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THE ONTARIO TEACHER:

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ELORA TEACHERS' CONVENTION.

A very important Convention of the teachers of Wellington County, was held at Elora a short time ago, at which the Hon. Adam Crooks and Prof. Goldwin Smith were present. The Convention was attended by over 150 teachers, and great interest was manifested in the objects for which it was assembled. A number of resolutions were submitted, and carried almost unanimously. These we purpose noticing somewhat in detail.

The first resolution was as follows :

" 1. Moved and seconded, that in the opinion of this Convention, County and City Boards of Examiners be not allowed to renew third-class certificates, or to grant permits or interim certificates and that third class certificates be made Provincial for three years, also that an elementary knowledge of Book-keeping and human Physiology be required, and that British or Canadian History be substituted for General History."

It will be remembered that we discussed at considerable length the difficulties con-

nected with any interference with the present classification of Public School Teachers. We do not by any means argue in favor of a low standard or an inferior grade of teachers, but we hold that such is the present state of education in the country, that we cannot dispense with a grade that forms such a large percentage of the profession. We do not, however, believe that any advantage would be gained by making third class certificates Provincial. It is felt that to confine third class teachers to one county, with the strong probability staring them in the face, that a renewal of their certificates is impossible, is in itself a stimulus to exertion. True, there are many who enter the profession to gain some particular end, that are utterly indifferent to the requirements of the times and consequently make no advance whatever. There will be always "Third Class Teachers." To give such persons a *Provincial* standing would only aggravate the trouble, by conferring upon them an importance which

they did not deserve, and the dignity of which they were unable to maintain.

In regard to the renewal of Third Class Certificates, we are bound to say, that we cannot entirely agree with the teachers of Wellington County. We admit that there is some force in the argument that the teacher so deficient in application as not to work himself up from a Third Class to a Second Class in three years, deserves to be cashiered. But while this is true, there is another consideration, and that is whether in the interests of education it would not be better to renew the certificate of a third class teacher, who has added three years experience to his own attainments, than to hand his school over to another teacher of no higher attainments, and without any experience whatever. We believe the experienced teacher is worth a good deal more than the inexperienced, and therefore in many cases a renewal of certificate might be advisable in the public interest.

The granting of permits or interim certificates is, however, a different matter. These should be entirely dispensed with except where there is no other means of filling all the vacant schools. It is a power which might be abused by an Inspector, but which is worthy of being retained in order to meet contingencies that could not be met in any other way.

The suggestion that British and Canadian History should be substituted for General History is a good one, but might be even still more modified. We think the Central Examining Committee should prescribe some limited portion of history on which candidates should be examined, advertising the same one year in advance. It is utterly absurd to ask a Third Class candidate to read up as much history as a First Class candidate. The only remedy for this absurdity would be to limit Third Class candidates as already indicated, thus following out the same system as now pre-

vails with regard to First Class candidates in the study of English literature.

The second resolution commends itself without note or comment. It is quite useless to encumber our "programme" with a variety of subjects to which no teacher in a country school can be expected to give his attention. The resolution is as follows:

"2. Moved and seconded that, in the opinion of this meeting, Botany, Natural History, Agricultural Chemistry, Domestic Economy, Civil Government, Book-keeping, and Christian Morals, as taught from a text-book, be made optional subjects.

The third resolution proposes to dispense with quarterly examinations, leaving it optional for the teacher to choose whatever season would suit him best to hold semi-annual examinations.

The fourth resolution calls for an extension of holidays, asking "that the vacations of Public Schools should be the same as High Schools and at the same time." We think that at present the holidays are quite sufficient. We believe it is not in the interest of the profession to advocate an extension. There is such a thing possible as to create the feeling that a profession is too highly favored. The effect of the feeling would be to reduce wages and excite unkind criticisms adverse to the profession. Besides, there is another side to this question. Would not an extension of holidays be a hindrance to the cause of education? Teachers should remember that they are in duty bound not only to give an equivalent for their salaries, but, also, in the interests of the profession, to avoid anything calculated to impair its usefulness, or diminish its influence. The work in which they are engaged is of the highest national value. The progress of the country and their own advancement are closely connected, and in no case should they pursue a course that would retard that progress or affect their own interests.

The fifth resolution* submitted to the Convention, but not voted upon is as follows :

" 5. Moved and seconded that, in consideration of the frequent changes which teachers are compelled to make in rural sections, and the inferior class of houses which they are compelled to occupy, it would be a great advantage to married teachers, and help to keep them in the profession, if such a change were made in the school year as would enable them to terminate their annual engagements with the summer holidays ; and that such a change would also benefit the Public Schools, since a teacher can gain control of a school much more easily, when the attendance is small, as it invariably is after the summer vacation; also that large scholars, who attend school during the winter season only would have the advantage of the same teacher during the whole session ; and further we hold, that it would facilitate the attendance of teachers at the Normal Schools, and be more convenient for teachers who obtain certificates in July. "

The object of this resolution is simply to change the fiscal year of our Public Schools. The reasons for this change are, 1st. Convenience of married teachers; 2nd. Disciplinary advantages ; 3rd. Continuity of classes ; 4th. Facilities for attending the Normal School.

In regard to the first reason, it is quite apparent that there is no more inconvenient season in the year than mid-winter for a teacher with a family, to change his location. Roads are in many cases bad, weather severely cold, dwellings hard to get and many other inconveniences which do not prevail in the summer season. In this respect the example of the itinerant system in connection with some of our religious bodies might have some weight. Changes in church connection are all made in the summer, when the weather is warm and conveniences of travel much more abundant, than they usually are in winter. This view of the question alone should suffice to bring about the desired change.

The " Disciplinary " argument is also a

good one. It certainly is a great disadvantage to a teacher to go into a school particularly if it is in any way disorganized, and find himself surrounded by fifty or sixty pupils the first day. To a young teacher the task is almost appalling, and many failures may, no doubt, be traced to the enormous strain put upon the teacher by the combination of discipline and tuition, so suddenly imposed upon him. By taking charge of a school at midsummer, however, all these difficulties are removed. His classes are small. The larger pupils, who are most likely to give him trouble are absent. He has no difficulty in establishing his authority, because accession to the number of his pupils is so gradual, that they can easily be brought into sympathy with the general tone of the school, and thus what would be almost an insuperable task on the 1st of January, becomes comparatively easy under the more favorable circumstances proposed in this resolution.

There is a good deal also to be gained by the continuity of classes. Many larger pupils renew their attendance at school every year about the middle of November. They are no sooner nicely started however, than there is a change of teachers, with a new mode of discipline, classification, etc. Plans which were well nigh matured are overturned, and much time is lost by the changes proposed, as well as by the inability of the new teacher to understand for some time what is best to be done. Were the fiscal year changed, the same teacher would have the same pupils during the whole winter term and thus, without any interruption carry them through the programme for the whole term.

The loss of time likely to accrue from attendance upon our Normal Schools, under the present system, deserves the most serious consideration. Not only is it unjust to the teacher, but, it is also likely to affect the attendance of students. To break engagements or to seek them, in the

middle of a year is always a disadvantage. It is quite possible that after at each has devoted a whole year to study at the Normal School and spent a good deal of money, that he must wait for six months longer before he can secure a situation. We do not know that this often happens, but it is very apt to happen under the present system. Change the fiscal year and this difficulty will be overcome. Engagements can then be made and terminated, with a view to the long prosecution of studies for higher usefulness in the profession.

We must express our hearty approval of the general tenor of the resolutions adopted by the Wellington County Teachers' Convention. We trust these gatherings of teachers will become frequent—that the teachers of every county will consider the advancement of education to be one of their first duties to their country and their profession, and thus build upon a solid basis that system of Public Schools, which has justly become the pride of all true-hearted Canadians.

THE SUPERANNUATION FUND.

We have received the following communication :

To the Editor of the Ontario Teacher :—

SIR,—You have from time to time very generously furnished any required information of general interest to the profession ; and, if not trespassing too much on your good nature and the space at your disposal, I would like to make a few inquiries respecting the provisions and management of the Superannuated Fund. If I except one or two clauses which are pretty well understood by teachers generally, I must confess I am totally in the dark. These clauses are, 1st. Every male teacher shall pay \$4 per annum into said Fund. 2nd. The Inspector shall save teachers the trouble of handling the aforesaid sum by having it withheld when the cheque is paid. Now, Mr. Editor, having given you an account of the knowledge I already possess, I shall proceed to ask a few questions. Has there ever been an audit since the Fund was established ? Did the Government promise to pay a certain sum into that Fund yearly, and have they done it ? If there has been an audit, what is the balance on

hand, and how invested ? If there has not been an audit, are the parties who control that Fund so scrupulously honest, and so much interested in our welfare that an audit is not necessary ? Do you, or do you not, consider the teachers entitled to any information regarding a Fund to which they are compelled to pay, or are they so obtuse that they could not understand such a statement ? Hoping to hear from you in your next issue, and subsequently from some of your correspondents,

I am, yours, &c.,

A TEACHER.

In reply to "A Teacher," we would say that the provisions of the law are briefly as follows : Every male teacher is required to pay \$4 annually, to the Superannuated Fund. The amount is deducted semi-annually by the Inspector, forwarded to the Provincial Treasurer, and becomes at once a part of the funds of the Province. Teachers who have contributed regularly to this fund as the law directs, are entitled to be superannuated when they have attained the age of sixty, or sooner if disabled, and to receive a pension at the rate of \$6

per annum for every year they have been engaged in teaching. A teacher holding a First or Second Class Provincial Certificate, or who has been Headmaster of a High School or Collegiate Institute, shall be entitled to a further grant of \$1 per annum for every year of service while holding such certificate, or acting as such Headmaster. Any teacher retiring from the profession shall be entitled to receive back one-half of any sums paid into the fund, and on the death of any teacher his wife or other legal representative shall be entitled to receive back the whole sum paid into such fund, with interest at the rate of seven per cent. per annum. See the Consolidated Public School Act of 1874, Sections 95 to 102 inclusive.

Hitherto all applications for pensions from this Fund have been laid before the Council of Public Instruction, and have been adjudicated on by that body, but the payments have in all cases been made out of Provincial funds, and by the Treasurer of the Province. The Council seem to have merely acted as a certifying body, and their recommendation being acted on by the Government, the pensions have been paid accordingly. Under the new system, the granting of pensions will be more directly than heretofore, a matter of departmental management, as the duties of Treasurer and Minister of Education, are vested in the same responsible member of the Executive Council of the Province.

From what we have said "A Teacher" will readily understand that the sum of \$4, paid yearly by every male teacher to the Fund in question goes directly into the Provincial Treasury, and becomes a part of the Revenue Fund of the Province; while on the other hand, all payments on account of pensions are made directly from the Provincial Treasury, and form a part of the Provincial expenditure. There is no separate fund, (except as hereafter mentioned), nor, indeed, is it necessary. True, the

sum required must be voted every year, when the estimates are laid before the Legislature, but to its payment the credit of the Province stands pledged; the amount to be so paid is fixed by statute, and there is no danger that an ample annual sum will not be provided. It is also evident that there has not been, and could not be any audit, except that general scrutiny to which the Public Accounts are subjected when laid before the Local Legislature. The receipts and disbursements on account of the Teachers' Superannuation Fund from a part of the Public Accounts annually presented, and are not only subject to investigation by the Public Accounts Committee, but also to the general audit of the House of Assembly. Thus, for instance, in the Public Accounts of the Province of Ontario for the year ending December 31st, 1874, pages 146 to 151 inclusive, we find a detailed statement of pensions paid for that year, amounting to a total of \$22,910.25. On page 25 we find that the sum received from teachers as payments to the fund amounted to \$12,856.75. It would appear, however, that the sum of \$2,000 is invested in Dominion Stock, on account of this fund, being the only trace of any separate fund we have been able to discover. The interest on this sum, \$120, is put down as an item of receipts for the fund, making the total receipts for the year 1874, \$12,976.25. The total payments as already stated, for the same period amounted to \$22,910.25 so that, for that year, not only was the total amount received from the fund paid out, but also a further sum of \$9,933.50, voted for the purpose by the Legislature. The following is a statement of the receipts and payments on account of this fund for the three years 1872, 1873, 1874:—

YEAR	RECEIPTS	PAYMENTS
1872	\$11,083.72	\$11,994.77
1873	11,990.73	19,097.32
1874	12,976.75	22,910.25

REPORT OF THE HIGH SCHOOL INSPECTORS.

