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# The Canada School Journal.

VOL. VII.

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## The Canada School Journal

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CANADA SCHOOL JOURNAL HAS RECEIVED

*An Honorable Mention at Paris Exhibition, 1878.  
Recommended by the Minister of Education for Ontario.  
Recommended by the Council of Public Instruction, Quebec.  
Recommended by Chief Superintendent of Education, New Brunswick.  
Recommended by Chief Superintendent of Education, Nova Scotia.  
Recommended by Chief Superintendent of Education, British Columbia.  
Recommended by Chief Superintendent of Education, Manitoba.*

The Publishers frequently receive letters from their friends complaining of the non-receipt of the JOURNAL. In explanation they would state, as subscriptions are necessarily payable in advance, the mailing clerks have instructions to discontinue the paper when a subscription expires. The clerks are, of course, unable to make any distinction in a list containing names from all parts of the United States and Canada.

## THE BIBLE AND RELIGIOUS INSTRUCTION IN SCHOOLS.

We published last month the resolutions on this vexed question adopted at a conference of delegates from the several Protestant churches and submitted by a large and influential deputation to the Premier of Ontario. These resolutions ask: (1) That scripture reading and prayer shall be made obligatory for devotional purposes in all public schools, with a reservation to each parent of the right to withdraw his children from such exercises; and (2) that, either by re-adopting the well-known series of lessons in the old Irish National Readers, or by adopting some other suitable series, provision shall be made for "scriptural and moral instruction" in the public schools. The resolutions were supported by brief addresses from prominent members of the deputation, which was undoubtedly a representative one, and Mr. Mowat gave a reply, non-committal, as a matter of course, but valuable on account of his clear exposition of the present state of the law.

We do not propose, at this stage of what promises to be a long and acrimonious discussion, to prejudge the question, or pretend that we have found out the best possible solution of the problem. Our purpose is rather to assist in securing that solution by clearing away some of the confusion in which the discussion has been involved, and bringing the latter back to the lines in which it must be conducted, if it is ever to lead to any satisfactory result.

It must be clearly borne in mind, in the first place, that the real dispute in connection with this question is not between religion and irreligion, between morality and immorality, between Christianity and agnosticism, between those who honor the Bible as an inspired Scripture, and those who regard it as of only literary and historical value. A very great majority of those who take an interest in the matter are quite agreed about certain fundamental principles. They all want moral instruc-

tion to be a regular and systematic part of the teacher's duty, and in this they are at one with agnostics on the one hand and Roman Catholics on the other. No one, whatever his speculative opinions on religious questions may be, wants his children to grow up without learning the meaning of the terms "duty," "right," "wrong," and others that are to be found in the vocabulary of morals. Every man, however careless or even criminal a life he may himself have led, would like to see his children grow up to be useful and respectable members of society, and would like to have them trained at school with that end in view. It would be just as well then if the controversy were narrowed to more reasonable dimensions at the outset, by eliminating all the points on which all the parties to it are thoroughly agreed.

In the second place, it is necessary to bear in mind that, while all are agreed as to the necessity of moral teaching in schools, there is much and legitimate diversity of opinion as to the best means of carrying it on. Some believe in using the Scriptures as a class-book of morals, and will be content with nothing else; some are willing to allow them to be used for devotional purposes, but not as a class-book; some want them excluded altogether from the schools; and, lastly, of those who are pleased to see the scriptures used in either one way or the other, some want their use to be made compulsory, while others prefer to leave the matter to the people of each school constituency. It is possible, we believe, to find amongst all these contentions what is called a *modus vivendi*, if we exclude those who, as avowed agnostics, have a positive dislike to the Scriptures on account of the supernatural element which permeates their contents. But even they do not maintain that there is anything objectionable in the purely ethical portions of the sacred text, and very few of them would find any fault even with the New Testament accounts of the miracles of Christ, who is constantly represented as working miracles not to display his power, but to relieve the sufferings of those with whom he came in contact. "He went about doing good;" and the life story of one whose constant occupation can in these words be correctly described offers little room for objection from any possible point of view.

