought that the small type so much used in the former was dangerous to the national eyesight, and that the arrangement of the school desks was often very trying to the eyes of the children. He thinks that the newspapers should use larger type, and that the upper surface of the desks should be arranged at such an angle that the rays of light would fall vertically from them upon the eye, so as neither to strain that organ nor necessitate bending the spinal column. Both points are well taken, and the importance of preserving the eyesight of both school children and newspaper readers, that is, of the whole people, cannot be overestimated.

According to the *Southern Trade Gazette* two additions have been recently made to the ever lengthening list of the economic uses of paper pulp. One is its manufacture, under compression, into very delicate watch wheels, which are said to be unaffected by variations in temperature. The other invention meets a still more imperative want. At the Health Exhibition paper water filters are shown connected directly with the main, the water passing through a disc of thick paper, made of pure vegetable pulp, with which is incorporated a certain proportion of animal charcoal deprived of phosphates. We were about to suggest that the inventor might find a hopeful field for the sale of the patent filter in connection with the water works system of Toronto, but the question arises how in that case the lively little fishes and sportive animalcules of various kinds could get through. Though not connected with the S. P. C. A., we are opposed to every form of heartlessness, and therefore withhold the recommendation.

The report of the Canadian Commission on the British Columbia Chinese question has been presented. This document is too lengthy for a synopsis or review in our columns, but the subject is one of great interest, and involves principles which should be studied by every intelligent citizen, and certainly by every teacher. The Commissioners seem to favour a middle course between the absolute exclusion for which a large minority are clamouring so hotly, and the absolute freedom favoured by those who think that the matter will regulate itself under the ordinary law of supply and demand. The exaggerated reports circulated so freely in regard to the immorality and degradation of the Chinese, are not sustained by evidence, though some special sanitary and police regulations may be deemed advisable. They have been of great service to the country in furnishing labour for railway building in quantity, and at rates which alone have rendered it possible. In view of the way in which British commerce and the infamous opium traffic have been forced upon China, international good faith, as well as all sound commercial and economical principles seem to forbid their exclusion from British territories.

The biography or, as it might almost be termed autobiography of George Eliot, which has been given to the world by her husband, Mr. Cross, is being eagerly criticised on all hands.

It consists almost exclusively of extracts from letters written from time to time by herself. Two points seem to astonish nearly all the critics. One is the inferiority of the letters in point of ability to the published works of the gifted authoress. They are in the main voted decidedly common-place, with the exception of a gem which sparkles here and there. The other disappointment is the apparent absence of depth and intensity of feeling. Those who knew, or thought they knew, something of George Eliot's personal history were prepared to find evidences of fierce and bitter conflict to mark the stages of faith and unfaith in her career. They expected to hear the outcries of a fervent soul crying out from the depths of anguish. Instead of this, so far as anything in her published letters indicates, she seems to have put off her religious belief as complacently as she would throw aside a worn out glove. But, of course, the critics do not know, and may probably never know, what the biographer may have suppressed.

The fact that Sir Stafford Northcote's vote of censure of the Gladstone ministry was defeated by the narrow majority of 14 makes it probable that the present administration is approaching the close of its career. That career has been one of the most remarkable in British history, and will well repay the study of every thoughtful reader, no matter to which side his sympathies may incline him. It is not simply that Mr. Gladstone is one of the most remarkable men, and one of the most powerful orators that the empire has ever produced. It is not that his personal history has been remarkable for consistent inconsistency, if we may use the expression in respect to the constant and gradual change of opinions which has carried him from the camp of Toryism to the headship of the great Liberal party. It is not simply that his whole career is marked by a series of great Legislative changes, each one of which has carried the nation farther and farther away from its old landmarks in the direction of liberalism and democracy. Over and above all this stands out the fact that the policy of the Government has from first to last been based on professedly new principles, that moral considerations have been given a prominence in Government never before accorded to them, that professedly at least, and most persons will admit with sincerity of purpose, he has aimed at building up the interests of the nation at home and abroad, on the broad foundations of *right*. Opinions will vary as to the success of the attempt, but the Kingdom of Great Britain and Ireland can never be again what it was before Gladstone arose. It must henceforth move on a higher or a lower plane.

At a college examination a professor asked: "Does my question embarrass you?" "Not at all, sir," replied the student. "Not at all. It is quite clear. It is the answer that bothers me."

*School committee* (examining scholars): "Where is the north pole?" "I don't know, sir." "Don't know! Are you not ashamed that you don't know where the north pole is?" "Why, sir, if Sir John Franklin, and Dr. Kane, and Captain De-Long couldn't find it, how should I know where it is?"

A widow, intending to succeed her husband in the management of a hotel, advertised that "the hotel will be kept by the widow or the former landlord, Mr. Brown, who died last summer on a new and improved plan."

## The School.

The Secretaries of the Teachers' Institutes would confer a favour on us as well as materially aid the objects of the Associations by sending us condensed reports of the most important exercises at the annual meetings.

The Rev. Dr. James Martineau has signified his wish to retire from the chair of Ethics and Apologetics, in Manchester New College, London, at Michaelmas next, after forty-five years of active service. Dr. Martineau, who is now in his eightieth year, has been Principal of the College since 1857. In view of his great ability, and the long and distinguished service he has given the College, the trustees are desirous that he shall still retain the Honorary Headship of the Institution.

The authorities of the Presbyterian College, Montreal, have made an excellent move in establishing a course of Sunday afternoon lectures on "Questions of the Day," in the David Morrice Hall. The Montreal correspondent of the *Canada Presbyterian* says that these lectures, which are delivered by professors, and eminent ministers and laymen of different denominations, attract large and appreciative audiences. It is not creditable to the various colleges in Toronto that they are, so far as we know, doing nothing to awaken thought and influence public opinion in regard to the great moral and religious questions of the day.

Much stress, but by no means too much, is being laid upon the necessity of teaching the rising generation to read and appreciate English literature. Amongst the various means that may be used to this end with good effect, the practice of requiring pupils to memorize selections in prose and poetry for the Friday afternoon recitations, which we hope are kept up in all the schools, is one of the best. Great care should be used in the selection of gems of thought and expression, and in seeing that the meaning is clearly understood and interpreted, and the memorizing accurate. Few exercises have more educational value. The memory is trained, the art of reading or speaking effectively is taught, and both the literary taste and the thinking powers of the pupil are improved by the study of good models.

A Nova Scotia correspondent complains, not without some ground, that the *SCHOOL JOURNAL* gives a disproportionate amount of its space to Ontario school matters. We have large numbers of subscribers in the Maritime provinces and are very anxious to do them ample justice, but it is sometimes difficult to do so. We trust our regular correspondents will not fail to keep us posted in all educational matters, but we also cordially invite communications and news items from all subscribers. We should be particularly glad too if some of the Inspectors and teachers would send us from time to time examination papers on public school subjects, and anything else of educational interest. It is our aim to make the *JOURNAL* just as useful to teachers in British Columbia and Prince Edward Island as to those in Ontario.

Is your schoolroom well ventilated? The question of recess, or no recess, is being debated with a good deal of vigour in some of the American School Journals. The question has, no doubt, two sides. But one consideration, trivial though it may at first appear, ought really to have much weight in determining the result. We have not yet seen a schoolroom so well ventilated that, if occupied to a point at all near the limit of its capacity, it did not need a thorough purification with doors and windows open at least once in the course of each morning and afternoon. It is simply impossible for teacher or pupil to do good work in a foul, burned-out atmosphere. To the arguments in favour of recess, drawn from the rest and re-invigoration of body and brain, may then be added that drawn from the opportunity afforded for thoroughly renewing the vitiated air of the school room.