The report of the High School Inspectors always forms one of the most interesting portions of the Chief Superintendent's Annual Report. These gentlemen, Messrs. J. A. McLellan, LL.D., J. M. Buchan, M.A., and S. A. Marling, M.A., seem to be well qualified for their difficult and responsible positions. They are not only men of high scholastic attainments, with a practical knowledge of the duties and requirements of successful teaching, but they appear to be animated by that spirit of devoted earnestness and ardent enthusiasm so necessary to accomplish any great purpose, and stimulate those with whom they come in contact to a noble ambition to excel in their profession. Their report throughout is more hopeful than in past years, more congratulatory, and more filled with eulogy on the efficiency of our High Schools in general. We cannot do better than devote a portion of our space this month to extracts from the report.

Speaking of the new era which has recently dawned on our High Schools, they say :

"For some years the Grammar or High Schools of Ontario were subjected to a trying ordeal. Their number had increased concurrently with the remarkable progress of the country, from 65 in 1855, to 104 in 1863, *i. e.* 60 per cent. A mania for establishing Grammar Schools seems to have set in: In proof of the inconsiderate haste with which, in many instances, they were founded, it need only be stated that eight of these new Schools, together with seven which sprang into existence during the previous decade, have, since 1865, either perished of sheer inanition, or received notice that, inasmuch as they are not doing, or likely to do, any proper High School work; the Legislative aid will be withdrawn. Never really needed, they should never have existed. The frequent changes of the School Law and Regulations were most perplexing to the teachers, while the princ-

pal evils which afflicted them still remained. The caustic remarks of the Inspectors on the palpable shortcomings of the schools added to the discomfort of all connected with them, compelled as they were to acknowledge the justice of the criticisms, yet helpless and hopeless of help from any quarter. It was the story of Sisyphus over again. "The Grammar Schools are for a class," it was said, "not for the people. What do we want with Latin and Greek?" Thanks to recent legislation, supported by the enlightened measures of the Council of Public Instruction, the tide seems at last to have turned. The Dark Ages of the High School history are being rapidly lit up with the dawn of a new order of things."

In regard to the improved standing of the High Schools, they go on to say :

"The High Schools are acquiring a popular character. The jealousy, once so common, between them and the Public Schools, is now not altogether extinct in some places, but still comparatively rare. Each is seen to benefit by the progress of the other. They are becoming *Free Schools*. Of the 106 High Schools of the Province, 81 require no fees whatever from their pupils; the charges in the others vary from \$6 to 75cts. per quarter or term, the average amount being only \$2.70."

The valuable characteristics of the High Schools are thus tersely summarized :

- (1.) The small cost of the education they impart brings them within the reach of all.
- (2.) The revised programme of studies about to be introduced, renders the course of instruction available for all.
- (3.) The provision for a sufficient supply of competent Teachers, ensures, as far as possible, that the work undertaken under the curriculum will be performed.
- (4.) The entrance examination excludes many who otherwise would hinder the progress of duly qualified pupils.
- (5.) The publicity attending the examinations, and the systematic inspection and pervision to which the Schools are subject,

guarantee, at least to a considerable extent the quality of their work.

(6.) Being the Schools of the people, they have a claim upon the support of the community, apart from considerations of class or sect.

(7.) The High Schools which do their duty properly have the advantage which always belongs to an assured and public position. Their masters rank in social estimation as public officers, and have the independence and dignity of a public responsibility. The schools seem to be in the service of the country, which is in itself an honor."

In regard to the features of progress which require special notice, they mention,

"QUALIFIED PUPILS.—It is now comparatively rare to meet with any considerable body of pupils in the High Schools who have not been regularly admitted. The best masters, almost without exception, are glad to be supported by law in declining to receive young children whom pique, partiality, or excess of zeal on the part of parents might otherwise remove prematurely from the elementary Schools. Duly qualified pupils, presenting themselves in the intervals of the entrance examinations, are permitted, with the Inspector's sanction and the approval of the Department, to join the High School classes on undertaking to appear at the next ensuing examination for admission."

The Inspectors seem to be strongly in favor of gymnastics and drill, and under this head they remark :

"Gymnastics and drill, so much in favor a few years ago, appear to have become almost obsolete. This is a great evil ; it is to be hoped that the training of the physical powers will not be forgotten in the general improvement which has taken place in other respects ; and it is well worthy of consideration whether the Provincial Government might not do well to make some special provision for the encouragement of physical training in all classes of Public Schools."

In regard to the Head Masters, the report says :

"Among them are not a few of highly-cultivated intelligence, of practical skill in teaching, of marked tact in managing the

scholastic microcosm, of zeal in their work, of unwearyed patience,—men, in fine, who have a high ideal of the School-master's profession, and are steadily working towards it. A visit to such a master's School is looked forward to with pleasure by the Inspector. He is welcomed there as a friend; the examination of the classes is to him rather a recreation than a task; the sympathetic response, the quick, acute, disciplined intelligence, the interested manner, the anxiety to please and to be informed, the respectful, yet unembarrassed demeanor—all these we have repeatedly witnessed among the boys and girls at our High Schools, and in them have discerned the highest proofs that they were under the care of a workman that needed not to be ashamed. We would state our conviction that there is in the High Schools of Ontario at this moment a larger amount of trained teaching power, skilfully directed, than at any former period of our history, and we consider the fact to be a very auspicious one. Of course the reverse of the picture is occasionally presented."

In regard to assistant teachers the following statements are interesting in a statistical point of view :

"We append a statement exhibiting the sources from which the certificates of the assistants in the High Schools are derived. It will be found suggestive.

23 males, 4 females, hold 1st class Normal School certificates.

7 males, 3 females, hold 2nd class Normal School certificates.

5 males, 2 females hold 1st class County Board certificates.

18 males, 6 females, hold 2nd class County Board certificates.

2 males, hold 3rd class County Board certificates.

14 males are undergraduates of a University.

27 males are graduates, (including several medalists).—Total, males 96; females 15.

The following shows the salaries paid :

"The highest salary paid to a Head Master in 1874, was	\$1,800
The lowest salary paid to a Head Master in 1874, was	600
The highest salary paid a (male) assistant teacher in 1874, was	1,300

The lowest salary paid a (male) assistant teacher in 1874, was.....	400
The highest salary paid a (female) assistant teacher in 1874, was.....	600
The lowest salary paid to a (female) assistant in 1874, was.....	200
The average salary paid to a Head Master in 1874, was.....	930
The average salary paid to a Head Master in 1864, was.....	691
Increase	\$239
or 35 per cent.	
The average salary paid to a male assistant in 1874, was	\$664
The average salary paid to a male assistant in 1864, was.....	362
Increase	\$299
or 84 per cent.	
The average salary paid to a female assistant in 1874, was \$416."	

Speaking of the assistant teachers as a body the report goes on to say :

"The volume of teaching power exhibited in the above table has not been brought to bear upon the High Schools without marked effect. Several assistants are ornaments to their profession. Among the untrained and inexperienced teachers there is of course every variety of style and method. A great desideratum for this class is a special course of training, wherein they would acquire, not only ample and accurate knowledge of the subjects to be taught, but also (a) an insight into the special claims of each of these subjects, both in its practical uses and in its individual influence on the habit and growth of the learner's mind ; and (b) a practical acquaintance with the best methods of imparting knowledge, of illustrating lessons and questioning on them, and of maintaining discipline and securing attention in a class. A Schoolmaster's certificate might certify the student's proficiency (to borrow a term from the medical profession), in educational *clinics*. In the absence of any special training college, or chair of pedagogy in the University, we would suggest that, as so many men are pursuing a collegiate course with a view to becoming High School masters, it would be well for the Government to establish a Lectureship in Education. It would not, we think, be difficult, if proper encouragement were given, to secure the services of several experienced and skilled Educationists, one of whom might deliver a short course of lectures on the above subjects during each session of College."

Speaking of the improvement in several departments, the report goes on to say :

"Perhaps in no department of High School work has more manifest improvement been made than in the Mathematical. It is not uncommon now to meet pupils who have an intelligent apprehension of mathematical principles, and much readiness in applying them. That bondage to the text-book, and that mechanical and hap-hazard style of solution, so often condemned in former reports, which were formerly the rule rather than the exception, are now being rapidly banished to the fifth and sixth rate Schools, where they still flourish."

"*Greek*.—The year shows, on the whole, a respectable amount of progress in this department. The higher limit is necessarily fixed by the curriculum for Matriculation at the Universities; and the number of subjects required to be taught in the High Schools is such as to deter, in general, any but those who have a University career in view from prosecuting the study of Greek to any considerable extent. The majority of the schools, however, have one or more classes in the subject, and pains are taken that the work, so far as it goes, shall be thorough. Among those reading for honors are to be found a respectable number who give favorable promise of becoming sound Greek scholars, and who display a correctness of translation and a familiarity with grammatical forms which testify to the solidity of the ground work."

"*Latin*.—Improved methods of teaching this branch are very noticeable. Here, again, however, we would urge that more diligent attention be given to composition in Latin, which alone can secure to the learner that perfect familiarity with the rules of construction and that readiness of employing them, which are essential to solid and accurate linguistic acquirements. Those familiar with the system so much in vogue in the Scottish grammar schools of writing "versions," as they are called, or passages to be done into Latin, along with each lesson from the Latin author, will know what interest and intelligence the practice brings to the study."

On the all important subject of discipline we find the following remarks :

"For the most part the discipline of the High Schools is satisfactory, or fairly so. Insubordination is very rare; and a good feeling manifestly exists, in general, between masters and pupils. Occasionally, in consequence of the school being the only place of gathering within doors, a good deal more noise and rough play are permitted than is desirable, while the pupils are, in some few instances, uncouth and disorderly in their style of entering and leaving the room. These, however, are exceptional cases, and for the most part ascribable to the character of the building which seems to invite such tokens of disrespect. Conspicuous for the neatness and completeness of all the appointments and for the admirable order which pervades the whole, may be mentioned the High Schools of Port Perry, Whitby, Belleville, and Simcoe, and the Collegate Institutes of Toronto, Peterboro' Hamilton and Gait. To spend twenty-five hours a week in such elegant and well appointed temples of learning is of itself no mean advantage towards the formation of refined habit, taste, and character.

'The general discipline of the school-room,' it has been well said, 'depends wholly on the personal character of the master, and on the influence which he exerts. The most striking examples of good order occur in schools where the intellectual work is of the highest quality. There it is always maintained with the least display of the mechanism of government, and with the smallest self-assertion or fuss. Serious and well-directed work is the best safeguard for the moral tone of a school, and

enables a teacher to dispense with many of the precautions which become necessary in ill-taught schools.'

The report closes with the suggestions of the Inspectors on Payment by Results, prefaced by the following remarks:

"As our views on the proper method of carrying into effect the principle of payment by results have been fully embodied in the scheme recently adopted by the Council of Public Instruction, we think it advisable simply to reproduce it here. Since its adoption we have not been led to think that any material alteration in its provisions would be desirable, but we are of opinion that it would be better to still further simplify the programme for the Lower School by transferring the subjects of Botany and Physiology from its curriculum to that of the Upper School. The subjects of Natural Philosophy, Chemistry, and Book-keeping would then be combined in one group and an option would be permitted between (i) Latin, (ii) French, (iii) German, and (iv) Natural Philosophy, Chemistry and Book-keeping. We have drawn up and now subjoin and recommend, a new Programme for the High Schools, adapted to the scheme for payment by results. It will be observed that we have omitted Zoology and some other subjects from the Programme. We have done so, not because we under-rate their interest and importance, but because there are practical difficulties in the way of teaching them in the High Schools, and because we do not wish to overload a Programme already sufficiently heavily freighted."