It may safely be asserted that a more general recognition of the sacred scriptures in the public schools would be in itself desirable, and would be pleasing to the great majority, if not to the whole, of the community, independently of religious differences. How can this be most effectually and speedily brought about? Some say by a change in the law making the use of the Bible in schools compulsory, except in sections where the majority are opposed to its use. There are several grave objections to such an enactment. In the first place, it would have to be made penal, or it would lead to no better result than a recommendation, while, if left a dead letter, it would tend to bring law into contempt. Then it is doubtful whether the prescribed penalty could or would be exacted.

The loss of the legislative grant to sections, because teachers neglected this particular duty, would raise such a storm as would inevitably cause a reaction and leave matters in a worse state than at present. If the Department find it difficult to prevent the use of unauthorized text books, they would find it a hopeless task to compel the use of the Bible in schools. Then it is always a matter of doubtful expediency to change an old law or system which is itself the result of compromise amongst a variety of views. For thirty years the present regulations have been in force, and, under them, the use of the Bible in schools has become very general, is it worth while to risk a change in the principle of the law to secure the recognition of the Bible in one-sixth of the schools? Since the law recognizes all clergymen of all denominations as official school visitors, it puts them in a position to wield collectively a powerful influence in favor of its still more general introduction. It may be that this could be facilitated if the practice adopted in England were followed here, namely, of preparing a series of selected Scripture lessons, which could be kept clear of burning ecclesiastical dogmas, and also of those passages which, on grounds of good taste, are quite unsuited for class reading.

One thing should be clearly borne in mind in this matter; that is, that the voluntary, or local option system, has not been in any sense a failure. The recommendation of the regulations has been for years very generally observed, though no systematic effort has been made to secure its universal observance; and there has been a general improvement in the moral tone of the public schools. Anyone who knows anything about the state of these institutions a generation ago, will endorse this assertion. Then drunken, swearing schoolmasters were far from uncommon; now they are scarcely to be found. Then the pupils naturally fell into the same bad habits; now the latter are everywhere reprobated as violations of both good taste and good morals. It may be that a still greater improvement would follow the more general use of the Scriptures in school; we believe it would, but great care must be taken not to attempt anything like making people moral by Act of Parliament. The question is full of difficulties, and can best be settled by the exercise of mutual forbearance and cooperative efforts to make the most of the privileges and sanctions contained in the school law.

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#### FATHER STAFFORD.

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It would be difficult to name any one in this Province who ever acquired, in an equally legitimate way, a higher reputation as an educationist than the late lamented Father Stafford of Lindsay. The facts of his biography are given in another part of this number, but no mere sketch could do justice to his principles, methods, and efforts for the moral, intellectual and physical improvement of the common people. Fortunately for himself and the great work to which, with all the energy of a vigorous nature, he devoted himself, he was gifted with the most tolerant of dispositions. In his eyes every man's religious opinions were worthy of respect, and, as he invariably acted on this principle, he was popular with all creeds and classes.

Father Stafford's idea of education was as correct as his aims and methods were practical. He was an accomplished scholar and a well read man, but this did not prevent him from taking up, in the most common sense way, and carrying out with persistent energy, original schemes for bettering the social condition of his parishioners and of the community of which they formed a part. He made a point of ascertaining how they lived in their own homes, and of endeavoring to make the conditions of life as tolerable for them as possible. He was an earnest and enthusiastic advocate of total abstinence from intoxicating drinks, and he set, in his own daily life, an example for others to imitate. No man understood better the intimate connection between sound morality and favorable physical conditions, and he deliberately set himself to improve the latter with a view to promoting the former. If all members of his sacred calling were equally impressed with this great sociological truth, and equally earnest as social reformers, they would exercise collectively on the condition of society a much more appreciable influence than they now do.

But it is in his labors in connection with scholastic education that teachers are most interested. During his long residence in Lindsay he had an opportunity of carrying out a systematic plan, and his efforts were crowned with marked success. He did his utmost to make the separate school efficient, and, under his care, it began to attract even Protestant pupils to its classes. He induced his parishioners to put up a good building and supply it with the apparatus for physical training. He always favored the employment of high grade Provincial teachers and the use of the ordinary public school text books. At his instance his people erected a convent building, in the management of which he pursued the same plan. Of late years it has become an admirable school for female teachers in training, and, as such, has been attended by candidates for public school certificates not of the Roman Catholic persuasion.