In the course of the warm discussion which is going on in the London papers occasioned by the whipping of two girls in the Frampton Cotterell School, Mrs. Rose Mary Crawshay, well known for her philanthropic efforts on behalf of the poor, suggests that the stick could be safely banished from the public schools if a system of rewards were substituted, and suggests that the reward should take the form of some kind of extra food, and offers to contribute £5 a year towards a fund for the purpose. To this suggestion a dean of the Episcopal Church replies.—"A child seduced into obedience by the hopes of a good stomach-full is not moving on a higher plane than another child kept in the path of rectitude by the dread of a whipping administered *supra dorsum nudum*." To this dictum we decidedly demur, especially in the case of ill-fed children. Would the dean contend that the labourer who gives a fair day's work for a fair day's pay is not moving on a higher plane than the negro forced into activity by the slave-driver's lash?

One of the arguments strongly urged by the Eastern Ontario deputation in the interview with the Minister of Education in opposition to the scheme of University Federation, is entitled to serious consideration. This was to the effect that the removal of Queen's and other colleges to Toronto would have the result of largely lessening the number of those who would be able to obtain a University education. It is certainly of the first importance that the advantages of a college course should be brought within the reach of the largest possible number. If it can be shown that centralization would have the effect of putting a college course beyond the reach of many farmers' sons and others who would otherwise be able to attend the local institution, the fact would constitute a very weighty, if not wholly conclusive, argument against federation. It is quite certain that large numbers of young men attend the denominational Colleges who would never come up to Toronto to attend the Provincial University, but it may be questioned whether the fact is not the result rather of denominational than of local influences. The voluntary College, by virtue of its relations to the Denomination upon whose members it relies for support, has a thousand points of contact and attraction, such as no State institution can ever have. If this be the

true explanation, then the colleges being still voluntary and denominational though in Toronto, would continue to draw multitudes of students from the ranks of their sympathizers and supporters in the rural districts. The point is, however, worthy of much fuller investigation and discussion than it has yet received.

The opinions of teachers and other educationists, so far as we have been able to learn, are strongly in favour of the course advocated by the SCHOOL JOURNAL, in reference to the passing of the Amended and Consolidated School Bill. At a special meeting of the Public School Teachers' Association, of Ottawa, the following resolution was after full discussion, unanimously adopted:—

"That it is the opinion of the Teachers' Association, of the city of Ottawa, after a full discussion upon the salient points of the proposed Public School Act, that it is desirable that the Bill be held in abeyance until the next session of the Legislature, in order that the opinion of teachers and others interested in educational matters throughout the Province be obtained."

Surely in view of such and so well founded expressions of opinion, the Minister will not force his Bill through the House this session. All concerned are crying out for a rest in school legislation, but such rest can be gained only by deliberate care in making the Consolidated Statute as free from objection as possible.

#### THE NEW TEXT-BOOK POLICY.

There seems to be a remarkable consensus of opinion amongst thoughtful men in regard to the policy of monopoly and bureaucracy, which the Minister of Education is striving to establish. We have jotted down some remarks which have come to our ears from various influential quarters. They are worth quoting:—"Why create difficulties?" pertinently asks a prominent Government supporter in the Local House. Echo answers "Why?" It is like "giving a man an order to saw wood," was the comment of another leading Reformer upon the system of employing various amateurs to prepare books on special subjects under the supervision of the Minister himself.

There is, however, this difference to be observed in this case that whereas almost any man can saw wood tolerably well with a little practice, not one in a thousand can make a good text-book, even were he to spend a life time at it.

"Impossible! There must be some mistake," exclaimed another, when the famous one-book policy was first announced to him. He evidently had no faith either in monopoly in book making, or in the scholastic and professional infallibility of a minister. "Mr. Ross will find it much easier to do this thing now than he would four or five years hence, with 6,000 teachers to oppose him," remarked one of the most active and influential scholars and educationists in the city. But surely *No!* It will not take the teachers of the province four or five years to learn that the new system is utterly bad in principle and mischievous in practice.

One of the worst of the many objectionable features of the new policy is the premiums it offers to questionable or corrupt transactions with publishers. Any system which brings the Head of the Department into so close relations with the book-making business, opens the door to influences hard to resist. Mr. Ross's best friends will do well to caution him on this score before it is too late. They need not go far afield for warning examples. A late Superintendent of Education in New Brunswick lost his head, it is said, in consequence of school book difficulties. The death of the late Superintendent in Nova Scotia is attributed to trouble arising from a similar cause. It is better to avoid even the appearance of evil.

Still another asks, "Why should Mr. Ross unnecessarily harass and irritate the public and the booksellers all at once?" And again Echo answers "Why?"

#### MORAL TRAINING IN THE SCHOOLS.

Dr. Tassie, Principal of the Peterboro Collegiate Institute, is reported as saying, at a recent Literary Club banquet in that town, that the Ontario Educational system is now a little too materialistic, and that more moral and religious teaching is needed. In what sense the speaker used the word "materialistic" is not quite clear. In its common acceptance, as denoting the basis of a philosophical system, it is most surely inapplicable to our public schools, as it is well known the Scriptures are and have been regularly read in the great majority, the reading being accompanied in many cases by other religious exercises. A still better guarantee of the soundness of the moral teaching is to be found in the high moral character of the great body of the teachers, and the piety and Christian earnestness of very many. But if, as is probable, Dr. Tassie meant that our school system is purely secular, he merely stated a fact which is under existing circumstances both a necessity and a merit. While saying this we are in full sympathy with the conviction which is no doubt at the bottom of Dr. Tassie's remarks, that there is not in the schools enough of positive training in morals. This is the great defect of purely secular schools everywhere, though we do not regard it as by any means a necessary defect. What is needed is a suitable text-book of practical Ethics, for use in all the schools. Such a treatise would need, of course, to be based on the broad foundations of Christian morality, as contained, for instance, in the two great precepts of the moral law, but it is hard to conceive of these being seriously objected to by any one. The chief aim and use of the book should be, however, to train the youth of our country in the habit of moral reflection, accustoming them to think about the right and wrong as the fundamental quality of all motive and conduct. Such a text-book, simply written and abounding with illustrations could easily be made a most interesting study to the average pupil. While avoiding dogmatism and teaching each one to judge for himself what is right and what is wrong, its great end of moral training would be reached in counteracting the want of moral reflection which is far too characteristic of the young of our day, and in strengthening and developing the moral faculty by

calling it into constant exercise not only in great questions but in little matters of daily and hourly occurrence. The work would be strictly educational, and so brought within the legitimate scope of public school work, inasmuch as it would formulate no dogmas, but would aim simply to strengthen and develop a faculty which is present in every child's mind, and generally easy to reach in the tenderer years, though too often it becomes sluggish in its action if not half dormant in later years, through lack of proper attention and exercise.

## Special Articles.

### NAGGING

We are not quite sure whether the word that heads this article is to be found in the dictionaries, but the thing that it denotes is, in some shape or other, familiar enough to most people. Nagging assumes so many forms, and is carried on under such a wide variety of circumstances, that to treat it exhaustively would require larger space than we have at our disposal, and a wider range of experience than we can boast of. The special form we propose to consider is school-nagging. Who does not remember the teacher who could never let his class alone, who was constantly shouting out orders or snarling out reproofs, who was not content with giving a rebuke, but kept on rebuking, who could never let by-gones be by-gones, but seemed to find an inexhaustible delight in raking up past offences to aggravate fresh ones? Who does not remember the rapid succession of ejaculations that kept on hurling through the air—"Smith, you are talking;" "Brown, sit straight;" "Robin, son, how many times am I to speak to you?" "Tompkins, there you are again!" "Simpkins, what are you doing?" Repose there was none; even steady work there was none; the teacher doled forth his instruction in the brief intervals between one distracting command and another; the class tried to listen or think, as the case might be, under the same unfavourable conditions; until, perhaps, by long habit, commands and threats produced no more impression in their minds than the noise of the mill-stream produces on the miller.