SCHOOL DISCIPLINE.

ESSAY READ BY MRS. M. A. WHITE, MISTRESS OF THE RECTORY STREET SCHOOL, LONDON EAST—BEFORE THE EAST MIDDLESEX TEACHERS' ASSOCIATION.

SCHOOL DISCIPLINE is such a broad subject, embracing so many important points, that one might make a good essay upon each of them; but as I was asked to write upon School Discipline *generally*, including

the opening and closing of school, and calling classes, I have just touched upon what I consider the most essential matters in connection therewith.

I. MANNER OF TEACHER.—A teacher

should never forget that his or her every action is closely watched by the pupils, and as a matter of course duly criticised, and commented upon in their homes. In all duties, therefore, a teacher should be *prompt and punctual*, and guarded in his or her manner. CALLS for *commencement of school*, and from recess should be upon the *minute*, as should also *changes in the lessons*. All *tardy children* should be made to feel their position in school. Where credit marks are given, pupils will seldom be *tardy*.

A teacher should be neat and clean in appearance, and insist that the children be the same. The latter may call forth an argument from some teachers, to the effect that *parents* will send their children to school, looking as they please, and that if sent home for uncleanly appearance, the teacher is annoyed by some unpleasant remark from the parent, or an angry note from the same. In reply to this, I can only give my own experience, and that of another teacher of many more years' experience than myself. I have, as a rule, found that a parent is more pleased than otherwise, that the teacher takes that much interest in her child as to notice its appearance. I have often been met with this remark from a parent, "I'm so glad you make our Tom come to school tidy, I never could get him to keep himself as clean as he does now." If a child presents itself at school looking particularly neat and clean, I always make good use of the circumstance, by commenting upon it to the children, but if that child is of too modest a disposition, (and there are such) to bear any remark of the kind, I make it applicable in some-what after the following manner: "Most of the children would do well in imitating some of their neighbors, with regard to their personal appearance." I make a practice of deducting from credit marks for untidy, and dirty appearance.

In a lecture upon this subject by the

principal of the Normal School, London, England, I remember the following remarks: "If a teacher is particularly neat and clean in his or her own appearance, a complaint seldom comes from the parent for finding fault with the children in this respect; but it is 'when a teacher affords room for just criticism, that the parents resent any interference.'"

Great care should be taken by a teacher not to wound the feelings of any child, who is poorly clad. For example, I find it a good plan, if I see a rent in a garment, to interest myself in the matter thus:—"Why John you've torn your jacket, did you know it?" The answer will generally be, "Yes, teacher." "How did you do it?" (If it is done through carelessness or wilfulness, the teacher may speak upon the matter quietly to the pupil, or what is still better make use of it to the whole school, expatiating upon the trouble boys and girls give their parents, by destroying their clothes, and that one deed of carelessness and extravagance leads to another.) If the rent comes through accident, I have said, "Don't you think a patch would look neater than that hole?" In many cases that torn garment will not come to school again, without being patched or repaired, or if it has, I have looked casually at it, and the pupil meeting my eye, would say something like the following: "Please teacher, mother says she'll mend it to-night."

Then again, one cannot be too particular with regard to the appearance of the school room. Dinner children generally have papers on the floor. A monitor from among these children may be appointed to tidy the room, at noon, and to see that no pieces of paper, nor remains of dinner are thrown around. Remains of dinner being found upon the floor form a very good subject for a moral lesson, namely, "Waste not, want not."

A teacher should always be polite and

courteous in his or her intercourse with the pupils. If a book should be handed from a pupil to a teacher, the teacher should always receive it with a "Thank you," and always be upon the alert to see that the pupils behave towards each other in the same becoming manner. For example :— If I hear a boy or girl say to a companion "Lend me a pencil," I repeat, "Lend me a pencil, if ——." The offender will generally look much ashamed, and finish the sentence commenced by me.

During this week, a circumstance transpired in school. I saw a boy snatch a book from his brother; I looked earnestly at him, and he blushed considerably; I said in a quiet manner, that he might feel I was more grieved than angry, Charles, I am surprised that you should be so impolite; put the book back; and ask your brother for it in a proper manner. He did so immediately, and I think a lesson learnt in this manner is not easily forgotten.

II.—VOICE OF TEACHER.—A teacher's voice should be clear with a distinct utterance, but not raised above the ordinary pitch, except when necessity demands. Many teachers, especially young ones, keep their voices raised all the time in school. This is wearing upon the teacher, and causes disorder among the children.

The children should be able to distinguish by the teacher's voice, whether he or she is angry. For example: You call a boy's name for the register, "William Smith," but if that boy is in mischief, you would say *William Smith!* The boy, at once knows by the sound of your voice, that you are angry with him, and that unless he desists, punishment will follow. Some teachers have this fashion of calling out to pupils "You Thomas Jones, stand up there!" "What are you doing James Smith?" "John Jenkins shut your book." Now if a teacher has certain rules in school, he or she should *insist* that such rules are

complied with in every particular, then there will be no need for such expressions as the fore-going. Take this for example: A teacher is teaching arithmetic from the black-board; he or she says to the children, "Pay attention and work with me." Each child is supposed to answer questions, not upon slates, but on the black-board; but say a pupil disobeys, and uses the slate, thinking his teacher will not see him; but the teacher whose eyes are ever open to check the least breach of discipline; sees the boy, and *must at once make an example of him*, by making him place his slate upon the desk (showing thereby that you have lost confidence in him) and deducting from his credit marks at the close of the lesson. By checking the first signs of disobedience in school, a teacher may be saved much trouble.

III. GIVING COMMANDS.—A teacher should never give a command in school, without first weighing in his or her own mind, whether it be possible for *all* the children to obey that command fully; for example; a teacher, in a moment of anger may make such a statement as the following: "I am determined, that every boy and girl in the class, shall do that arithmetic, or work this task, as the case may be, before leaving school this afternoon." Now there may be some child, who is quite unable through inability to perform that task, and the teacher, upon cooler reflection, and calmer consideration knows that some children could not accomplish the said task, even though they had the whole day to do it in. The teacher must, therefore, wait till all, that *are* able, have performed the set task, and, as a matter of course, dismiss those that are unable. If that teacher could follow those pupils to their homes, he would hear something like the following: (James, who has worked the task himself, to a younger brother), "Did you do those sums, John, that teacher set?" *John.*

"No, I worked three sums, and couldn't get 'em right, and teacher said, I might go home." Now, if this should be the *only* case, the teacher has lost a certain amount of influence in school, and the pupils, an amount of confidence in him, and such a thing gets talked of among the scholars.

Again, a teacher should never rashly promise punishment of any kind, but, if punishment is *promised*, carry it out. I have heard teachers promise to punish children, if a certain breach of discipline is persisted in, but the offenders go on from bad to worse, until it becomes necessary to put the pressure upon them in a very emphatic manner. It is always better to check *one* unruly child, than wait till the number increases.

IV. OPENING AND CLOSING OF SCHOOL.

—Upon this subject I scarcely know what to say, as being framed to the profession, while young, I was taught to regard it highly improper, not to open and close school with prayer; but since coming to Canada, I find it is, and with regret, I may say, a *common practice*, to omit what I consider one of a teacher's religious and moral duties.

The argument put forth here, is this: "We have so many Catholics in our schools; *they* object, and by persisting in opening school with prayer and scripture reading, we shall drive them away." Well, have not the Catholics their own schools, where their children may be taught, if they object to *our* teaching; and if certain rules are to govern our schools should not *every* pupil conform to those rules?

Again, have we not Catholics in our common schools in the "mother country," and are not those schools required by government to open and close with prayer? To this I can with all truthfulness add, there are more Catholics as far as I have been able to learn, in proportion in the Common Schools of the "mother country," than in

the same of Ontario. But I have never found intelligent Catholics object to their children repeating the Lord's prayer in school, nor to the Scriptures being read, and explained by the teacher in a moral point of view.

It is *not* the duty of teachers to try to inculcate into the minds of the children, any particular religious creed or dogma, but it is the duty of teachers to respect the feelings of the pupils placed under their charge, and we as teachers should be always guarded so as not to annoy or pain the children by any unjust reference to any particular sect.

Fellow teachers, do you not feel that a great responsibility, (something more than training the intellectual powers of the pupils), devolves upon you? Have you never considered the many hours a child spends under the direct influence of the teacher? Are we not actually guiding those children for good or evil? To me, at times, it is a solemn thought, lest some word, or act of mine, should be the means of one child going astray. Teaching is a noble work, and should be looked upon as such. Every good influence should be brought to bear upon the children, and many a child will learn the Lord's prayer in the day school, that otherwise would never have known it.

In a school in which I taught in the old country, the highest class numbered forty, only three of whom were Protestants. About this time much discussion was going on, as to the advisability of teaching the scriptures in the common schools; it was finally decided, that the scriptures should be read every day, for one-half hour, either at the opening or closing of school, so that children (whose parents objected!) might remain absent from school till this duty was over, or withdraw before it commenced. This act was called the "conscience clause," and copies of it were printed in large type, and hung up with the time-table in every

school receiving a government grant. One was hung up in my school, but I never had any objection raised to my opening and closing school with scripture reading and prayer, from any of the Catholics I had in the school, and I know that no pupil availed him or herself of the opportunity afforded.

Before dismissing at noon, I address the children thus: "Good morning girls and boys!" "Good morning, Mrs. White!" I also do this in the afternoon after prayer, substituting the word "afternoon" for "morning." It creates a feeling of mutual sympathy, and confidence between pupils and teacher, besides being a lesson in politeness.

V. CALLING CLASSES.—When the children take their place in school, every slate and book should be under the desk. Nothing should be brought out without the word of command from the teacher; if every child is allowed to bring out his own book and slate when he chooses, the teacher is annoyed by a constant clatter in school. This clatter continues through all the lessons, disorder prevails in the school; the teacher is vexed, perhaps gets peevish; raises the voice to the highest pitch, and trying to do his or her utmost to procure order, fails through commencing wrongly. The children being seated at the desk, the teacher might give the command, not "s-l-a-t-e-s!" but sharp and crisp, *slates!* Each child's hand is upon his or her slate. *Out!* Down they come upon the desks with one big rattle, which is music to the ears of the children; if one slate comes after the rest find out the delinquent, and give a word of caution, (this is generally sufficient.) Now say, that one class is coming to the black-board for instruction in arithmetic from the teacher. To that class, the teacher (mentioning its name, that the children may be prepared, for example, *1st Arithmetic!*) may give a signal from a

whistle, clap the hands, or a bell, at this given signal the class should stand; at second whistle, clap or bell; the class step out in the aisles, their slates remaining on the desks. The order is now given *slates!* The children place their hands upon their slates; *Up!* the slates are now placed under their left arm. A nod to the first one is generally a good signal for marching, as it ensures more attention, than the words "Lead on."

The less words used in a command, the better, and the more prompt will the obedience be. When this class arrive at the black-board, they stand in the position they marched, until the word *Face!* is given, when they all face the teacher. *Sit!* or *Seats!* or a waive of the hand is the next command.

At the close of this lesson the teacher should have questions written upon the black board, for this class to work, when they return to their seats. The order is now given *Stand! Turn!* The children know their slates must be in the same position, for marching as before. The signal for marching is now given; and they lead to their desks, remaining standing at their seats. The teacher says *Second Arithmetic!* (Signal as before.) Those standing take one step into the desks; those sitting, stand (second signal, as before.) First arithmetic take their seats; second arithmetic step into the aisles; the word *slates!* is given; *Up!* (The first arithmetic placing them.) down.) This class proceeds the same as the first. At the close of the arithmetic lesson, when all are in the desks, the teacher may say *slates!* (Each child lifts his slate from the desk.) *Away!* And away they go to the same music they were fetched out by. Books are brought out in the same manner, and reading classes are called in the same manner as arithmetic.