Father Stafford's life work in the cause of social reform and the education of the masses will exercise an influence long after his personality is forgotten. Though a zealous churchman, and a skilled controversialist, he was not merely respected but popular with other denominations. His latest appearance before the public was in connection with the "Marmion" controversy; and, had that vexed question been discussed by all the disputants in his spirit and manner, the public mind would have been less exercised over a problem which admitted after all of an easy solution.

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#### EDUCATIONAL LEGISLATION.

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The Ontario Legislature has been summoned to meet for the despatch of business about the middle of December. As this is the last session of a parliament there is not likely to be much legislation carried through that will bear to be postponed, and, so far as education is concerned, this is matter for congratulation. What is wanted now is not relief from change for a single year, but for a term of years, if only the power of constraining municipal corporations in the matter of taxation were restored to school boards. The law as it

stands is a good one, and, when well administered, shows excellent results. Even when defects manifest themselves it is not well to be for ever trying to remedy them by new statutory enactments. Any attempt to readjust one part of so complicated a machine as our educational system is apt to throw some other part out of gear, and, for this reason, it is to be hoped that no change, however apparently unimportant, will hereafter be made in the school law without the proposal having been allowed to stand over for a year after it is first made in the Legislature. It is of the utmost consequence that the masses should be acquainted with the school law, and it is quite impossible to be familiar with the provisions of a statute that is from year to year changing its form. One source of the trouble is that each member of the Assembly feels himself quite competent to amend the school law, with the working of which he is so familiar, and, as all are naturally desirous of accomplishing something, the result is a kind of dead set on the system. That some improvements have resulted from this go-as-you-please method in the past is not to be denied, but it seems to be time for the Government to call a halt in the matter of amateur legislation, and declare that well enough must for a while be let alone.

#### DR. McLELLAN AND TEACHERS' INSTITUTES.

In spite of the arduous nature of his duties as high school inspector, member of the Central Committee, and Director of the Provincial Normal Schools, our readers will notice that Dr. McLellan finds time to appear frequently at teachers' institutes, and the following communication will show how his services are appreciated. We need hardly say that many other tributes, equally cordial, have come under our notice:—

MR. EDITOR—

I hope that you may allow me a small space in your journal to make a few statements in reference to the above. The immense practical benefits resulting from properly conducted institutes are recognized by the Department, and liberal grants are made by it towards promoting their efficiency. This I consider a wise provision, as the teachers are thus materially assisted in procuring the services of some of our leading educational workers. The last meeting of the West Bruce Teachers' Association, held in Kincardine a short time ago, was admitted by all to be the most enjoyable and instructive one since its organization. Dr. McLellan, High School Inspector, was present and delighted the teachers with his lectures on important subjects taught in our schools.

The energy and enthusiasm which he not only manifests himself but arouses in the teachers; his qualifications both as a teacher and as a scholar; the thoroughly systematic and intellectual manner in which he presents the subjects with which he is dealing; and his evident sympathy with the teachers in their noble work, fit him in a very marked degree to elevate Teachers' Institutes to something like their true position, and make them the means of disseminating true methods of teaching, and of imparting what may be called the higher knowledge of the science of education. He never fails to impress the solemn responsibility of moulding character and of shaping in no small degree the destiny of both the people and the country. I firmly believe Sir, that it is the earnest prayer of all who have the welfare of this young Province of ours at heart, that Dr. McLellan may long be spared to assist in perfecting that system of education which is the pride of our country, and with which his name is so closely connected.

Yours,  
TEACHER.

Kincardine, Nov. 9th, 1882.

#### HONOR TO A CANADIAN.

We have much pleasure in clipping from the *Toronto Globe* the following paragraph:

At the present day perhaps no other branch of scientific study is pursued with greater vigour than is that of mathematics, nor is there any in which the labours of investigators are rewarded by results of greater interest and utility. On this continent the study of the higher mathematics has lately received fresh impetus by the publication, under the auspices of Johns Hopkins University, of a large quarterly called the *American Journal of Mathematics*. This journal is edited by Dr. Sylvester, one of the ablest of living mathematicians, and in it are published original investigations in pure and applied mathematics. Numbering, as it does, on its list of contributors many names of world wide fame, this periodical may be regarded as the exponent of the best that modern talent is producing in this important branch of science, and therefore the publication in it of any paper is a sufficient guarantee of intrinsic merit. The fourth volume of this journal is just complete, and contains much that is deeply interesting to mathematicians, among which not the least in importance are two elaborate papers by Mr. J. C. Glashan of Ottawa. In the first of these papers three of the most important series of the Differential Calculus are developed by a uniform method remarkable for its generality, completeness, and simplicity. The second paper, under the title of "Forms of Roll's Theorem," gives new and lucid demonstrations of nearly all the important propositions relating to the development of functions of simple and complex variables, and also exhibits, in the most general form yet published, the remainders in Taylor's, Cayley's, and Lagrange's series. These papers form an excellent supplement to what is contained in our college text-books upon the subjects of which they treat, and a careful study of them will put the student in possession of the most complete treatment which the development of functions has yet received.

When we have said that Mr. Glashan is still a comparatively young man, that he never had a collegiate training, that in all the higher mathematics he is in the fullest sense of the word self-taught, and that he has acquired his knowledge of his favorite science during the brief spells of leisure interspersed like oases throughout the busy life of a teacher and inspector, we have told enough to enforce the obvious moral which the above paragraph contains for all his fellow-workers in the educational ranks. How much of his achievements is due to a remarkable order of intellect, and how much to persevering industry, perhaps not even Mr. Glashan himself could say, but it is safe to assert that, were teachers generally to devote their spare moments to self-culture as systematically as he has done, many of them would soon astonish themselves by the effect on their own mental and professional condition.

#### INTERMEDIATE CHANGES.

With a view to giving as much publicity as possible to the changes made by the Education Department in the intermediate programme we republish the following regulation which was recently adopted by order-in-council:—

1. Drawing is removed from the obligatory subjects of study in the Lower Schools and in the Intermediate. The item, 7 e. now 6 e., in the optional subjects therein shall therefore, read, "French or German, and, when selected by the parent or guardian of such pupil, music or drawing."

2. In the subject of English Literature prescribed by the Order-in-Council, of the 31st March last, "Goldsmith's Traveller," or "Marmion" may be used by any pupil in the High School, or candidate at the departmental examinations in July next, as the parent or guardian may select.

It will be noticed that the option between "Marmion" and "The Traveller" is for the July Examination only. The arrangement for next year's work is not specified.

—The Rev. Dr. Allison, the accomplished and energetic chief superintendent of Education for Nova Scotia has been for some days past in Toronto in attendance at the joint meeting of the Union Committees of the various Methodist bodies. Readers of the SCHOOL JOURNAL do not need to be told that he is performing an excellent work in his own Province, and they will welcome from his pen the cordial and truly catholic notice in this number of his eminent fellow educationist the late Father Stafford of Lindsay. It is a hopeful sign of the times when so good a Methodist as Dr. Allison can be found volunteering such a tribute to so good a Roman Catholic as Father Stafford without any danger of being misunderstood. It is indicative of the good time near at hand when the reign of bigotry in educational matters shall come to an end.

—We publish this month a portion of the address recently delivered at the opening of the Normal School session in New Brunswick by the Principal, W. Crocket, M.A. It is worthy of attentive perusal, not merely as showing on his part a strong grasp of educational questions, but also because of the work he has achieved and is still actively carrying on. As a matter of fact, much as we boast of our educational progress in Ontario, the sister Province of New Brunswick is rather ahead of than behind us, and to Mr. Crocket belongs a considerable share of the credit for this state of affairs. He is one of the most advanced of pedagogues, and, with the Superintendent, Dr. Rand, is earnestly bent on keeping the teaching profession fully abreast of the educational reform movement which now extends over the great American continent with little respect to political boundaries. The more our teachers know of what is going on in other Provinces the better, and one way of acquiring such knowledge is the perusal of such addresses.