The nagging teacher is, we fear, a very common species, and it may not be unprofitable to inquire into his natural history. The tendency to nagging is doubtless favored by an acrimonious temper, by an unkindly disposition that finds a pleasure in the infliction of petty misery, and by the desire, sometimes not culpable, but sometimes distinctly selfish, of pushing a class on, or of raising it to a very high state of discipline; but it owes its origin mainly to the teachers's incapacity. The skilful teacher never nags. He prides himself on attaining his ends with the smallest number of words, and with a minimum of effort; he gets attention not by obtrusively asking for it, or by punishing for inattention, but by awakening interest; he secures the activity of his pupils by giving them work that they find a delight in performing; his efforts are directed not so much to the correction of faults as to the prevention of their occurrence; he recognizes that many of the faults of children originate not so much in any natural defect of mind or of character as in bad teaching and bad training; and he looks to himself, rather than to his pupils, when things go wrong. If his class fidget, he knows that they have been kept too long in one position, and he acts upon nature's warning by changing their position. If they are inattentive, he knows that he is shooting over their heads,

or that they are already familiar with what he is talking about, and are too honest to affect an interest they do not feel, or that they want some change of occupation, and he adopts his course accordingly.

The nagging teacher is almost invariably a bad disciplinarian. He seeks to secure the conditions of successful work rather by a ceaseless drill than through causes operating spontaneously in the child's own mind; very often even his drill is unsuccessful through his disregard of laws of body and mind that nature will not allow to be violated, and through his own want of firmness in seeing his commands executed. The feeble disciplinarian tries to make up for his want of skill by noise and bluster, by constantly reiterated commands and threats, by gibes and flouts, and other such obtrusive means, only to find that these measures produce less and less effect with each repetition. The more he nags the more he is obliged to nag. What the effect of such treatment must be on the class subjected to it we need scarcely point out. It is impossible that pleasant relations should be established between teacher and taught, when the teacher is constantly finding fault. The child who is forever being bullied gets naturally to look upon his teacher as a tyrant, and shows no further regard for his will than is inspired by dread, and, as a consequence of this, as soon as the teacher's back is turned his will is wholly disregarded.

The nagging disciplinarian is equally bad as a teacher. He nags because he teaches badly, and he teaches badly because he nags. It would carry us too far to inquire exhaustively what are the causes of bad teaching; the most common are defective knowledge, neglect of preparation, bad method, insufficient illustration, the endeavour to do too much, ignorance of the mental processes involved in learning. All these causes produce unsatisfactory results; unsatisfactory results are apt to beget impatience; and impatience is apt to beget nagging. A lesson has to be gone over again and again because it was not gone over judiciously the first time; explanations have to be explained with the effect of introducing new difficulties that demand new explanations; and the class are blamed for what were really the faults of the teacher. Nagging only aggravates the effects of bad teaching. How can a child give the whole of his mind to the work in hand when he is constantly harassed by the chidings of his teacher? Anger does not reduce chaotic instruction to methodical order; it does not remove intellectual difficulties; it does not enable the teacher to set at naught the processes by which knowledge is naturally apprehended. On the other hand, it "makes confusion worse confounded;" it distracts the mind, and, by dissipating its energies, leaves less available for the mastery of the difficulty in hand. "It is as impossible," says Locke, "to draw fair and regular characters on a trembling mind as on a shaking paper."

Some admirable remarks on nagging will be found in Mr. Arthur Sedwick's recent lecture on "Stimulus." Having explained "nagging" as "a constant fire of little rebukes to one and another for inattentiveness," he says, "It wears out the patience of the best-regulated boy to receive, or even to hear such rebukes. It is exasperating to human nature, and is utterly futile. Moreover, it distracts and worries the teacher, and destroys even what chance there was of any real stimulus to attention. My own advice," he continues, "would be this—you may have in many lessons to caution once or twice; but if you find the thing becoming common, look elsewhere for the cause and for the cure. The probability is you are becoming dull. Either quicken up a bit, or at any rate, vary the proceedings. But don't nag. It may not, of course, be your fault. The weather may be hot; or there may be some excitement toward a great match after school, or races in the vicinity, or some new promotions to the Eleven, or news has come that the

ice bears on the reservoir. Anyhow, don't nag. If it is hot, open the door and any remaining window; if it is excitement, try and compete with it, rather than choke it by nagging. I have learnt the futility of this method by having tried it—and failed." Excellent advice! When teachers come to understand that success in teaching does not depend on the mere will of the teacher, not on the mere will of the learner, but on strict conformity to the laws of nature, they will cease to nag; they will find out a more excellent way; they will learn that nature is to be subdued in one way only, and that is by obeying her.—*School Guardian*.

### Examination Questions.

#### BOWDOIN COLLEGE, BRUNSWICK, MAINE.

##### PAPERS IN ARITHMETIC.

EXAMINATION FOR ADMISSION, JUNE, 1883.

- Find the difference between '000,0005, and '000,05.  
Ans. '0000495.
- Change '03125 to a common fraction in its lowest terms.  
Ans.  $\frac{1}{32}$
- If the year is considered 365.25 days instead of 365.242264, how great will the error be in 1880 years?  
 $(365.25 - 365.242264) \times 1880 = 14.54368$  yrs.
- The dividend is 7423.973, the quotient is 12.130, and the remainder is .413. What is the divisor?  
 $(7423.973 - .413) \div 12.130 = 612$ .
- What is the cost of 60.5 tons of coal when 9 of a ton cost \$6.66?  
 $(60.5 \div 9) \times 6.66 = 60.5 \times 7.4 = \$447.70$ .
- Find the square root of 6.7081, and '004, to the nearest ten thousandth; also of  $\frac{4}{25}$ . Ans. 2.59; .0632;  $\frac{2}{5}$ .
- Reduce 6453<sup>m</sup> to kilometers; 4.15<sup>m</sup> to centimeters; 6.45 li. to milliliters. How many decigrams does a dekaliter of pure water weigh?  
1 km. = 1000m. ∴ 6453m = 6.453 km. ; 100 cm. = 1m. ∴ 4.15<sup>m</sup> = 415 cm.  
1 li. of water weighs a kilogram, ∴ 1 decalitre = 10 kg. = 10000 decigrams.

#### DARTMOUTH COLLEGE, HANOVER, N H

ENTRANCE EXAMINATION, JUNE, 1883.

- Find the G.C.D. of 66,308, and 506. Ans. 22.
- Divide  $\frac{3\frac{1}{2}}{7\frac{1}{2}}$  by  $\frac{\frac{1}{2} + \frac{1}{3}}{\frac{1}{2} - \frac{1}{3}}$ . Expression =  $\frac{20}{45} \div \frac{3+1}{3-2} = \frac{20}{45} \times \frac{1}{4} = \frac{1}{9}$  Ans.
- Give the value of a kilometer in feet; of a kiloliter in gallons; of a kilogram in pounds.  
1 Kilm. = 1000 m. = 1000 × 39.370,43 m. = 3.280879 ft.  
1 Kilol. = 1000 l. 1000 × 1.056,71 qts. = 264.1775 gals.  
1 Kilog. = 2,20462 lbs. avoirdupois.
- If there is a gain of 12½% on tea @ 90c. per lb., what would be the gain % @ 84c. per lb?  
12½% =  $\frac{1}{8}$ ; ∴ 90c. =  $\frac{1}{8}$  cost ∴ Cost = 80c., gain =  $\frac{1}{8}$  cost or 5%.
- Find  $\sqrt{(1.23 - .0025)}$  to four decimal places.  
Expression =  $\sqrt{(12300 \div 625)} = \sqrt{(492 \div 25)} = 22.181073 \div 5 = 4.4362146$  Ans.

#### MASS. INST. OF TECHNOLOGY, BOSTON, MASS.

ENTRANCE EXAMINATION, JUNE, 1882.

- Find the L.C.M. of 105,476, and 306.  
L.C.M. of 15×7, 17×4×7 and 17×18 = 17×7×5×4×9 = 3060.
- A grocer makes a mixture of which 21.5 pounds contains  $\frac{1}{2}$  pound of rye, twelve pounds of wheat, 5 pounds of oats, and 4 pounds of barley. How much of each ingredient will be contained in 100 pounds of the mixture?  
Rye =  $\frac{1}{2}$ , wheat =  $\frac{12}{21.5}$ , oats =  $\frac{5}{21.5}$ , and oats =  $\frac{4}{21.5}$  of mixture.  
∴ Rye = 100 ÷ 43, wheat = 2400 ÷ 43, etc.