This is the plan I follow in my own school; generally singing an exercise song

between lessons, or using some kind of exercise to enliven the children. But some teachers argue they have no *time* for this drilling or calling classes.

Is it not after all *time saved*? A class that moves on given signals is more orderly, and moves more quickly in the end, than one that leaves the desks in a pell-mell kind of style, pushing each other back, or lolling from side to side, as they march around the room. I always have my read-

ing classes stand, and never, by any chance do I allow a boy or girl to loll against the wall or lean upon the desk, but each one must stand erect, with feet placed together.

I invariably make a point of having each signal and word of command *promptly* obeyed, and if ever I find the children are lax on this point, I drill them a few moments after four o'clock, and this is sufficient for their remembrance for many days.

HOW CHANGED.

BY T. HAGAN, WINDSOR.

Borne back on memory's fleetest wing,
To scenes of childhood's days,
Grac'd by reverting thoughts of those
Who mingl'd in our plays,
Far through the vistas of the past,
Their forms loom up once more,
As if the waves of time had ebb'd,
And left us on the shore.

And yet how chang'd! they're not the same,
Who shared our sportive joys,
Who wrung the air with merriment
Those happy girls and boys;
Time's wrought a change, how strange a change,
Upon that blithesome throng,
Who oft did make the old school-walls
Reverberate in song.

The Johns and Henrys, where are they?
In vain we look to find,
Those mirth-provoking noisy lads
The old school benches lin'd;
In vain we seek to find the seat
On which we tried our skill,
To carve fantastic letters,
As we plied our knives at will.

They've gone, yes disappear'd with time,
 Whose cruel hand has smote,
 The landmarks that each busy hand
 Carv'd out of careless wrote ;
 And as we count each smiling face,
 We find, alas ! that too,
 The cruel hand of death has chill'd,
 The hearts of not a few.

And some the waves of time have borne,
 On fickle fortune's crest,
 And only live in memory's cell,
 As " those amongst the rest ; "
 While yet a few still linger near
 The cherish'd scenes of youth,
 Where innocence and pleasure,
 Went hand in hand with truth.

But then the place is not the same ;
 Those forms have pass'd away,
 That grac'd the hours of childhood,
 Which flitt'd like a day ;
 And as we look upon the scene,
 We sigh and think how strange,
 The roll of time—the lapse of years—
 Youth—Manhood—what a change !

MIXED MATHEMATICS.

RESPECTFULLY DEDICATED TO J. C. GLASHAN, ESQ., MATHEMATICAL EDITOR OF THE
 "ONTARIO TEACHER."

BY ERATOSTHENES.

The following solutions to the 6th question of the 2nd Class Algebra paper for July, 1875, are unique in their way, and indicative of clear and comprehensive ideas of the value of $\frac{0}{0}$.

Question, " If a pupil should say in regard to question 5, that when $nb=ma$, and $bc=ad$, the value of x , obtained in the ordinary method, has the form $\frac{0}{0}$, and that he does not know how to interpret such a result, *what would you reply ?*

ANSWERS.

" That $\frac{0}{0}$ gives any quantity whatever for a quotient."

" If a pupil obtained $x=\frac{0}{0}$, and wished to know what that meant, I would tell him; it did not mean any particular quantity, that is, it means any quantity whatever."

" In the case mentioned, I would reply, that although the usual method leads to an absurdity, yet, if the the pupil has become

acquainted with the different methods of solving simultaneous equations, he should find no difficulty in finding the true result."

"That it would be well to apply his mind and learn all the mathematical *kinks*, (*sic*) possible, more especially if he ever expects to stand an examination preparatory to pedagogy in this enlightened age."

By a Normal School Student.

"If a pupil should find, that $x = \frac{0}{0}$, I would tell him, that any number whatever is the number, $\frac{0}{0} = a$, because $a \times 0 = 0$."

By College Students.

"I would explain the process thus, that as $ad - cb = 0$, and $md - bu = 0 \therefore x = \frac{0}{0}$.

"It is an infinitely low small number divided by an infinitely low number, and it is such that we cannot fully comprehend it. It is very *abstract* in its meaning. Wait till you find somebody that does understand it, and *ask them*."

The solution that should have been given :

That the given equations in question 5 are not independent, and therefore the values of x and y are indeterminate.

REMARKS BY THE EDITOR OF THE TEACHERS' DESK.

The foregoing seem to have been actually given as answers by candidates at the examinations last summer. Well, therefore, might the gentleman who collected these specimens exclaim, *Mixed Mathematics!* They exhibit "confusion worse confounded" in full perfection. Two of them are, however, worthy of a little notice. Mr. *Kink* seems to hold the question to be what is popularly termed "a catch question," whatever that may be. Granting that it is a catch question, let us endeavor to show him wherein the *catch* lies. The question was one of a number set to ladies and gentlemen seeking to obtain certificates declaring that the holders were *for life* qualified to teach any public school in On-

tario. More than this, the regulations admitting them to the examination require each candidate to have had three years experience as a teacher. It would be well therefore that some means should be taken to test not simply a candidate's literary knowledge, but also his fitness to be a teacher, an intellectual guide, and further to test *whether he has profited by his experience*.

How shall this be done? It often occurs that a teacher gives his pupils general laws, theorems, &c., to which an exception once in a while comes into notice; he tells what is the regular course or construction, but occasionally that course is departed from, an irregular construction is adopted. What is to be done in such cases? How is a teacher to explain the irregularity? The bare question as here set forth, might be proposed, or better far, instances of exceptions might be given and candidates required to explain them. A comparison of these explanations will at once reveal whether any candidate knows the method of treating such cases and can employ it. The latter way tests not merely knowledge, but also the power of applying such knowledge. The Central Board seems to have adopted this method, as is shown by this question No. 6, and also by "but he" in question 1, Grammar, Second Class. Does Mr. *Kink* see that these questions do not try a man's skill in mechanically manipulating symbols, or in blindly applying so called general rules; they test his fitness to be a teacher, and his power to grapple with difficulties. They further test whether he has recognized that (apparent) irregularities as well as regularities have a cause and follow *law*, and that if he would explain the occurrence of either the one or the other he must find out that cause. If you would explain an apparent anomaly in any result, go back along "the line of growth" till you find the origin, the point of entry, of the anomaly. The question was therefore most suitable to a paper set to would-be

teachers. Finally the question is no catch question at all, but merely the algebraic expression of a well-known theorem in geometry.

Mr. Normal School Student seems to have been the only one who attempted to give a *proof* of his assertion that $\frac{a}{b} = \text{any quantity}$. But alas for his proof! He reminds us of the picture called "The Dominic Puzzled." Johnnie propounds the following: "But, sir, if Wanst Nought be Nothin', then Twice Nought must be somethin' for it's double what Wanst Nought is." Johnnie feels that if nought *can* be taken *twice* then the product must be double what taking it "Wanst" would produce. Mr. Student actually says that if you perform the operation of division omitting as usual the little formality of taking either a divisor or a dividend, you will have for your result—*anything*. A famous writer has said "Only that teacher who does not rest content with the instruction he gives till he has made the matter in hand *evident to the eye*, is a good elementary teacher." I would like to see Mr. Student make his proposition *evident to the eye*. But what is his proof? Since $a \times 0 = 0$, therefore, dividing both sides by 0 we have $a = \frac{0}{0}$. We beg his pardon, but we cannot agree with him; we get *if* $a \times 0 = 0$, then symbolically dividing both sides by 0, $a \times \frac{0}{0} = \frac{0}{0}$, hence either a always equals 1, or else $\frac{0}{0} = 0$. He may take his choice; we prefer the former and thus get $\frac{0}{0} = 1$, certainly not a very valuable result or encouraging *evaluation*. But if Normal School Student is sufficiently advanced in his mathematical studies, he might remind us of the Infinitesimal Calculus. We remember it quite well, and also that Mr. Hemming in his work on the Differential and Integral Calculus (adopted by Toronto University), says that $\frac{0}{0}$ is "an expression which has no meaning whatever, and is perfectly indeterminate," (page 9, 2^o edition.) Consequently, he endeavors to

found his work wholly on the method of limits, and certainly a nice dance does his endeavor lead him, and some fine contradictions does it compel him to make. The whole theory may simply be reduced to this:

$$\frac{ax}{bx} = \frac{a}{b} \text{ for all finite values of } x, \text{ or in word}$$

—The ratio of a units of any actual magnitude to b of the same units is independent of the magnitude or nature of the units. The Differential Calculus assumes* the removal of the restriction *finite, actual*. But we must carefully distinguish between 0 meaning 1×0 , and 0 meaning $a \times 0$. Thus the ambiguity lies not in $\frac{0}{0}$, but in writing 0 for $a \times 0$. In like manner writing e for $e \times 1$ leads to the absurdity noticed by Professor Peacock in his Report on Certain Branches of Analysis, British Association Reports, 1833, page 347, *note*. Prof. Peacock does not attempt to explain Clausen's paradox, yet write $e \times 1$ for e in the dexter side on the first multiplication and the result comes out not a contradiction, but an identity. But further, to the instancing of the infinitesimal calculus we reply that $\frac{0}{0}$ is here wholly different from the cases reducing to the same form in that science. In it $\frac{0}{0}$ is in general determinate, despite Mr. Hemming's assertion to the contrary, and its form merely arises † from introducing a factor $\frac{1 \times 0}{1 \times 0}$; on the contrary $\frac{0}{0}$ in question

* If any reader objects to the word *assumes* let him read Berkeley's Analysis, ere he speaks confidently. Being a mathematician, he will have read the arguments on one side; as a philosopher (one who loves truth better than his system) let him ere he pronounce judgment, hear the other side.

† We are aware of Hamilton's so called exception to the law, that functions that vanish when $x=a$, are divisible by some positive power of $x-a$, but we deny that it is an exception. The expansion used in the proof fails; the reverse part of the series should have been used and this would show his function to be divisible by x^2 . 'Tis the old battle of the series Divergent, versus Convergent.

6, Algebra Second Class, is truly indeterminate, and it arises from an attempt to perform an impossible operation, or geometrically from an attempt to settle the points of intersection of two *coincident* hyperbolas.

Did the last of the above answers come

from a lady? Archbishop Whately said that ladies almost invariably used *they* as the personal pronoun of the third person, *singular*, common (!) gender. "*Somebody* —*them*."

SELECTIONS.

THE CHILD.

A thorough and complete education ought to preserve and increase the pupil's bodily health and strength; give him command of his own muscular and mental powers; increase his quickness in perceiving through his five senses, and quicken his perception: form in him the habit of prompt and accurate judgment; lead in delicacy and depth in every right feeling, and make him inflexible in his conscientious and steadfast devotion to all his duties. In other words, an integral education must include at least these four branches — gymnastics, or care of the body; noetics, or training of the mind; æsthetics, or cultivation of the tastes; and ethics, which shall include religion as well as duty. And in every part of each branch of education there will be a double end in view, viz., the increase of knowledge and the increase of skill. Each study may be made the object of thought or the object of action. In the one case it is pursued as a science, in the other case as an art.

In the present little book I occupy myself chiefly with the second branch, the education of the intellectual powers; not by any means because I consider it as more important than the others, but simply because I have something to say upon it.

The intellectual powers may be roughly, but conveniently divided into three groups — the perceptive, the imaginative, and the reflective.

By perception I mean the direct vision of truth, whether by outward or by inward sense. By the five senses we have a direct perception of the presence of colors, sounds, odors, flavors, variations of temperature, and other tangible and visible things. By the internal powers of consciousness we have a direct perception of our own feelings, and know that we love, hate, fear, are glad or sad; and by internal sense we also know the existence of space, time, power, thought.