—Some time ago one of the Port Hope papers made a statement to the effect that the abominable practice of swearing was far too prevalent in the schools of that town. Unfortunately there is too much bad language used by the pupils of all towns. They hear it used by men on the streets, and are too apt to imitate their elders. The teachers have only a very limited control over the pupils outside of the school-room, and therefore it is quite impossible to eradicate such a habit completely. There is no reason, however, to suppose that it is more prevalent in Port Hope than elsewhere, though this sinister inference from the statements of the local journal was suggested in connection with the Bible-in-Schools controversy. On the contrary it is well known that both the high and the public schools of Port Hope are exceptionally well managed. Mr. Purslow and Mr. Goggin, the head masters, are teachers and disciplinarians of the first rank, and we have good reason to know that they have the cordial cooperation of the school board and the people. It should be possible to state the truth about the inevitable swearing in schools without any chance of the remark being distorted to the prejudice of teachers and of a whole locality, but it seems to be expecting too much to hope for such a display of candor.

—The election of Mr. J. L. Hughes, inspector of public schools for Toronto, as Vice-President of the Froebel Society is a well merited compliment. Mr. Hughes has done much to spread a knowledge of kindergarten methods in Ontario, and has by persevering effort paved the way for the official recognition of the system. The kindergarten is destined to replace the old-fashioned infant schools and classes, and the practical educationist who by his efforts hastens that change is a public benefactor.

We are frequently in receipt of letters from teachers enquiring as to their prospects in changing their occupation. They would like to get into an office or some position of that kind. Unfortunately for them owing to the nature of their education this is very difficult. When teachers contemplate entering the profession they should either determine whether they will stick to it for life or select some other occupation. If they intend following business pursuits they should not spend any time in teaching; but immediately qualify themselves to enter upon their life-work. We know of no place better adapted for this special mercantile training than in the British American Business College in this city. Its announcement in another part of this paper is worthy of perusal.

### Correspondence.

To the Editor of the Canada School Journal.

SIR:—At the last meeting of our association, which was held at Arthur, on the 12th and 13th October, it was moved by James McMurchy, B.A., head master of Harriston high school, and seconded by Joseph Reid, B.A., LL.B., head master of Mount Forest high school, that you be requested to publish the report of the Committee on Readers which was passed at Mount Forest in May. Some of our teachers had never seen the report in print, and they did not think the association had been fairly treated by you. So highly are your new Readers held in our esteem, that it is almost needless to inform you the the resolution was carried unanimously.

#### REPORT OF COMMITTEE ON READERS.

We, your Committee on Readers, beg leave to report (first) that a change in the present series of Public School Readers is, in our opinion, a matter of necessity in the interest of education for the Province of Ontario; (second) that having examined Messrs. Gage & Co.'s Readers (Canadian Readers, by Prof. Meiklejohn) we consider them admirably adapted for use in our Public Schools.

All of which is respectfully submitted.

ARCHIBALD MACPHERSON, *H. M., Arthur Village P. S.*  
LEOPOLD DAVIDSON, *H. M., Glenallan P. S.*  
R. R. HOPKINS, *H. M., Harriston P. S.*  
JOSEPH REID, *B. A., LL. B., H. M., Mount Forest H. S.*  
DAVID P. CLAPP, *B. A., Inspector of North Wellington.*

There were seventy (70) teachers present at the Arthur meeting. I can only add on behalf of the association my entire approval of your Readers, and that "they are admirably adapted for use in our public schools."

I remain, yours respectfully,

WM. McEACHERN,

Secretary, N. W. T. A.

Harriston, Nov. 9, 1882.

Mathematical Department.

ELEMENTARY ALGEBRA.

Many of our readers are pursuing this science without the help of teachers. We continue from the May number examples of methods likely to be of service to our friends, and insert questions for practice.

1. Given  $(a+x)^4 = a^4 + 4a^3x + 6a^2x^2 + 4ax^3 + x^4$ ; deduce from this the expression for  $(a+b+c)^4$ .

We see by symmetry that

$$(a+b+c)^4 = a^4 + 4a^3b + 6a^2b^2 + R \\ + b^4 + 4a^3c + 6a^2c^2 \\ + c^4 + 4b^3a + 6b^2c^2 \\ - 4b^3c \\ + 4c^3a \\ + 4c^3b,$$

where  $R$  is the remaining terms of the expression, which must be of the forms  $a^2bc, b^2ac, c^2ab$ . Now to find the numerical coefficient of these remaining terms put  $a=b=c=1$ , and  $(a+b+c)^4$  becomes  $=81$ ; which shows that the expression must contain 81 terms. But the part already written down contains 45 terms, thus the remaining part must consist of 36 terms, and as the expression is symmetrical, the coefficients of  $a^2bc, b^2ac, c^2ab$  must each  $=12$ . Thus the column denoted by  $R$  is  $12a^2bc + 12b^2ac + 12c^2ab$ .