- Reduce to a decimal fraction  $\frac{3\frac{1}{2}}{25}$  and from it subtract '01 of  $\frac{1}{4}$ .  
Multiply N. and D. by 40 and we have 128, =  $\frac{12800}{10000}$ , a decimal fraction.  
Again, '01 of  $\frac{1}{4}$  =  $\frac{1}{40}$ . Diff'n. 51197 ÷ 400 = 127.9925.
- In how many days will \$3245 gain \$80 @ 7% simple interest?  
\$100 gives \$9 in 365 days.  
\$1 gives \$1 in 36500 ÷ 7.  
3245 " \$1 in  $(36500 \div 7 \times 3245)$ .  
3245 " \$80 in  $\frac{36500 \times 80}{7 \times 3245} = 121$  days.
- Find the G.C.D. of 119 and 231.  
i. e. of 7×17 and 7×33. Ans. 7.
- Find the cube root of '012,326,391. Ans. '231.
- How many liters are contained in a cubical box 13 inches long, 13 inches wide, and 13 inches deep on the inside?  
Given that 1 metre = 39.37 inches.  
Capacity 13<sup>3</sup> cub. in. = 2197 cub. in.  
Now 1 m. = 10 decimeters, and 1 litre = 1 cubic decimetre.  
∴ 1 cubic metre = 1000 cubic decimeters = 1000 litres.  
But 1 " " = (39.37)<sup>3</sup> cubic inches.  
∴ 1 cubic li. = (39.37)<sup>3</sup> ÷ 1000 cub. in. = 61.025 cub. in., nearly.  
∴ Capacity in litres = a little less than 2197 ÷ 61.025 =, etc.
- How many grains of distilled water will such a box contain?  
This will depend partly on the temperature of the water. Assuming 4°, centigrade 1 gram = weight of 1 cub. centigram = 1000<sup>th</sup> of a litre.  
∴ Ans. = 2197000 ÷ 61.025 =, etc.

#### EDUCATION DEPARTMENT, ONTARIO.—DECEMBER EXAMINATIONS, 1884.—ADMISSION TO HIGH SCHOOLS.

##### GEOGRAPHY.

EXAMINER—J. E. HODGSON, M.A.

- Name, and state the situation of the cities in Ontario. By what two railway routes may one proceed from Toronto to Ottawa? From London to Toronto? From Toronto to Woodstock?
- Name six countries of Europe and indicate their relative positions. Give the name and the situation of the Capital of each of them.
- Name the Zones and state the extent of each in degrees. Mention some of their respective natural products.
- Where, what, and for what noted are:—Manchester, Pittsburg, New Orleans, Chicago, Quebec, Washington, Champlain, Amazon, Superior, Prince Edward?
- What are the principal exports of Canada? In what parts of Canada are they found? To what countries are they sent?

##### COMPOSITION.

EXAMINER—J. E. HODGSON, M.A.

- Give in your own words the substance of the following fable:—

A rustic saw an eagle in the snare,  
And, as he much admired its beauty rare,  
He loosed it from its fetters forth to roam:  
Thence did the eagle a warm friend become  
To its preserver. For, to avoid the heat  
And catch the breeze, it saw him take his seat  
Beneath a wall. It snatched, as o'er it flew,  
A burden from his head, and this it threw  
Far off. The rustic, eager to pursue  
His pack, made for it. Down the wailing fell,  
And thus the rustic was requited well.

- Write a short note to a cousin, or friend, in Toronto, inviting him to spend a day with you.



3. Combine the following sentences so as to form a connected story :—

There was once a sculptor. The sculptor's name was Bacon. Bacon, when a boy of five years, fell into a pit. The pit was the pit of a soap-boiler. A workman entered the yard. The workman observed the top of Bacon's head. The workman immediately rescued Bacon.

4. Contract each of the following complex sentences into a simple sentence :—

- (a). When Caesar had crossed the Rubicon, Pompey prepared for battle.
- (b). As I had nothing else to do, I went away.
- (c). If you remain here, you will suffer from cold.

5. Correct the following :—

- (a). It is equally as good as the other.
- (b). There are but a few other similar places.
- (c). Whenever he sees me he always enquires after my health.
- (d). He does not know you better than John.

### DRAWING.

EXAMINER.—J. SEATH, M.A.

10 marks for each question.

1. Illustrate and describe (a) a square, (b) its vertical diameter, (c) its left oblique diagonal.

2. Draw an upright view of a square about 1 inch to a side. Draw its diameter and bisect each semidiameter. From each of these points of division draw a straight line to the two nearest corners of the square. Join the ends of its diameters and strengthen the parts of the sides of the oblique square, not covered by the outline of the four pointed star. Strengthen the outline of the four-pointed star.

3. Draw a square 2 inches to a side. Divide it into four smaller squares. Fill each square with a four-pointed star overlying a square with sides oblique.

4. Draw a right line moulding about  $1\frac{1}{2}$  inches long and  $\frac{1}{2}$  inch wide, composed of concentric squares and the portions of the diameters of the larger square lying between the inner and outer squares.

5. Draw the top and side views of an oblong block of stone. The ends of the block are  $\frac{1}{2}$  inch to a side and its height is 1 inch. Place the end view either above or to the right of the side view, and connect the views by dotted lines.

6. Write brief directions for drawing a square 1 inch to a side on its diameters. Illustrate, and number the lines, to show the order in which they were drawn.

(To be continued next week.)

### Practical Department.

#### PRIMARY DRAWING—HINTS AND DEFINITIONS.

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

##### DELICACY OF TOUCH.—FIRMNESS OF LINE.

When your pupils begin to draw on paper, one of the first things they need carefully to cultivate is delicacy of touch. The inexperienced are apt to make the first lines altogether too heavy, and so, if they are wrong, much time is lost in erasing, while the appearance of the drawing-book is marred. Then, too, the point of the pencil is frequently broken off. On a slate such lines are less objectionable, since they can be readily removed.

Do not mistake the application of what is said about delicacy of touch. It does not mean that such a touch is specially needed to produce delicate lines when you are finishing a drawing; it means, rather, that it is needed to produce the first lines, which constitute the sketch, and which should be drawn so faintly as to be just fairly visible. When the drawing is lined in, finished, then the line should always be firm and not weak, bold and not wavering and timid. A firm, bold line can be had only when the pupil knows

just what he is to do, and then firmly and boldly does it. Look well after this.

In order to secure this firmness and boldness of line, which is of so great value, some of the best schools of art require their students to begin to draw with charcoal. But this is found impracticable when children are to be taught in class. They can manage the lead pencil much more easily, and secure much better results. Require your pupils constantly to act upon the suggestion here given, and not waste their efforts in trying to secure a fine, delicate result when lining in their work, instead of that which is firm and bold, even though it may be somewhat rough.

##### MANAGEMENT OF THE EYE.

Do not look directly at the point of the pencil when drawing an original line, as you look at the point of the pen when writing. With inexperienced pupils there is a tendency to keep the eye fixed upon the point of the pencil; and so you must instruct them otherwise. Not only are there different varieties of lines, but, when they are drawn freehand, it is commonly under one of three conditions, each of which demands a somewhat different management of the eye.

1. When a line is to be drawn to hit a given point, as is usually the case, keep this point always in view, or you can never know whither you are going. Imitate the carpenter, who does not look at his hammer, but at the head of the nail he desires to hit. So far as possible, keep the whole space where the line is to be drawn, with the point to be hit, in the field of vision at the same time.

2. When a line is to be drawn without reference to hitting a given point, keep the whole line, as it is drawn, in view. In this way mistakes can be prevented, which is much better than correcting them after they have been made.

3. When one line is to be drawn parallel to another, keep both lines—the line drawn and the line being drawn—in view at the same time. By practice you will learn how to do this.

These directions hold good only when you are drawing a line for the first time, not when finishing a line already faintly drawn. In the latter case the eye accompanies the point of the pencil.