By imagination I mean the reproduction or imitation, in the mind, of the impressions made previously by direct perception. When imagination is confined to a simple reproduction of the impressions made in perception, it is usually called memory; and the term imagination is by most persons confined to the cases in which the remembered impression is variously modified or merely imitated. The word fancy is by many writers applied to the cases in which the imagination is occupied with inventing imitations of external things, and the word imagination confined to inventions of character or of spiritual attributes.

By reflection I mean the act of comparing, by help of the imagination, the truths of perception or the creations of the imagination. When the comparison of truths elicits new truths of relations between the compared truths, it is called reasoning. Thus reasoning may be considered as an

art of bringing truths into a position to be perceived by the internal sight.

It may be observed that the words imagination, reason, and perception are also used to denote the faculties of the mind by which we perform the acts of imagination, reasoning, and perception.

The first act of the mind must always be the direct perception of some truth, as the necessary prelude to any act of reason or imagination. In the history of any child's intellectual development it is always the case, also, that his powers of external perception give the earliest evidence of activity. For the first seven years of his life his chief intellectual occupation is the reception of impressions from the senses; and by the age of fourteen years the powers of seeing, hearing, tasting, smelling, and feeling are in their fullest perfection.

The power of imagination does not betray any activity until the child is more than a year old; and it is later in attaining its full vigor, which it seldom reaches before the age of twenty-one. The reasoning power lies half dormant still later than the imagination, and seldom shows activity till after the seventh year, nor develops its full strength until after the twenty-first. The will comes to its maturity of power with the development of reason.

Nature thus indicates that a teacher, in educating the child, should give his earliest attention to the development of the child's

perceptive powers. Moreover, and these powers those of external sense should be the first to receive careful training, such as given in the admirable kindergarten system of Fröbel. Afterwards, when the child has learned to perceive with every sense, the imagination must be systematically cultivated. In learning to observe, he will learn to remember what he has observed—and this is an incidental culture of the imagination; but he must also be regularly trained to invention. This is admirably done by some of the kindergarten gifts; and I the more cordially express my approbation of the treatment of the child by Fröbel's system, because I disagree so totally with him in some of the considerations by which he would explain and justify his treatment.

Nature further indicates that a child should not be expected or required to reason at an early age. Any direct training of the logical powers, before the age of twelve years, is premature and, in most cases, a positive injury to the scholar. The common sense view would give facts before reasoning. Reasoning upon the facts is the work of a maturer mind. The play of the imagination should from the beginning be compared with or contrasted with facts, and in the later stages of education be carefully guided by reason and conscience.—*Dr. Hill.*

HISTORY IN PRIMARY SCHOOLS.

A study is important in proportion as it is a means of culture, and furnishes knowledge. In these days of reform, when the old gives place to the new, when the long tried is superseded by the untried, it is a little strange that history has not been made to subserve more effectually these two great purposes of education. The popular idea has been, and is now, "to read it up"; and, because of the small grain of truth in it, the excuse has been allowed to obtain. This aversion has arisen, doubtless, from insufficient teaching. The best results can never be hoped for so long as the

work of the first few years is entrusted to young, incompetent persons. No one, intending to rear a fine, solid superstructure, would set a raw hand to laying the foundation. A man pursuing such a course would be called a consummate fool. But just the same thing is done, over and over again, in the instruction of our schools. It prevails everywhere, in country and town; and it is all wrong.

Another difficulty lies in the school books which have been put into the hands of these unskilled workmen. The books have been too diffuse, or else too concise—great,

portly bodies, or else rattling skeletons ; the one unwieldy and confusing, the other uninteresting.

In order that this study be of the most use, it should begin in the primary school as early as the third year, or as soon as the child begins sentence building. The main object here is to give facility of expression, teach command of language, and furnish a vocabulary. The purpose will be accomplished most readily by oral teaching. Do not understand by oral that a certain stereotyped portion is given, which the child is required to memorize ; but rather story telling. Bright and sparkling stories, full of the teacher's own vivacity and individuality—not quite original as to facts, certainly, but entirely so as to expression. The knowledge imparted to such pupils will of necessity be sketchy, bits of the lives of historical men and women—biographies, if you will. The facts ought to be adhered to, and all the impressions left, as far as possible, correct.

Having given the lesson in this manner, the next step is to recall it. Let the children tell it or write it. Ask questions, and let them answer in sentences. Give words to be put into sentences containing a fact or opinion. These are only a few of the ways by which a teacher may lead the pupil to apply the knowledge he has gained. Consider such an exercise of sufficient importance to give it a daily recitation, and the progress to composition, even in young scholars, will be astonishing.

A year or two later, when the juvenile history is put into the hands of the pupil, many of the names will be old acquaintances. He will be interested in them at once, because he knows them. They will not be dim conceptions, but vivid realities.

One great difficulty in teaching history is that it is all so dim and far off. One lady whom I once knew, for a day took the place of the regular teacher in a Bible history class. Four or five weeks after, it chanced the same teacher again took the class. Before the lesson one of the boys said, "Please begin where you left off, and tell us the rest of it." He had failed to find out the rest of it, though he had been in the class at every lesson.

In the use of the book never require, nor even allow, a verbatim recitation. Many teachers, I know, urge the importance of

learning the words in order to acquire a vocabulary. But it seems to me an egregious blunder. I would rather the pupil should never have a vocabulary, than that he should get it so. A vocabulary acquired by committing to memory the words in a few paragraphs of history is useless—worse than useless. It is a dead language, the like of which was never under the sun. The boy's hero might better be "plucky," and "whip 'em out." That smacks of a live boy, and not of a parrot. Aim to secure a free, childish expression, as far removed from the book as the mature man is from the child.

The sentence building of the early course should be continued, occurring less frequently, but more extended. Always encourage the pupil to express himself freely, without fear of criticism or ridicule. Create an interest ; talk the matter over ; stir up thought ; and the expression will come naturally. But begin with the thought, not the expression. Work from the inside outward.

History, to teach language, must begin very early, and be taught first orally, as material for sentence building, afterwards by the use of the book. The recitation must always be required in the child's own words, and written exercises be frequent.

History may be made a means of thought culture. Teach people, not events ; or at least teach events so as to know the people. We talk a great deal about the grand march of events, the development of the ages, etc., as though all the men and women were pulled puppets. Pitable that so many of them were ! We talk of campaigns and battles, but nothing of the general who planned or the men who fell. One reason why abridged histories seem objectionable is because so nearly all the little incidents are left out whereby we become acquainted with the man himself. Richard Cœur de Lion is every boy's hero. He quite dotes on the youth, and hurrahs for Richard when Saladin is defeated. But when they find out, if by chance they do, of his supper of Saracen boys or of his fearful massacre, their ardor for the man is a little daunted. This only occurs as an illustration of how insufficient books, even if well made, are for all purposes of teaching. The teacher must be able to impart such incidents as will afford the child

a key to the characters he is studying. Cultivate acquaintance with the men and women. Dress them in their fitting robes, and live with them a few months. Use this as the first means of awakening thought.

In history, as in everything else, there is a germ which grows—a cause, followed by an effect, which in turn is again a cause. Dwell upon this sequence of events. Bring clearly out both remote and immediate

causes. Weigh each event, and trace its results through subsequent events. Especially in studying wars this line of thought ought to be developed. Such a course will be found efficacious in arousing the child to think for himself, to judge, to draw conclusions. To cultivate thought power, then, teach persons and characters, causes and effects.—*Fulia A. King, in Michigan Teacher.*

EDUCATIONAL INTELLIGENCE.

CANADA.

—Laval University, Quebec, is about to open a school of navigation.

—The registered attendance at the St. Catharines Public Schools during February was 1,210, with an average of 930.

—Mr. A. Smirl, head master of one of the Ottawa city schools, has been unanimously re-elected President of the Teachers' Association of Ottawa.

—J. C. Glashan, Esq., Inspector, West Middlesex, has been appointed by the Department of Education, a member of the Central Committee of Examiners.

—The total number of pupils in the Guelph Public Schools in January last was 999, being 111 more than in the same month last year. The average number for each teacher is thirty-nine.

—John J. Tilley, Esq., Inspector, Durham County, has been appointed by the Education Department a member of the Central Committee of Examiners. We cordially congratulate Mr. Tilley on his appointment.

—At an Educational meeting in Mount Zion Tabernacle, Hamilton, the subject of the evening, "Educational system of the Methodist Church of Canada," was introduced by the Rev. Dr. Rice, who explained the class of men who came forward for the ministry, and the mode of education at the different colleges connected with the Methodist Church.

—According to the Nova Scotia Government proposal for aid to colleges, Dal-

housie College is to receive \$3,000 yearly; St. Mary's and St. Francois Xavier, \$2,500 each; and King's Acadia, and Mount Allison, \$2,400 each; the Act to continue in force for five years, when the grants shall cease. A Board of Examiners are to be appointed to constitute a university with power to confer degrees.

—The Cobourg *Sentinel*, in commenting upon some school troubles in that town, attributes them to the want of care in selecting teachers, and recommends greater liberality in the matter of salary, with a view to securing superior members of the profession. Its recommendation that the law should fix a minimum salary is less sound. Low salaries are mischievous, but any interference of that kind with the freedom of contract, besides being a very inefficient remedy, is to be deprecated on other grounds.

—As a site for the proposed High School in Orillia, a square containing two and two-thirds acres, situate between O'Brien and Mary streets, has been purchased from Mr. Goldwin Smith's agent, for the sum of 750 dollars. The lot lies at the extreme western limit of the town, and there will probably be no difficulty in extending the grounds in that direction, should it be found necessary in the future. It is well isolated, having a street frontage on three sides. In this matter the town is placed under an additional obligation to Mr. Smith, a large reduction on the price of the land being made in view of the object for which it is required.

—Early in May the election of members of the Senate of Toronto University takes place. There are in all fifteen members chosen by Convocation, besides the Chancellor, who will be elected this year for the first time under the new constitution. Three of these fifteen members retire each year, and all are eligible for re-election. Convocation is composed of graduates of the University, but Bachelors of Art must be of three years' before becoming members. The election is conducted by means of voting papers distributed some weeks before the date assigned for the election. The retiring members for the present year are the Hon. Edward Blake, M.A., L. Macfarlane, M.B., and T. W. Taylor, M.A. It is generally believed that Mr. Blake will be the all but unanimous choice of his fellow graduates for the Chancellorship, which is almost a sinecure office, and therefore requires the attendance of the incumbent only on rare occasions. The ordinary presiding officer at the Senate meetings is the Vice Chancellor, the present occupant of the position being Mr. Justice Moss. As the Senate has full control over the curriculum of the University, it is not too much to expect of graduates everywhere who have the interest of their *Alma Mater* at heart that they will endeavor to select representatives who know what the country needs at the present time, and who are willing to put themselves to some trouble in order to secure whatever may appear to be a desideratum.

—The County Judge of the County of Norfolk has given judgment in a school case which possesses both interest and importance. The Municipal Council of the township of Walsingham has passed a By-law attaching Long Point on Lake Erie to one of the existing school sections of the township. The Long Point Company refused to pay their school tax, and the section entered an action to recover the amount. It was admitted by the counsel that the part of Long Point nearest to Port Rowan, the site of the school, is distant four miles, communication being by water, and that the part furthest off is 25 miles. The By-law was declared by the Judge to be both *ultra vires* of the Council, and contrary to the intention and reasonable interpretation of the School Acts. The By-law was held to be beyond competence of the

Council to pass because, although the School Law confers upon township councils the right to form into school sections portions of the township where no schools have been established, and to unite two or more sections into one at the request of a majority of the assessed freeholders and householders, it nowhere authorizes a Council to annex a section of the township where is one. It was further held that the manifest intention of the School law is to bring the means of obtaining an education within the reach of all, and that the Act itself contains provisions guarding against the creation of insurmountable physical obstacles to the attendance of the children of the section at school. This intention was completely frustrated by the by-law in question, the great distance between the Point and the mainland being of itself sufficient to preclude attendance at Port Rowan school. A verdict was, therefore, entered for the defendants with costs.