2. Prove that  $(x^2-xy)^2 + (y^2-xy)^2 + (x^2-xy)(y^2-xy)$  is a perfect square.

We have solved this in several forms on various examination papers. Let our readers do it themselves. Hint: Combine each cube with one of the three products  $(\quad)(\quad)(\quad)$  and factor.

3. Prove that  $(a^2+b^2+c^2)^2 + 2(ab+bc+ca)^2 - 8(a^2+b^2+c^2)(ab+bc+ca)^2$  is a perfect square.

Put  $x=a^2+b^2+c^2$  and  $y=ab+bc+ca$  and the expression becomes  $x^2+2y^2+3xy^2$ , which is easily factored  $=(x-y)^2(x+2y)$ . Restore the values of  $x$  and  $y$  and we have  $(a^2+b^2+c^2-ab-bc-ca)^2(a+b+c) = (a^2+b^2+c^2-3abc)^2$ .

Apply this method to No. 2.

4. Factor  $1 - \frac{a^2+b^2-c^2-d^2}{2(ab+cd)}$

Ans.  $\frac{(a+b+c-d)(a+b-c+d)(a-b+c+d)(-a+b+c+d)}{4(ab+cd)^2}$

5. Find the value of  $\frac{1}{ab-ax} - \frac{1}{bx-ab} + \frac{x}{(x-a)(bc-cx)}$ ,

when  $x = \frac{2abc}{ab+ac+bc}$ .

$$\text{Expression} = \frac{1}{a(x-b)} - \frac{1}{b(x-a)} - \frac{x}{c(x-a)(x-b)} \\ = \frac{1}{a} - \frac{1}{b} - \frac{x}{c} \\ = \frac{(x-b)}{(x-b)} - \frac{(x-a)}{(x-a)} - \frac{1}{c} \frac{(x-b)}{(x-a)(x-b)} \\ = \frac{1}{a} - \frac{1}{b} - \frac{1}{c} \\ = \frac{(x-a)(x+b)}{(x-a)(x+b)} \\ = \frac{x}{a} - \frac{x}{b} - \frac{x}{c} + 2 \\ = \frac{0}{(x-a)(x-b)} = 0.$$

6. Find the value of  $\frac{1}{x-3a} + \frac{1}{x-3b} + \frac{1}{x+3c}$  when

$$\frac{1}{a} + \frac{1}{b} = \frac{1}{c} \text{ and } x = 2(a+b+c)$$

Restore the symmetry by writing  $-c$  for  $c$  throughout the three expressions.

Then numerator of sum in 1st expression.

$$= (x-3b)(x-3c) + (x-3a)(x-3c) + (x-3a)(x-3b) \\ = 3\{x^2 - 2(a+b+c)x + 3(ab+ac+bc)\}.$$

But  $x=2(a+b+c) \therefore$  1st & 2nd terms cancel: also  $\frac{1}{a} + \frac{1}{b} + \frac{1}{c} = 0$

$\therefore$  3rd term  $=0$ , i.e. expression  $=0$ .

7. Prove that  $(1-a^2)(1-b^2)(1-c^2) - (c+ab)(b+ac)(a+bc)$  is divisible by  $(1+abc)$ .

Write  $x$  for  $abc$  throughout, and

$$\text{Expression} = (1-a^2)(1-b^2)(1-c^2) - \frac{1}{x}(x+a^2)(x+b^2)(x+c^2)$$

Observe that if  $x=-1$  the expression  $=0 \therefore x+1$  is a factor, i.e.,  $abc+1$  is a factor.

8. Show that  $x^{2n} + x^{2n} + 1 = (x^2+x+1)(x^2-x+1)(x^4-x^2+1) \dots (x^{2n}-x^n+1)$ . Hint:  $(b^2+ab+b^2)(a^2-ab+b^2) = a^4+a^2b^2+b^4$ .

9. If  $ax^2+bx+c$  and  $a_1x^2+b_1x+c_1$  have a common factor of the form  $x+m$ , prove that  $(a_1b-ab_1)(b_1c-bc_1) = (a_1c-ac_1)^2$ .