##### RATE OF MOTION OF THE PENCIL.

The motion of the pencil may be as rapid as the eye can distinguish clearly; but it should not be more rapid, for then the line will be right only by chance. Hand and eye must always work together, the latter directing the former. Again, the motion should always be steady, uniform, from the beginning of the line to its end, never-hesitating or jerky. Give particular attention to this matter, observing how each pupil handles his pencil.

It is expected that these general directions will be given to the pupils, not all at once, but as required, and that they will be repeated until the pupils have learned to follow them from habit; when a certain way of thinking or doing has become a habit, then, indeed, it is thoroughly mastered, and not before. Be very watchful of your pupils when they begin to draw, and keep them, if possible, from acquiring any bad habit, which they must afterwards unlearn. To unlearn is the hardest sort of learning.

##### OCULAR AND VERBAL INSTRUCTION.

For all, but especially for children, ocular illustration is very much better than verbal explanation. Remember this in your attempts to teach children the exact force of the technical terms used in drawing. It is far from enough for them to learn the definitions of these terms by heart, and to repeat them glibly. This most children can easily do, without understanding one of the terms: it is only what so frequently happens in the case of geography, arithmetic, grammar. The pupils must see the definitions illustrated again and again: they will then understand them; and, provided they do clearly understand them, it is of little consequence whether they can repeat them word for word.



## SCHOOL CLASSIFICATION.

FROM BALDWIN'S "ART OF SCHOOL MANAGEMENT."

SCHOOL CLASSIFICATION is the grouping of the pupils for school work according to age, ability, and scholarship. Wise classification puts each child in its proper place. Two distinct plans are pursued—close classification and loose classification. On the first plan the pupil makes equal advancement in the several branches of the course, on the second plan the pupil is permitted to advance in certain branches without reference to his attainments in the other branches. In all elementary schools the classification should be *close*, never *loose*. As a basis, attention is invited to the following:

## I. PRINCIPLES RELATING TO SCHOOL CLASSIFICATION.

1. UNIFORMITY. — *The Several Branches should be kept abreast.* The phase of the several branches pursued must be the same. It is not uncommon to find pupils well advanced in arithmetic, but extremely backward in other branches, or well advanced in geography, but deficient in arithmetic. These unfortunates should be so classed as to give the greater part of their time to subjects in which they are deficient. The application of this principle will work a much-needed revolution in our ungraded schools.

2. ADAPTATION. — *The Pupil should be placed in Classes adapted to his Ability and Advancement.* If classed too low, the pupil is not stimulated to effort; if classed too high, he is apt to become confused and discouraged. Nothing succeeds like success. Each pupil should be so classed as to become a success in his classes. The application of this principle requires sound judgment and a profound study of child-nature. Classification can never be done by machinery.

3. CRITERIA. — *Age, Ability, and Scholarship determine the Classification.* Other things being equal, older pupils are classed higher than younger, and strong bright pupils higher than delicate or dull ones. The reasons are apparent. To consider scholarship alone is a grave, though common error. Examinations, oral and written, give some of the conditions; but to ignore ability is to fail to reach the correct solution. Study the child.

4. STANDARD. — *Reading and Arithmetic are made the Standard of Classification.* All the pupils in the elementary school are in these branches. Ignorance of these bars progress in other studies. The judicious teacher will give due weight to the pupil's advancement in other branches; some may be worked up, others merely reviewed. Complete adjustment may be secured by firmness and a few months of hard work.

5. NUMBER OF CLASSES. — *As few Classes should be Organized as is Consistent with good Grading.* Upon this principle depends largely the efficiency of the ungraded school. Numerous classes fritter away the time of the teacher without producing satisfactory results. Uniformity of text-books, wise combinations, and practical devices enable the competent teacher to reach a high standard of efficiency even in a large ungraded school.

6. SIZE OF CLASSES. — *Medium-sized Classes are Best. Each Pupil must be reached Individually during the Recitation.* In very large classes this can not very well be done. In very small

classes it is difficult to maintain sufficient interest on the part of teacher and pupils. A class numbering from ten to thirty is most desirable. Avoid, if possible, organizing classes for three or four pupils. As a rule, from five to ten should be the minimum number in any class, where the school is large.

7. ADJUSTMENT. *The Work must be Adjusted to the Abilities and Tastes of Different Pupils.* Some excel in language, but have no taste for arithmetic. The minimum amount of work in arithmetic and the maximum amount in language should be required of such. So in other branches.

STUDY YOUR PUPILS.—"You go into your school-room, and, after a superficial observation, you conclude, 'These scholars are just like the ones I had last term—are of the same grade and age'; and you will commence running in the old groove. This is a great mistake. Of the myriads of beautiful flowers that adorn the earth, there are no two alike; so it is as regards children: there are no duplicates in God's creation. Every child that comes into this world is a new combination of elements. Your first and most important duty is to study the nature of each scholar; study the characteristics that are peculiar to each, that you may know how to awaken their nobler emotions, and adjust the work to each one's wants." Your classification will thus become truly artistic. The school is for the children, and not the children for the school.

## ENTRANCE LITERATURE FOR JULY AND DECEMBER 1885.

[Edited for CANADA SCHOOL JOURNAL, by Messrs. H. Ray Coleman, Principal of Peterboro' Public Schools, and J. D. McIlmoyle, Principal of Peterboro' Separate Schools.]

Sir John Franklin.—Page 6.

*The Polar clouds uplift, etc.*—The papers discovered by McClintock, give but a meagre account of what happened. The poem informs us that clouds cover those regions, and hides as it were everything from view; but as they rise for a moment we see the men on their march from the ships in search of some friendly settlement of Esquimaux, open water, or rescuing party. Then the clouds settle down again, and all is as dark as before.

*Braced for their closing parts.*—The sailors had firmly made up their minds to meet whatever awaited them with a brave spirit.

*Long March to the Grave.*—They marched from the ship as it were, to meet death—had they not left the ship, death would have met them there.

*The snows dazzling blink.*—Looking over large ice-fields a dazzling glare is noticed in the atmosphere.

*Dreary.*—(Imitative Harmony.)—To fall, to become weak.

*Is dotted*—Where the exhausted sailors died as they went along.

*Sleeping head for death.*—A Euphemism.

*Gaze*, in some editions; this word should be "graze."

*Sleeping head.* See note above.

*Like drunkards reel.*—A species of delirium or snow-blindness is caused by travelling, not only in the Arctic regions, but anywhere over large fields of snow or ice, during sunny d.

*Hotting—Knowing.*—This verb should be "witting" the present participle of witan - to know. Present tense, "wot"; past tense, "wist"

But for the terrible pains produced by cold and hunger, the sailors scarcely knew whether they were alive or dead.

*The river of their hope.*—The Mackenzie River they expected to reach, although they were far from it when they died. They were nearer the Coppermine or Bach River.

*Snow blind way they grope.*—Temporary blindness is produced in travelling for a length of time over snow or ice—hence they had to grope their way like the blind.

*Iron Strand.*—The rocky coast or shore.

*His heart ne'er ached to see, etc.*—Franklin who died on his ship, did not see his men perish.

*The sailor's puns were free, etc.*—The sailors did not have their agonies augmented by having their gallant captain perish with them.

"Punch" is the name of a London newspaper that may be seen in most book-stores at the present day. It is the most humorous paper published in the world. Sometimes grave pieces like this poem are found in its columns. This is said to have appeared in *Punch* in 1859, shortly after McClintock brought the news of Franklin's fate.

Mark the vowel sounds and accented syllables of the following words.—Polar, snowy, gallant, calm, dazzling, gone, foxes, strand, remnant, shuddering, captain, apart, enduring, devoted.

Memorize the poem

Tell the parts of speech of each word of the following compound words:—Well-ordered, snow-blind, snow-clouds, well run, frost-wind, much-loved.

The metro of this poem is Iambic Hexameter.

Measure the lines.

Write an abstract in prose of the lesson.