—A convention of teachers was held at Elora, on Friday and Saturday, March 3rd and 4th. There were about 150 teachers present from all parts of the country. On Friday evening addresses were delivered in the drill shed by Hon. Adam Crooks and Prof. Goldwin Smith. The following are the principal resolutions passed at the convention. In general, these resolutions were unanimously carried:

1. Moved and seconded that, in the opinion of this Convention, County and City Boards of Examiners be not allowed to renew third-class certificates, or to grant permits or interim certificates under any condition whatever, and that third-class certificates be made Provincial for three years, also that an elementary knowledge of book-keeping and human physiology be required, and that British or Canadian History be substituted for general history.—Carried.

2. Moved and seconded that, in the opinion of this meeting, Botany, Natural History, Agricultural Chemistry, Domestic Economy, Civil Government, Book keeping and Christian Morals, as taught from a textbook, be made optional subjects. Unanimously carried.

3. Moved and seconded that, instead of having quarterly examinations as heretofore, we have two examinations during the year, time not specified. Carried.

4. Moved and seconded that, in the

opinion of this meeting, the vacations of the Public Schools should be of the same length as those of the High Schools, and also at the same time. Carried.

5. Moved and seconded that, in consideration of the frequent changes which teachers are compelled to make in rural sections, and the inferior class of houses which they generally have to occupy; it would be a great advantage to married teachers, and tend to keep them in the profession if such a change were made in the school year as would enable them to terminate their annual engagements with the summer holidays; and that such a change would also benefit the Public Schools, since a teacher can gain control of a school much more easily, when the attendance is small, as it invariably is after the summer vacation; also that large scholars, who attend school during the winter season only would have the advantage of the same teacher during the whole session; and farther we hold, that it would facilitate the attendance of teachers at the Normal Schools, and be more convenient for teachers who obtain certificates in July.

The motion was not voted upon by the meeting, and discussion upon the matter was postponed until the next meeting of the Association, to be held in May.

—The quarterly meeting of the Teachers' Association of No. 1 Division of Middlesex was held in the Colborne street School House, Strathroy, on Saturday, 12th Feb.

In the absence of the President, Mr. Stewart was called to the chair, when the minutes of last regular meeting were read and approved.

The following officers were then elected for the current year:

- Mr. J. T. Wood President.
- “ C. McGregor 1st Vice-President.
- “ H. G. Lindsay 2nd Vice-President.
- “ R. Shepherd Secretary.
- Miss E. Langton Treasurer.

EXECUTIVE COMMITTEE.—The officers, with Messrs. Glashan and Carson.

The secretary read a communication from the Waterloo Teachers' Association, concerning the advisability of procuring a new text book in natural philosophy, and requesting the Association to join in asking Mr. Kirkland, M.A., to prepare a work on the subject. This communication called forth considerable discussion, which was

continued till noon, when the Association adjourned for dinner.

The chair was again taken at 2 p. m. when the previous discussion was resumed, and the following resolution was presented and carried unanimously:

Moved by J. S. Carson, seconded by J. C. Glashan, and resolved, that after hearing the discussion on the necessity of issuing a Canadian text book on natural philosophy, suited to the wants of our public schools, we are fully decided no other gentleman of our acquaintance is so likely to prepare a work meeting present requirements as Thomas Kirkland, Esq., M.A., mathematical and science master in the Toronto Normal School, and we earnestly request that gentleman to accede to our wishes as soon as convenient.

Next came the event of the day, viz: the presentation to Mr. and Mrs. Glashan of an address, and a beautiful tea service, valued at \$165, and purchased from Messrs. BATTERY & VANVALKENBURG, jewellers. Mr. Rowland, who was called upon to read the address, stated on coming forward, that as he was about stepping down and out of the profession, he hoped the Association would do with him as was customary with critics, who judge authors by their last work; he hoped to be judged by his last act. He then called upon Mr. Glashan to come forward, when he read the following:—

J. C. Glashan, Esq., Inspector of Public Schools, No. 1, Division, Middlesex:

SIR,—The present meeting of the Strathroy Teachers' Association has been almost specially convened for the purpose of publicly manifesting the sympathy existing between yourself and the teachers. We have not been partial observers, but critical examiners, of your course as a Public School Inspector, and it must be confessed that ability of the highest order has characterized your management of all that pertains to the harmonious working of a complex school law, an eccentric programme, and, we regret to say, in some instances, refractory school officials. Arduous as your duties are, they have been discharged with singular exactness, but notwithstanding the physical and mental strain to which you are thus exposed, time is snatched to give monthly solutions to the intellectual difficulties obstructing the path of your teachers, and we need scarcely add, that through

them the pupils have recourse to an educational fountain of recognized force and brilliancy.

Probably this may be the final opportunity afforded us of acknowledging our appreciation of your rare merits as a superior school official; for we believe that in the near future you will be called to a more extended field of labor, and will occupy a distinguished position, for which you are so eminently qualified, in one of our many excellent educational institutions.

Inconclusive, indeed, would be our expressions of regard, were they unaccompanied by some memorial of to-day's meeting; we, therefore, sincerely request you to accept this tea service, as a partial recognition of our deep respect for you and your most estimable lady, whose kindness and courtesy to us in the past have merited our esteem and admiration, and will ever be green in our memories.

Signed, on behalf of the teachers,

JOSEPH STANDISH CARSON.

EDWARD A. ROWLAND.

Strathroy, Feb. 12th. 1876

Mr. Glashan replied, saying he thought at one time that he was not possessed of "nerves." This idea was rudely dispelled on one occasion, but he then thought he was done with "nerves" for life—the occasion was his wedding day. He thanked the teachers most heartily for their kind appreciation of his services. When he came among them—a stranger—it was with an ardent love for teaching, and a fixed determination to do all in his power to elevate his profession. It was gratifying to know he had secured among them many friends, of which fact the present memorial was a pleasing token. He spoke encouragingly to the teachers, and also thanked them very kindly, on behalf of Mrs. Glashan, for remembering her in the selection of their gift. His being able to devote any time to solutions was owing to the assistance received from her, she acting as his secretary, thus giving him time which would not otherwise be at his disposal.

After this Mr. McMichael, B. A., was called on to give his views on analysis, taking "The Battle of Waterloo," as his subject, of which he gave an excellent and instructive rendition, and though subjected to some very severe cross-firing by different members of the Association, managed to

carry on the discussion very amicably and profitably for a considerable time.

The "Question Drawer" was then opened, and out of a number of excellent questions—the day being too far spent to discuss all—the administration of corporal punishment was selected, on which some very instructive remarks were evoked, "The absence of corporal punishment was a sign of superior administrative ability." Mr. Wood proposed the substitution of pain of mind instead of bodily pain, and gave practical illustrations drawn from his own experience, which were well received.

The question of membership was then taken up, and after a motion that the Association meet quarterly, a very interesting meeting was adjourned, till Saturday, 27th May next, of which the teachers will please make a note.

—A very important Convention of the booksellers of Ontario was held in Toronto early in March. One of the principal subjects was in regard to the existence of the Book Depository, and an interview was had with Hon. Adam Crooks, Minister of Education, on the subject. We condense from the *Globe*:—"At eleven o'clock, on the 9th March, a deputation from the Convention, numbering about forty, waited upon Hon. Adam Crooks at his office in the Education Department for the purpose of placing before him the views of the Convention regarding the Educational Department Book Depository. The deputation having been introduced by Mr. James Campbell, Chairman of the Convention, Mr. Reid congratulated Mr. Crooks upon his appointment to the important office of Minister of Education. He was satisfied that no gentleman in the country could have been selected for that position better qualified to perform its duties and to give satisfaction to the people at large in discharging the affairs of the Educational Department. Proceeding then to the business of the deputation, he said that the principal object of the convention which they were now holding was to consider the interests of the book trade as opposed to the Government book store in connection with the Educational Department. Mr. Reid went on to argue that the book trade had been unfairly dealt with, they did not ask for protection, but only that they might be able to compete with the Depository on an even footing.

Mr. Mitchell of Pembroke endorsed Mr. Reid's sentiments in regard to the Minister of Education. He said they did not approach the question from a political stand-point, nor in the interest of the booksellers alone but in the interests of the country at large. He spoke at some length, and adduced facts and statistics in support of his position.

Mr. W. C. Campbell, said he wished to call the attention of the Minister of Education to the fact that the Act of 1874 was intended—as the members of the Government had then expressed it—“to give booksellers an opportunity of competing with the Department and to show they could do in opposition to it.” That Act had been accepted by the booksellers as a boon; they had thought that under such a measure they would be enabled to enter into a fair competition with the Department. But just as soon as they had begun to carry out such a competition certain restrictions had been placed upon them. The old catalogue, which had been used for years in the Depository at the rate of twenty cents on the shilling sterling, was at once changed for one at the rate of nineteen cents on the shilling. When the Depository found, however, that the booksellers were supplying some schools with books the rate was reduced on the 12th of February, 1876, to eighteen cents on the shilling, so that if the Depository had been supplying books at cost for twenty years at twenty cents on the shilling they were now selling at a discount of ten per cent. They must either have been making a profit at the old rate or they were selling at a loss now. When it was intended that booksellers should supply prize books, &c., a catalogue was presented to them as one that was authorized. In going over that catalogue he found that there was not a single book on the whole list issued since 1868. The booksellers of Canada were not so far behind the times as to keep their shelves loaded with such old stock, and they were not allowed to supply the new books to schools or Mechanics' Institutes. He had gone very carefully over the catalogue, and he found that there were, out of the two thousand books on the list, five hundred which were now out of print. It had frequently been said that the bookselling in connection with the Educational Depository was carried on without

expense to the county. He begged to call the attention of the Minister of Education to a few figures which he thought would show the incorrectness of that statement. The salaries of the officers of the Depository for 1874 were \$4,855; contingencies, \$3,587; or a total of \$8,442. In those contingencies nothing was allowed for several items which booksellers had to pay—such as interest on capital, taxes, rent—and nothing for a share of the executive officers' salaries, who had to do a great deal of correspondence in connection with the Depository. Taking, then, the interest at seven per cent. on \$40,000, which would be \$2,800; rent and taxes, \$1,000; and a portion of the salaries of Departmental officers at \$1,000; they would have a total of \$13,442 as the expenses of last year's business \$50,000. This would be twenty-four per cent. on the amount of business done. If the business of any ordinary bookseller was carried on that rate it would be ruined in twelve months; ten per cent was the usual estimate. The intimate relations between booksellers and publishers enabled them to know pretty well the rates at which the Depository obtained their books, and taking the rate of 18 cents on the shilling there would only be shown a profit of \$5,857 in the year. They therefore argued that by abolishing the Depository altogether the country would save about \$5,800 per year, and besides that the work would be better performed.

Mr. Crooks thanked the gentlemen who had spoken for their kind words with regard to himself, saying that he felt the responsibilities of the office to which he had been appointed, but would endeavor to discharge its duties in a manner that would do justice to our educational system. He referred to the reasons which had led him to believe that the time had come when the people of the Province should exercise a more direct control over their central educational body than they had enjoyed in the past. It was not from any fault in the past management of the Department, but as the natural consequence of the great progress of our educational system during the last thirty years that he had believed such a change advisable. They had not assumed to introduce a change, but were simply giving proper action to that which had been built up by Dr. Ryerson. The presence of the deputation

to-day shows how necessary it was that this important matter, belonging entirely to the people of Ontario should be in such hands as would make the whole education system one over which the people should have control. He had such an opinion of the people of Ontario that he had no fear of educational questions being made the football of political parties; and he believed it would be found that all these questions, contrary to the general course in the past, could be fully discussed by the people, and their conclusions adopted with perfect safety. With regard to this question of the Depository, he was not very familiar with all the details as to the position of the Canadian book trade and other matters which had been referred to, but his duty as chief executive officer of the Department, would be to fully inform himself on these questions, in order that such views as he thought should be carried out should be placed before the Government, so that they might come to a conclusion upon which the desired action should be taken. Upon the question he might say that it should be considered according to their present position—the position in which the year 1876 found the Province of Ontario. Ever since Confederation this interest, like all other large interests, had developed in an extraordinary degree. If we could point to our railways and manufactures as indications of our material progress we could also point to the book trade as indicating our intellectual progress. He had no intention of flattering the gentlemen present, but no one would say that there could be a better indication of the intellectual progress of our country than the development of the book trade. In his opinion it was only upon the fullest consideration that a Government should assume to carry on a trade which, in ordinary circumstances, the law of supply and demand should regulate. As a principle of political economy there must be something exceptional in the question to vindicate its continuance; something which they could claim to be a justification for the Government carrying on such a trade. He could only say at present, however, that any decision which the Government might come to would be upon the fullest consideration which could be brought to bear upon the question. He then referred to the separate resolutions of the Convention, remarking

that though there had been much to justify the existence of the Book Depository in the past in Ontario, as there had been in Ireland, it would be his duty to consider the whole matter according to what was required at present from a public point of view, and not, of course, in the special interests of any trade. As he understood them, they were not asking additional protection for any trade. The question was, whether it was in the public interest that the Depository should continue to supply the people with books. He proposed to give the fullest consideration to their representations in connection with the whole question.