Sir John Franklin was born in 1786, in Lincolnshire, England. In 1800 he entered the navy, and took part in the battles of Trafalgar and Copenhagen. In 1819 to 1822, he was engaged in surveying the coast northward from Hudson Bay. He was made Governor of Van Dieman's Land in 1836. In 1845 he undertook to find a northwest passage in two ships, the "Erebus" and "Terror," when as the lesson states, all perished. Sir L. McClintock in 1858 found on King William's Island, a box containing papers in a "cairn." The papers found informed him that Franklin had died on board his ship, and that his crews tried to reach some friendly settlement, open water, or perhaps a rescuing ship. There have been upwards of 200 Arctic expeditions. The following are some of the more important Franklin searching expeditions:—Moore, Rae, Ross, 1848; Rae, 1850-4; Belcher, 1852-4; Kane, 1853-5; Hall (American), 1854-6; Hays (American), 1865. Traces of Franklin have been discovered by several Arctic explorers since 1858.

McClure made the discovery of a north-west passage in 1852.

One of the rarest faculties of the teacher is the power of bringing a class into sympathy with himself, and filling the hour with an atmosphere of encouragement suggestion, and inspiration, which enables the scholar to do his best. There are teachers who seem to disintegrate and demoralize a score of children, or even a class room full of college students. In some indescribable way they drive every pupil into a corner, cut every bond of sympathy between him and his fellows and bring him to his feet in a recitation, like a solitary soldier in a forlorn hope surrounded by enemies. One-half the success in teaching is the faculty of inspiring a reasonable confidence in the learner, so that he shall bring his full measure of power to grapple with every difficulty. This can only be realized in an atmosphere of sympathy and stimulating encouragement whose source must be the manhood and womanhood of the teacher. And this is not an intellectual, or even "magnetic," but a moral power,—somewhat the gift of nature, but far more the result of long and prayerful self-discipline, and the cultivation of a love for humanity. Many a teacher in no way distinguished by knowledge, unskilled in the handling of the most approved methods, is thus able to achieve great results, by lifting the little community in the school-room up to an enthusiastic love of knowledge, and pouring around all a spiritual atmosphere in which every one is twice himself.—*U. E. Journal of Ed*

Do not scatter your force as a teacher, especially if you are a primary teacher. There is a certain satisfaction if only we are busy; never mind where the force goes; but the teacher has no nerve force, no mental energy, no physical stamina to waste. Let every word, movement, thought, tell for success. Many efforts at discipline scatter force: It pays to say little; do little in discipline, but do that effectually. Many explanations of lessons scatter force because given without the attention of the class, without due meditation and care in choice of method. It pays to have attention, and a method of procedure well chosen. Husband all your force, and guard at every point against the miscellaneous waste thereof.

## Answers to Correspondents.

The SCHOOL JOURNAL Arithmetical Competition is open to all who comply with the conditions. In answer to enquiries we have to explain that the Arithmetic for III Class includes Greatest Common Measure and Least Common Multiple, Vulgar Fractions, Elementary Decimals and Elementary Reduction; for IV Class, Vulgar and Decimal Fractions continued, Reduction and Compound Rules, and Elementary Percentage and Interest.

## Educational Notes and News.

The students from the maritime provinces and Newfoundland who are attending McGill University have formed a Maritime Association for the purpose of promoting a greater degree of social intercourse among the students from the Eastern provinces. There are fifty students in the Society.—*The Argosy*.

The number of school districts in Pennsylvania is 2,241; schools, 19,919; graded schools, 8,345; Superintendents, 108; male teachers, 8,559; female teachers, 13,905; average salaries of male teachers per month, \$38.47, and of female teachers, \$29.39; average length of school term in months, 6.74; pupils, 966,039; average number, 635,678; cost of tuition, \$5,403,636.41; cost of building, purchasing and renting, \$1,686,132.74; cost of fuel, contingencies, debt, and interest paid, \$2,373,452.66; estimated value of school property, \$31,896,098.

The half-yearly report of the Ontario Ladies' College is one of the best ever presented. We are pleased to learn that the college is increasing in popularity as well as efficiency.

The attendance at Vassar College has fallen off more than half since 1875, and the managers attribute this state of things to the newspaper paragraphs who have pointed new jokes at Vassar girls and relished old ones to fit them until those who shrank from unwholesome notoriety hesitate to have their names appear in the Vassar lists. So says a newspaper paragraph.

The Council of the Theological Society of London have placed Toronto University in the list of institutions entitled to receive a free copy of all publications of the Society.

The Waterloo County Teacher's Association met at New Hamburg, on the 27th inst. The President, Mr. Connor, Principal of the Berlin High School presided. Several interesting papers and subjects were read and discussed during the day, and in the evening, J. A. McLellan, M.A., LL.D., delivered a lecture in the Town Hall, subject:—"Education in Ontario," which was listened to attentively throughout by a large and appreciative audience.

The first semi-annual meeting of the Toronto Teacher's Association was opened in the Sunday School building of the Carlton Street Methodist Church, on the 27th ult. The President, Mr. Samuel McAllister, occupied the chair. Some 200 teachers answered to their names. The President read a number of recommendations made by various teachers, relating to details of management and modes of teaching in the schools of various grades. Miss S. L. Taylor read an interesting paper on How to Teach Language Lessons; and Miss A. McIntyre, dealt in a lucid address, with the best method of teaching music to junior classes.

## Personal.

Mr. Charles S. Colquhoun has entered on his third year in charge of the Model Bush School.

Mr. Robert McEwen, one of the oldest teachers, as regards years of service, has the Graatley School, and has moved his family there.

Miss Janet Hepburn has been re-engaged in No. 8, Williamsburg.

Miss Christie Coulthart, another Ottawa Normal graduate, has the Dunbar School.

Mr. M. McKay, who taught at McIntyre last year, is now teaching at Honeywood.

Miss McKinnon, of Maple Valley, is teaching at Drew, in the county of Wellington, and is giving good satisfaction.

Mr. A. C. Fetterly has assumed charge of Bell's Corners School. The school taught by Mr. F. last year is among the first in the county as to standing.

The trustees at the churches have given the contract for a new school house, which, when completed, will cost about \$1,200. The teacher, Mr. Shurtleff, is a worker, and will appreciate the new house.

Mrs. Carrie Hazell, another graduate in the last session of the Ottawa Normal, has the Morristown School.

Mr. G. L. Brown, former teacher of No. 20, is attending the Morrisburgh High School, and has been succeeded by Mr. George Hayunga. This is a section only lately formed, and not very large, but the people are determined to have a good school.

Miss Hattie Lawyer, has been re-engaged in No. 11. The people recognize the advantage of having a trained teacher, and are paying her a higher salary than they ever paid before.

Miss Lydia Hilliard has the East Williamsburgh School.

Miss Hulda L. Whiteomb, at one time a teacher in Goderich, is engaged in literary pursuits in Toronto.

Miss Nellie Tighe has taken a school in Faulkham, north of Toronto.

Miss Kennedy, one of the public school teachers, who was seriously indisposed for the past two weeks, we are glad to notice, is able to be about again. — *Mitchell Advocate*.

Our school is progressing well under the able management of Miss E. Gertley. Miss Gertley has drawn the largest municipal grant of any school in the township this session. — *Dunford cor. Victoria Warrier*.

We regret to learn of the death after a lingering illness of Miss Campbell, late teacher in one of the St. Thomas Public Schools, and daughter of Mr. N. M. Campbell, Principal of the Model School in that town.

Miss L. B. Toye, who read the valedictory at the close of the last Normal School session at Ottawa, has received an appointment to P.S. No. 13, Williamsburg.

## Miscellaneous.

### A PATHETIC INCIDENT.

Dr. John Hall, describes in a pathetic manner a scene that he witnessed on a boat in New York harbor. Not far off was a well dressed but tipsy young man. Beside the clergyman was a plainly dressed man. When he saw the people laughing at the drunkard, he saw in his neighbor's eyes such a sad, pitying look that he said to him, "They should hardly laugh at him." "No, it is a thing to cry over." Then he told of his own wife, who took to drink in Scotland, and who promised to reform if he would come to this country, but did not, and died of drunkenness. "But I hope you have comfort in your children." "One, the second, is a good girl. The oldest is not steady, I can do nothing with her; and the youngest, a boy, can't be kept from drink. I've sold my place, and am going to a town in Ohio where, I am

told, no liquor can be had—to try to save him." Dr. Hall says, "Who would not wish for abstinence societies, tracts, books, minister's sermons, young people's pledges, humane laws? One almost cries out for *anything* that will stop this slow, cruel murder of home love, of men, of women, of little children, of hope, of peace, of immortal souls." It is this that is a part of our life; shut our eyes if we will. So the teacher must diffuse a sentiment in favor of temperance. It is said we can do no more now to stop the traffic, because the present generation were not educated to comprehend the immense issues at stake. Our school-rooms must teach temperance. — *New York School Journal*.

### ARCTIC ADVENTURES.

Commander Schley, of the Greely relief expedition, speaks most enthusiastically of the beauties of the countless icebergs of the northern seas. "One morning, when the atmosphere was hazy from a light fall of snow, in going a stiff nine-knot gait, we ran plump into an iceberg that was in our way, and which no one could see. For a moment I thought every mast would go by the board, and that my hair and teeth had preceded them. I never got quite such a shock. I was nearly thrown out of the crew's nest. I expected soon to hear the 'Alert' was leaking. But, strange as it may seem, with a rebound of at least thirty feet, there was not a seam started. It was almost miraculous that we had no catastrophe, and shows how thoroughly that ship was built for just such encounters in those seas. On another occasion, when over against the Greenland coast, I counted not less than 1,500 icebergs that had been pushed from the glacial formation on the sloping headlands of the coast into the sea. We could occasionally hear the crackling that indicated the fissure; but the sight of these majestic monarchs of the sea sailing off in the morning sunlight, with all the colors of the prism, was something that cannot be described. Fascinating region, do you ask? Never a one more so. I wanted to stay there awhile. Even the men I took at New Bedford and New London jumped at the chance to go, though some of them said they did not expect to come back again. Why, after we got Greely, and our mission was accomplished, I never felt such a pang of disappointment that, with seventy two days of summer weather before, and an open sea, I was obliged to turn my prow homeward, and abandon the chance to get a higher latitude than any other explorer."

### HOW SLATE PENCILS ARE MADE.

Broken slate from the quarries is put into a mortar run by steam and pounded into small particles. Thence it goes into the hopper of a mill, which runs into a bolting machine, such as is used in flouring mills, where bolted, the fine, almost impalpable flour it is that results being taken into a mixing-tub, where a small quantity steatite flour manufactured in a similar manner is added, and the whole is then made into a stiff dough. This dough is thoroughly kneaded by passing it several times between iron rollers. Thence it is carried to a table, where it is made into charges—that is, short cylinders, four or five inches thick, and containing from eight to ten pounds each. Four of these are placed in a strong iron chamber or retort, with a changeable nozzle, so as to regulate the size of the pencil, and subjected to tremendous hydraulic pressure, under which the composition is pushed through the nozzle of a long cord like a slender snake sliding out of a hole, and passes over a sloping table slit at right angles with the cords to give passage, with a knife which cuts them into lengths. They are then laid on boards to dry, and after a few hours are removed to sheets of corrugated zinc, the corrugations serving to prevent the pencils from wrapping during

the process of baking, to which they are next subjected in a kiln, into which super-heated steam is introduced in pipes, the temperature being regulated according to the requirements of the article, exposed to its influence. From the kiln the articles go to the finishing and packing room, where the ends are thrust for a second under rapidly revolving emery wheels, and withdrawn neatly and smoothly pointed ready for use. They are then packed in pasteboard boxes, each containing 100 pencils; and these boxes, in turn, are packed for shipment in wooden boxes containing 100 each, or 10,000 pencils in a shipping box. Nearly all the work is done by boys, and the cost therefore is light.—*Exchange*.

### THE HORSE RIDING DOWN HILL.

The Carson "Appeal," has the following:

"Mr. Torreyson, the blacksmith of this city, is noted for his kindness toward animals. He has just built a road cart, now on exhibition at his blacksmith shop, which is destined to revolutionize traveling by road and to materially lighten the labors of that noble animal the horse. The idea is to occasionally give the horse a chance to ride in the cart as the driver. The idea was first suggested to Mr. Torreyson by seeing a turtle move along the road carrying his shell with him. The vehicle made by Mr. Torreyson has four high wheels, and the places between them arched, so that the horse is hitched under the wagon between the wheels, his head projecting a little beyond the front wheels and his tail just barely clearing the hind wheels. The driver sits just over the horse's neck, and the others in the wagon face outward on each side. The horse is so fastened that the pulling is distributed over his body and does not all come on his neck and shoulders. In this position he is greatly protected from the sun and storm, and thereby enabled to make long journeys with less fatigue.

"But the principal part of the invention lies in a belly-band, about four feet wide, passing under the horse. When you reach the top of a long hill, down which a horse would have to go slowly as he held back the load, you simply turn a crank, and it lifts the horse off his feet several inches from the ground, and the vehicle then runs down the hill of its own momentum. It is provided with a steering apparatus and a brake, that the vehicle may be steered and its velocity regulated.

"Several times during the day the tired horse has a chance to ride, and is very much rested. Also, when the horse attempts to run away, you wind up the crank, and he is lifted of the ground perfectly helpless."

### IDEAS ABOUT INDIA.

The account given me by the oldest and best informed of my native acquaintance (and I am not talking here of Bengali demagogues, but of men holding, it may be, or who have held, high office under Government, and deservedly trusted by it) of the gradual estrangement which has come about within their recollection between themselves and the English in India, is most instructive. In the days, they say, of their youth, 30 and 40 years ago, though there were always among the company's officers men who from their abuse of power were disliked and justly feared, the general feeling of natives toward the English civilian was one of respect and even of affection. The Indian character is affectionate, enthusiastic, and inclined to hero worship; and the English in early days, from their superior knowledge and strength of character, exercised no little fascination on the native mind. Nearly all of the older men talk with reverence and esteem of certain teachers who instructed them in youth, and of certain early patrons to whom they

owed their success in after life; and they willingly acknowledge the influence exercised over themselves and their generation by such individual example. The English official of the day, they affirm, had more power than now, but he exercised it with a greater sense of responsibility, and so of honor in its discharge. He took pains to know the people; and, in fact, he knew them well. Except in the very highest ranks of the service he was readily accessible. He lived to a great extent among the people, and according to the customs of the people. He did not disdain to make friends with those of the better class, and occasionally he married among them, or at least contracted semi-matrimonial relations with the women of the land. This may have had ill consequences in other ways, but it broke down the hedge of caste prejudice between East and West, and gave the official a personal interest in the people, which no more sense of duty, however elevated, could supply. The Englishman of that day looked upon India, not unfrequently as his second home, and taking the evil with the good, treated it as such. England could only be reached by the Cape route. Traveling was tedious and expensive, the mails few and far between, and many a retired officer had at the end of his service become so wedded to the land of his adoption that he ended his days in it, in preference to embarking on a new expatriation. It is easy to understand from this that the Anglo-Indian official of the company's day loved India in a way no Queen's official dreams of doing now. Also that, loving it, he served it better than now, and was better loved in return.—*The Fortnightly Review*.

### NO ESCAPE.

The *Chicago Inter-Ocean* tells this story of the late General Henry D. Foster, of Pennsylvania, a man of singular unselfishness and purity of character:—

"While a member of the Legislature a prominent old gentleman familiarly known as 'Jimmy,' who made a business of attending the sessions, came into the General's room, and in the course of conversation about a bill in the House, remarked:—'General, there is money in that bill, and you may as well get some of it. I can get you \$500 for voting for it.' The General, knowing that moral indignation would be wasted, and also that the offer from Jimmy's standpoint, was made in pure friendship, simply said:—'You ought not to talk to me in that way, and since you say they are using money to pass the bill I shall vote against it.'