After a vote of thanks to the Minister of Education for the courteous reception, the deputation withdrew.

UNITED STATES.

—The Chicago Board of Education has appropriated \$788,585.94 for school purposes for the nine months beginning April 1, 1876, and ending Jan. 1, 1877.

—Ohio will expend \$8,000 in making an educational exhibition at Philadelphia, \$1,000 of which will be used in erecting a model school building.

—Iowa has no Normal School for the training of teachers, though it claims several universities. The Legislature now in session has a bill appropriating \$25,000 to supply this deficiency.

—In 1820, Philadelphia, with a population of 137,097, had 5,369 pupils in its public schools, and expended \$22,059 in maintaining them. In 1875, with a population of about 750,060, there were 95,552 pupils taught in the schools at a cost of \$1,634,653.26. The ratio of pupils to the number of inhabitants has increased from one in about twenty-five to one in eight, and the cost per pupil had increased from \$4 to about \$17.

FOREIGN AND BRITISH.

—Dr. Frederick H. Gerrist wrote recently to the *Boston Medical and Surgical Journal* a strong plea on behalf of the co-education of the sexes, in which he dwelt upon the success which has attended the experiment in the University of Michigan, and especially in the medical department.

—A pungent and well informed critic exposes in the *Chicago Tribune* a shameless attempt at plagiarism by the author of a

school manual of general history. The book, "Swinton's Outlines," which has received the emphatic endorsement of Professor Adams of Michigan University, is shown to be made up largely of almost verbatim transcriptions from Rawlinson, Merivale and Dr. Smith.

—The *Cologne Gazette*, the principal organ of the Prussian press, published recently a series of articles pleading for the introduction of the ordinary Roman instead of the German printed letters in the news-papers. It points out, on the authority of Grimm, the greatest of German philosophers, that the characters at present throughout Germany are not in reality German in their origin at all, and that they were once in use in other countries which sensibly abandoned them long ago. They take up a great deal more space than Roman letters, are less legible, and much more apt to produce typographical errors owing to the similarity between certain letters. The most important portion of some of the newspapers is even now printed in plain characters, and they have also been adopted for scientific books, tables of railway fares, and names of streets. Our Canadian German contemporaries, which have been for the most part printed with the angular letters, ought to take the hint and make a new departure. If they did they in all probability would be more extensively read than they are at present.

—The much talked of departure of Professor Max Muller from Oxford is not to take place. The only object in tendering his resignation was to secure leisure for the prosecution of the University Convocation, he has been relieved of his duty as a lecturer on comparative physiology, he has consented to retain his connection with and to reside at Oxford. His admirers, and their name is legion, will rejoice at this arrangement. Strange to say there is one quarter in which Max Muller is not appreciated, and that quarter is one where we would naturally expect something different. Our ordinarily fair and well informed contemporary the *New York Nation* seems to have singled out as objects of its keenest satire and bitterest scorn two such eminent inductive philosophers and discoverers as Professor Tyndall and Max Muller. Neither of them receives even common courtesy at its hands, and their names are only mentioned, as a rule, to be disparaged. Sweeping charges of scientific plagiarism, of real but inflated mediocrity, and of professional and literary pettiness and meanness, are from time to time brought against them, either explicitly or by implication. This unfortunate tendency on the part of the *Nation* can best be accounted for on the theory that Professor Whitney has secured control of the philological department, and some natural philosopher whose presence is not so obvious that of the scientific department of its critical faculty.

CHOICE MISCELLANY.

—Sally Verb was married the other day in Kansas. This is leap-year, and she was not to be declined.

—Haven't you got cheek?" was the reply of a four-year-old to the teacher who asked him if he could read.

—The fundamental condition and surest safeguard for the success of all educational work lies in the personal worth of the educator.

—A Scotch boy, getting his first lesson in ciphering, asked his teacher: "Whaur diz

a' the figures gang aill when the're rubbit oot?"

—A little fellow who went to school before going to church, after his first visit to the latter remarked, "Mamma, the principal of that church talks lots, don't he?"

—Examiner: Name a domestic animal.
Pupil: I don't know what domestic means.
Examiner: Mention some animal that lives with man. Pupil (triumphantly): Woman!

—Prof. Fawcett maintains that different students should be allowed to choose their

own intellectual discipline so as to be in keeping with their aspirations and interests, and cites cases in which political economy developed mental powers after classics and mathematics failed to awaken them.

—A recent French book on the United States illustrates the demoralization of our society by the case of a teacher allowing a girl who misspels a word to be kissed by a boy, and gravely adds that thus the girls have forgotten their orthography, while the boys make remarkable progress.

—Some nice words for a spelling-bee are in a late medical journal: "My mind still hovers between two conclusions, viz: as to whether it is an aborted specimen of cycloctuloid macromacordium, or a highly developed cryptococcus megalogalocyst of a strongylopleuron batracholeucocopricon megalocyst of a strongylopleuron batracholeucocopricon."

—There is much truth in the popular notion that ignorance is the mother of vice; but it is certainly not true that mastery of the alphabet and the multiplication table will suffice in itself to create habits of virtue, and it may lead to just the opposite result. Knowledge of whatever sort is power, in the sense that it supplies new facilities of action; but it is a power which, like wealth or bodily strength, may be either used or misused, and its mere possession is no guarantee for its being used aright.—*Saturday Review.*

—A country is nothing without men, men are nothing without mind, and mind is little without culture. It follows that cultured mind is the most important product of a nation. The product of the farm, the shop, the mill, the mine, are of incomparably less value than the products of the school. If the schools of a people are well taught, all else will prosper. Wherever schools are neglected, it is a sure sign of national degradation and decay. The central point of every wisely-administered government is its system of education. The education of youth well cared for by a nation, out of it will grow science, art, wealth, strength, and all else that is esteemed great in the judgment of men.

A SNAKE DUEL.—The rattle-snakes of our own country have a dangerous enemy

in the common black-snake, *Bascanion constrictor*. In one of these duels, which are both spirited and deadly, an eye-witness, Mr. Wm. Kincaid Davis, of South Carolina, says the rattler was compelled to commit unintentional suicide in a moment of temporary insanity. When first discovered the rattle-snake was coiled with head erect and ready to spring. The black-snake circled about him repeatedly, being careful never to approach near enough to be reached by the fangs of the rattler, who, turning his head to watch his antagonist as he circled round, became dizzy and crazed, and finally struck blindly and straightened himself his whole length. The black-snake now ran across the straightened form of the other, who, feeling the contact, struck, and missing his foe, but biting his own body, died of the venom from his own fangs.—(From *March "Home and School."*)

—AN OLD TEACHER'S ADVICE.—Let the speaker here add a word to those spoke by his imaginary interlocutor. My brother men, hear the advice of an old school-master, who now, the class-room deserted, has other mission and pursuit, and must send his own boys to other men for their training. Choose the best man among those who offer; choose him carefully, after counsel sought from all capable to give it, and when you have chosen your son's master, let him alone. Pay, gladly pay, all that he demands for his hard-service, and let him perform it in his own way, because he knows how to do it, or ought to know, and you neither know nor are expected to have such knowledge. Let all your effort be of a preparatory kind in the matter of selection. And here there is room enough and need enough for caution; for perhaps the majority of so-called "professors" are utterly incompetent to teach, and are only professors.—(From *March "Home and School."*)

SCHOOL VENTILATION IN NEW YORK.—At a meeting of the Board of Education of New York on Thursday afternoon Superintendent Kiddle reported that for the month of February there were on the register 111,574 pupils, a gain of 5,271 over last year. The average attendance was 97,493; 3,625 less than during January, on account of sickness among children. Admission to the schools was refused to 290 pupils for want of accommodation. The Committee on By-Laws made a report that many of the

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public schools were overcrowded, assigning as reasons for this the rapid growth of the city, the lack of sufficient funds by the Board, and the failure of local schools, officers and principals, anxious to have their schools well-filled, to properly exercise their authority in this respect. The committee proposed the following amendments to the by-laws: "It shall be the duty of every principal to reject all applications for the admission of pupils into any school or class whenever the room occupied by the same is filled to the sitting capacity. In fitting the sitting capacity of rooms the following shall be a minimum allowance of floor surface and air space per pupil. In the three lower grades of primary schools and departments, five square feet and seventy cubic feet; in the three higher grades, six square feet and eighty cubic feet; in the four lower grades of grammar schools, seven square feet and ninety cubic feet; in the four higher grades, nine square feet and one hundred cubic feet. In the admission of pupils those residing the nearest to any school shall in all cases have the preference. All rejected applicants shall be sent to the nearest school having accommodation for them.

Boys.—The charming sisters of the household are come into the parlor to enjoy the sweet companionship of the young gentlemen of their acquaintance. These queens of youth and beauty have just taken their places upon the divan-thrones of their dominion. A willing slave is theoretically kneeling at the feet of each, is actually sitting by the side of each. Quite a distance separates the little groups, and the courteous modulation of the voice prevents that any ear shall hear the offered homage save that of the queen. A charming time, a lovely evening composed of *tele-a-tele* pure and simple, is in beautiful prospect, when behold! the ladies are frightened by the sound of a hurried boyish tramp along the hall, which to their offended hearts is like that of "the specter in Don Giovanni." In a moment more the dreaded specter puts in a material appearance in the person of a small brother. He has finished his lessons for the morrow, or has been alone long enough to justify his asserting that he has done so. He is weary of teasing the cat, or by good luck she has escaped from his hands. He will come into the parlor and

see who is there. He will entertain his sisters' guests with accounts of his own prowess in destroying the feline race, or in climbing to rob the birds' nests. Oh! were this the extent of his impertinent intrusion! But he will ask all manner of questions to which reply can hardly with propriety be given in the presence of the strangers, or will seek to educe from the full-dressed Adonis opinion or experience of matters hardly fit for the parlor or the company of the ladies.

"Mr. Williamson, did you know that my sister Helen wears a wig?" He asks the question with innocent seriousness of tone and manner, while the fair Helen blushes up to the very resting-place of the artificial head-gear which the youngster has thus described with more of truth than of poetry. "Sister Helen, what makes you look so white when you come down stairs to breakfast in the morning, and then turn so very red all over your cheeks before you come down in your new dress to see company or to go out walking?"

An embarrassing silence succeeds, for who can bandy to and fro the shuttlecock of chit-chat with such startling interrogatories constantly claiming attention and response? The interview is broken up, the engagement which had been joined and whose issue might have been a conquered peace, an alliance offensive and for a lifetime, is thus rudely postponed, perhaps indefinitely.