"'All right,' said Jimmy; 'the other side are using money, too, and I can get you \$500 from them.'

"Then the General was angry, and he said: 'If both sides are using money I won't vote on the bill at all.'

"'That's better still,' said Jimmy; 'I'll get you \$1,000 for not voting either way.'

"The General did not tell me how the interview ended, but it appeared to me that the only escape from the dilemma was to resign and go home. It was evident that the General's vote might have been sold to anybody simple enough to purchase it without his knowing anything of the matter."

Edmund About, the celebrated French *litterateur* is dead. At the outbreak of the Franco-German war he accompanied McMahon's army as special correspondent. In 1872 he suffered a week's imprisonment from the German authorities for some abusive newspaper articles, the Germans choosing to consider him a German subject from his being a native Lorraine. He leaves a wife and eight children.

## WORDS.

Words are lighter than the cloud-foam  
Of the restless ocean spray;  
Vanner than the trembling shadow  
That the next hour steals away.  
By the fall of summer rain-drops  
Is the air as deeply stirred;  
And the rose-leaf that we tread on  
Will outlive a word.

Yet, on the dull silence breaking  
With a lightning flash, a Word,  
Bearing endless desolation  
On its blighting wings, I heard:  
Earth can forge no keener weapon,  
Dealing surer death and pain,  
And the cruel echo answered  
Through long years again.

I have known one word hang starlike  
O'er a dreary waste of years,  
And it only shone the brighter  
Looked at through a mist of tears;  
While a weary wanderer gathered  
Hope and heart on Life's dark way,  
By its faithful promise, shining  
Clearer day by day.

I have known a spirit, calmer  
Than the calmest lake, and clear  
As the heavens that gazed upon it,  
With no wave of hope or fear;  
But a storm had swept across it,  
And its deepest depths were stirred,  
(Never, never more to slumber,  
Only by a word.

I have known a word more gentle  
Than the breath of summer air;  
In a listening heart it nestled,  
And it lived forever there.  
Not the beating of its prison  
Stirred it ever, night or day;  
Only with the heart's last throbbing  
Could it fade away.

Words are mighty, words are living:  
Serpents with their venomous stings,  
Or bright angels, crowding round us,  
With heaven's light upon their wings:  
Every word has its own spirit,  
True or false, that never dies;  
Every word man's lips have uttered  
Echoes in God's skies.

ADELAIDE PROCTOR.

## The Question Drawer.

## QUESTIONS.

I. In Calkin's "Geography of the World" page 2 this statement is found:—"A body weighs slightly more near the poles (than at the equator) which is another proof that these parts of the earth are flattened." Let the fact stated be granted. Does it prove that the earth is slightly flattened at the poles? If there were no centrifugal force would a body not weigh slightly more at the equator?  
A. B., Nova Scotia.

II. A speaks the truth 3 times in 4; B 4 times in 5; and C 6 times in 7. What is the probability of an event which A and B assert, and C denies?

SAMUEL C. LEE in *N. E. Journal of Education*.

SOLUTION TO QUESTION IN SCHOOL JOURNAL, OF FEB. 19, 1885.

I. The minute hand moves 54 spaces in 60 minutes.  $\therefore$  60 spaces in  $66\frac{2}{3}$  minutes.

The hour hand moves  $5\frac{1}{2}$  spaces in 60 minutes.  $\therefore$  in  $66\frac{2}{3}$  minutes it will move  $\frac{5\frac{1}{2} \times 66\frac{2}{3}}{60} = 5\frac{1}{3}$  minute spaces.

$\therefore$  in  $66\frac{2}{3}$  minutes the minute hand approaches the hour hand  $60 - 5\frac{1}{3} = 54\frac{2}{3}$  spaces.  $\therefore$  in 15 minutes it approaches  $\frac{54\frac{2}{3} \times 15}{66\frac{2}{3}}$  spaces =  $12\frac{2}{3}$  spaces.  $\therefore$  the hands are  $12\frac{2}{3}$  minute spaces apart.

Green River, Feb. 23, 1885.

J. W. ELLERBY.

"Logistes" son's solution to foregoing question and also to the interest question in paper of some date, but there is an error in his solution of the first and his method is incorrect in case of the other.

## Literary Review.

*St. Nicholas* for March, has for its frontispiece the inauguration of President Garfield. In the stories, poems, and sketches of this number, the following writers are represented; J. T. Trowbridge; E. P. Roe; Edmund Alton; Charles E. Carryl; Lieut. F. Schwatka; Julia Schazer; Louise Stockton; Jennie E. T. Dowe; M. C. Griffis; Malcolm Douglas, and Celia Thaxter.

LITTELL'S LIVING AGE. The numbers of *The Living Age* for the weeks ending February 14th and 21st, contain Prince Bismarck, *London Quarterly*; Sydney Smith, *British Quarterly*; English Character and Manners as Portrayed by Anthony Trollope, *Westminster*, Cosarism, *Nineteenth Century*; Dr. Johnson, *Contemporary*; Della Crusca and Anna Matilda; an Episode in English Literature, *National Review*; The Summer Palace, Peking, *Be gravin*; Whitby, *Good Words*; The Religion of Hamlet, *Mouth*; Outside London, *Chambers' Coptic Monasteries in the Eighteenth Century*, *All the year Round*; "Snow Bucking" in the Rocky Mountains *Loujmans*; Silence is Gold, *Spectator*; with instalments of "A House Divided Against itself," "Within his Danger" a Tale from the Chinese, and "A Hard Day's Work," and Poetry.

For fifty-two numbers of sixty-four large pages each (or more than 3,300 a year) the subscription price (\$5) is low; while for \$10.50 the publishers offer to send any one of the American \$4.00 monthlies or weeklies with *The Living Age* for a year, both postpaid. Littell & Co., Boston, are the publishers.

LITTEURS OF CICERO. Selected and edited with introduction and notes by J. H. Muirhead, B.A., Oxon, Examiner for Degrees in the University of Glasgow. This work will be found valuable for the study alike of the writings of Cicero, and of the character of the Author and the times in which he lived. The text is beautifully clear and pleasing to the eye, the annotations are numerous but brief and to the point. Rivington's, Waterloo Place, London.

EASY LATIN AND GREEK PASSAGES, FOR PRACTICE IN UNSEEN TRANSLATION. Edited by J. Arnold Turner B.A. Late Junior Student of Christ Church Oxford, Assistant Master at Hillbrow, Ragby Bath in conception and in execution this little work is excellent. We know no better means of familiarizing the student in the earlier stages of his classical course with the forms and structure of the languages than frequent practice in offhand translation. The ability to read at sight an easy passage in Latin or Greek, is one of the best tests of proficiency, but it is one in which too many of the students in our preparatory schools—shall we say and colleges too—would fail. A half hour twice or thrice a week could not be spent more profitably by such students than by translating at sight from the passages given in such a collection as the one before us. The prose selections are graduated in difficulty; the Poetry is arranged according to Authors. Rivington's, Waterloo Place, London.

BRITISH COLONY. This is a pamphlet of some 60 pages, issued under the direction of the Minister of Agriculture, for the information of Emigrants, and others interested. It embodies much useful information in regard to climate, scenery, productions and resources of the Pacific province, and contains several illustrations and a good coloured map of the province.

SCHOOL KEEPING. How to do it. By Hiram Orcutt, LL.D. Author of "The Class-Book of Prose and Poetry," "Gleanings from School-Life Experience," "Teacher's Manual," and "Parents' Manual." Cloth. 248 pages. Price, \$1.00. Sent, postage paid, on receipt of the amount. The book contains seven chapters: I. Theory and Practice; II. How to Begin; III. How to Govern; IV. How to Teach; V. Physical Culture; VI. Morals and Manners; VII. Temperance in Schools. It is written in a straightforward concise style, is eminently practical and abounds with well chosen illustrations. We do not agree with the Author on all points, especially in the chapter in government, but we can commend the book as one which can scarcely fail to be useful to every earnest teacher. Cloth. 248 pages. Price, \$1.00.