The young man goes his way, it may be smiling at the pertness of the boy which has so discomfited the sister, and it may be uttering phrases more emphatic than polite in reference to the great advantages of boarding-schools, and the impropriety of ten-year-olds ever being visible in a parlor. And Miss Helen mounts straightway to the presence-chamber of the queen of the household to lodge complaint of the wrong-doer. The flaming red is certainly not now confined to any one little spot, and each individual hair, of her own and the other woman's, seems to stand on end, as she tells of Harry's "outrageous conduct." The mother-queen listens in silence while the ferocious prosecutor proceeds with her indictment, but in a little while, at some mention of the details of the dereliction, a smile creeps stealthily over the features; the oddity of the rascal's performance has

banished all sense of its culpability, and Miss Helen receives finally as the result of her complaining a severe moral lecture

upon her lack of affection for her dear little brother. — (From March "Home and School.")

TEACHERS' DESK.

J. C. GLASHAN, ESQ., EDITOR.

Contributors to the "Desk" will oblige by observing the following rules:

1. To send questions for insertion on separate sheets from those containing answers to questions already proposed.

2. To write on one side of the paper.

3. To write their names on every sheet.

CORRECT ANSWERS RECEIVED.

R. SHEPHERD, Strathroy; 117, 120.

C. A. BARNES, Ottawa; 117, 119, 120.

D. MCEACHRAN, Ashgrove; 111, 117, 119, 120.

ANSWERS TO CORRESPONDENTS.

H. BEER, Carleton Place. Your method involves division, or its equivalent repeated subtraction. As you will see, you begin at the wrong end.

D. MCEACHRAN. You assume the rod to be homogeneous. There is no need for this; its centre of gravity may be anywhere in it.

YOUNG TEACHER, Paris, Ontario. — Your letter was not handed to us till the "Desk" had been prepared for this month. We shall endeavor to find space to answer you next month.

SOLUTIONS.

117. Let l be the length of the rod, W its weight, w the weight of the beetle, and d the displacement of the common centre of gravity.

Take moments about the original centre of gravity,

$$d(W + w) = lw$$

$$\therefore d = \frac{lw}{W + w}$$

Had the rod been free and resting on a smooth horizontal plane, putting D for the displacement of the rod, the equation would become

$$0(W + w) = (l - D)w - DW$$

$$\therefore D = \frac{lw}{W + w}$$

118. $\frac{1}{7} = .142857$ from 7 and 5.

Explanation. Write 7 as a first multiplicand. Multiply by 5 (the constant multiplier) equals 35, put down the 5 to the left of the 7 and carry the 3. Multiply the 5 just put down by the constant multiplier 5, add in the carried 3 = 28, put down the 8 to the left of the 57 and carry the 2. Multiply the 8 just put down by 5 add in the carried 2 = 42, put down the 2 to the left of the 857 and carry 4. Multiply the 2 just put down by 5, add in the carried 4 = 14, put down the 4 to the left of the 2857, and carry 1. Multiply the 4 just put down by 5, add in the carried 1 = 21, put down the 1 to the left of the 42857 and carry 2. Multiply the 1 just put down by 5, add in the carried 2 = 7, — stop, you have returned to the first multiplicand. Write the number 142857, you have thus formed, as a pure circulating decimal.

For 5-13ths, the first multiplicand is 5, the constant multiplier is 4, and there is a carried 1. Proceed in like manner as before until you get a product 15, which do not use as it would give a multiplicand 5 with a carried 1. Thus we get

5-13ths equals .384615 from 5 and 4 with carried 1. For 7-19ths the first multiplicand is 7 and the constant multiplier is 2, thus we get

$$7-19ths = .368421052631578947 \text{ from } 7 \text{ and } 2.$$

For 3-23rds the first multiplicand is 9 and the constant multiplier is 7, thus we get

$$3-23rds = .1304347826086956521739 \text{ from } 9 \text{ and } 7.$$

Similarly any other fraction may be reduced to a decimal, the calculation beginning at the right hand side of a period if there be one, of the complete decimal if there be no period. For the present we leave it to the ingenuity of our readers to find out the theory of the process and the method of finding the first multiplicand, and the constant multiplier, merely remarking in passing that they are found by addition or its mnemonical form multiplication, there being no subtraction or division anywhere in the process. Further they can be found instantly and mentally by any one acquainted with the multiplication table.

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120. Let $2a$ be the annual rent and consider its present value for any year, say the n th, that the lease has to run.

If paid half yearly its present value to the purchaser would be

$$\frac{a}{(1.02)^{2n-1}} + \frac{a}{(1.02)^{2n}} = \frac{2a(1.01)}{(1.02)^{2n}}$$

If paid yearly its present value would be

$$\frac{2a}{(1.02)^{2n}}$$

Hence the proposition in the question is true for each and every year the lease has to run, therefore it is true for the aggregate.

We have received a number of solutions of Prob. 9 of the First Class Arithmetic Paper set last summer. Some of our readers seem to think that the solution given on page 267 vol. III., involves some recondite theorems, or at least requires a very advanced knowledge of mathematics to understand it, and they send what they believe to be simpler and more straightforward solutions. We regret to learn this, as it shows a lack of kinematical knowledge in these of our correspondents that must very injuriously affect their progress in Natural Philosophy. True, we did not give full explanations for we thought the solution so simple that none were required. However, we now repeat the solution with explanations, at the same time taking the opportunity to correct an error occurring in it as originally given. (We took 15m. instead of 15m. 44 yds., as the distance between A and B when the train met the latter.) We also give the solution of Mr. D. McEachran, of Ashgrove, which is worked from the point of view of a person standing on the ground. As will be seen we work from the point of view of a passenger standing on the train. We also assume that a candidate for a first-class certificate who is supposed to have taught for five years, will know the table of miles per hour to yards per minute or second, almost as thoroughly as he knows the multiplication table, and we work accordingly.

A goes 6 miles an hour in 3 seconds, he goes $\frac{4}{3}$ yards, but in 3 seconds train goes over $\frac{4}{3} + \frac{4}{3} = 2\frac{2}{3}$ in 3 seconds = $\frac{8}{3}$ in 1 second equal rate of 36 miles per hour, in $2\frac{1}{2}$ seconds train goes $\frac{8}{3} \times \frac{2}{5} = 1\frac{1}{3}$ yards, therefore B travels $46 - 1\frac{1}{3} = 44\frac{2}{3}$ in $2\frac{1}{2}$ seconds equals $\frac{2}{3} \times \frac{2}{5} = \frac{4}{15}$ in 1 second, therefore, A and B approach each other in ratio of $\frac{4}{3}$ to $\frac{4}{15} = 220 : 264 = 5 : 6$, train travels for 30 min. $\div 2\frac{1}{2}$ sec. = $2\frac{16}{25} \times 88$

equals $95\frac{1}{3}$ yards. A travels $\frac{4}{3} \times 2\frac{16}{25} = 47\frac{2}{3}$ yards; now distance between A and B equals $96\frac{1}{3} - 47\frac{2}{3} = 48\frac{2}{3}$ yards since they approach in ratio of 5 to 6. A travels $\frac{5}{1} \times 48\frac{2}{3} = 242\frac{2}{3}$ yards; therefore, distance from where train leaves A equals $108\frac{2}{3} + 47\frac{2}{3} = 155\frac{2}{3}$ yards equals 17300 yards; therefore, $\frac{17300}{1760} = 9\frac{7}{8}$ miles, Answer.

Solution of page 267, vol. III., with explanations and correction. Suppose yourself a passenger standing on the side steps of the rear platform of the train. You look forward and see A just opposite the front of the engine 44 yards forward from you. In 3 seconds he is exactly opposite you and in line with a certain telegraph-pole; in 3 seconds more he is 44 yards behind you, and he continues to fall back from you at that rate, which is 30 miles an hour. You also notice that the telegraph-pole is moving away from you 6 miles an hour faster than A is. Half an hour after A was opposite you, again you look forward and now see B just opposite the front of the engine; in 2 1-12th seconds he is opposite yourself and then continues to move away from you at this rate, 44 yards in 2 1-12th seconds, or 43.2 miles per hour. Looking back you see B between you and A, B moving away from you at 43.2 miles an hour, A at only 30 miles an hour. It is evident, therefore, that B who is going away 13.2 miles an hour faster than A is, will in time be as far away from you as A, that is A and B will be together. How far from the telegraph-pole will this meeting occur? When you first noticed B, he was 44 yards in front of you, and A was 15 miles behind you, hence they were 15 miles 44 yards apart. They are approaching at 13.2 miles per hour while the telegraph pole is separating from A at 6 miles an hour, hence it will separate from him 6 miles for every 13.2 miles, in 15 miles 44 yards or

$$(15 \text{ m. } 44 \text{ yds. } \div 13.2 \text{ m.}) \times 6 \text{ m.} = 6 \text{ m. } 1460 \text{ yds.}$$

But when you first noticed B the pole was already 3 miles behind A, hence the place of meeting of A and B will be 9 miles 1460 yards, from the telegraph-pole, that is from the place where the train left A.

Gathering together the arithmetic of our solution, it stands thus,—

$$44 \text{ yds. in } 3 \text{ sec.} = 30 \text{ miles an hour.}$$

$$44 \text{ yds. in } 2 \text{ } 1\text{-}12 \text{ sec.} = 43.2 \text{ miles an hour,}$$

\therefore A and B approach each other at the rate of 13.2 miles an hour.

On the front of the train meeting B, the rear was

half an hour (15 miles) ahead of A, who had advanced half an hour (3 miles) from where the train had left him; hence from that point to where

A and B will meet $\frac{6}{13.2}$ of (15 m. 44 yds.) + 3m -

9m. 1460 yds.

(See page 267, vol. III.)

QUESTIONS FOR SOLUTION.

128. A starts from Guelph for Hamilton and B at the same time, from Hamilton to Guelph, and they travel uniformly. A reaches Hamilton 16 hours and B reaches Guelph 36 hours after they have met on the road. Find in what time each has performed the journey.

D. McEACHRAN, Ashgrove.

129. Two men whose respective weights are 196 and 169 lbs., capture a deer and resort to the following plan to ascertain its weight. They bal-

ance a pole across a log, and find that when the deer is suspended from one end and the heavy man is on the other, it will still balance; they then suspend the deer from the other end and the lighter man can just balance it. Find the weight of the deer.

R. SHEPHERD, Stratroy.

130. Discuss *we* and *all* in "All we, like sheep have gone astray."

DITTO.

Erratq.—In the solution of Problem 110 read *time equals* ($\pounds 34\frac{1}{2} \div \pounds 29\frac{1}{100}$) years.

In question 123 add, *Circumference of the circle 22f.*

Strike out the comma from the equation in Prob. 124 and add a subscript 1 to the first and also to the sixth *h.*

In question 125, for *thave* read *thane*.

EDITOR'S DRAWER.

LAI D OVER.—"Thoughts on Teaching," and "Notes from a Teacher's Journal" are laid over, and will appear in the May No.

HOME AND SCHOOL for March is a capital number, having the complement of handsome illustrations and interesting and instructive articles. The subscription price of this popular magazine is only \$1.50. Address John P. Morton & Co., Publishers, Louisville, Ky.

THE BOOK DEPOSITORY. — On another page will be found a summary of the proceedings at an interview by a deputation from the Booksellers' Convention, with the Minister of Education, in regard to the Book Depository in connection with the Educational Department. We fully agree with Mr. Crooks, that there must be "something exceptional in the question to vindicate its continuance," and though the Depository has doubtless done good service in its day, under present circumstances we believe its entire abolition would meet with general approval.

A WORD FOR OURSELVES.—For two or three months past the "TEACHER" has been a little late in being forwarded to subscribers. This has arisen from circumstances entirely beyond the control of the Publishers, but we trust in future to forward it

as nearly as possible, during the first week in each month.

CONTRIBUTE! Nothing would add more to the interest of the "TEACHER" than short contributions from our best teachers on the every day work of the school-room. We earnestly ask them to make this journal their own, and increase its usefulness by being useful to each other.

TO SUBSCRIBERS.

Subscribers are respectfully requested to remember and observe the following rules:

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3. Always register letters containing money. They will then be at our risk.

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