Call 1st expression  $R$  and 2nd expression  $S$ .

$$\text{Take } a_1R - aS \text{ and remainder} = x + \frac{a_1c-ac_1}{a_1b-ab_1}$$

$$\text{Also } c_1R - cS \text{ gives remainder} = x + \frac{b_1c-bc_1}{a_1c-ac_1}, \text{ and each of these}$$

remainders must be divisible by the common factor  $x+m$ , -for "every measure of  $R$  and  $S$  must measure  $mR \pm nS$ ." Hence it is manifest that we must have  $\frac{a_1c-ac_1}{a_1b-ab_1} = \frac{b_1c-bc_1}{a_1c-ac_1}$ . Clear of frac-

tions. Q. E. D.

10. If  $ax^2+3bx^2+d$  and  $bx^2+3dx+c$  have a common factor of one dimension then  $(4bd-ae)^2 + 27(ad^2+b^2e)^2 = 0$ .

As in 9, take  $bR-aS$ , also  $eR-dS$ , and write  $m$  for  $(bd-ae)$  and we get  $T=3b^2x^2-8adx+m$ ;  $U=mx^2-3bx+3d^2$ .

Then as in 9, the final condition is  $(3hem-9ad^2)(3adm-9b^2e) = (m^2-9b^2d^2)^2$ . Strike out common factor  $m$  and the required result appears. Our readers may verify the above skeleton solution.

11. Show  $\frac{1}{1+x^{m-n}+x^{n-p}} + \frac{1}{1+x^{n-m}+x^{m-p}} + \frac{1}{1+x^{p-m}+x^{m-n}} = 1$ .

Hint: Multiply terms of 1st by  $x^{-m}$ , of 2nd by  $x^{-n}$ , of 3rd by  $x^{-p}$ . Find other multipliers which will accomplish the same purpose.

12. If  $\frac{1}{1+a+ac} + \frac{b}{1+b+ab} + \frac{bc}{1+c+bc} = 1$  and

$$\frac{1}{1+c+ac} + \frac{1}{1+b+ba} + \frac{1}{1+c+bc} = 1$$

and none of the denominators  $=0$  then must  $a=b=c$ .

Take  $aR-S \therefore a = \frac{1+b}{1+c}c$ . Substitute this in 1st expression ( $R$ ) and  $b=c$ , similarly  $a=c$ .

SECOND PREVIOUS EXAMINATION CAMBRIDGE

ARITHMETIC.

1. Find the quotient obtained by dividing the product of the seven whole numbers next in order after 30 by the product of the first seven whole numbers. Ans. 10295472.

2. The circumferences of the large and small wheels of a bicycle are 176 inches and 48 inches respectively. How many more turns will the latter have made than the former if the machine goes a distance of 15 miles? Ans. 14400.

3. Express the difference between  $1 - \frac{1}{3} + \frac{1}{5} - \frac{1}{7}$  and  $\frac{1}{2} + \frac{1}{4} + \frac{1}{6} + \frac{1}{8}$  as a vulgar fraction in its lowest terms. Ans.  $\frac{86}{2520}$ .

4. Multiply .01019 by 23.04 and divide .01842 by .0055. Ans. .2847776; 2.44.

5. Express the quotient of .21 divided by .011 as a decimal. Ans. 19.09

6. Find the cost of 2 tons, 3 lbs. 5 oz. @ 3s. 4d. per lb. (long ton.) Ans. £747. 4s. 4½d.

7. A level tract of land 20 miles long and ¾ of a mile broad is flooded to a depth of 5 feet. Given that a cubic foot of water weighs 62 lbs. find in tons the weight of water on the land. (long ton.) Ans. 57872571¾.

8. A sovereign is worth 4 dollars 7 cents in America, and 25 francs 2 centimes in French money. How many cents will a man lose who changes £15 at the rate of 25 francs for 1£? (A franc=100 centimes; a dollar=100 cents.) Ans. 47¼¢.

9. Two men A and B working alone can finish a piece of work in 7 and 8 hours respectively. If they work at it for an hour alternately, A beginning, in how many hours will the work be finished? Ans. 7¾.

10. Find the amount of £400 in 2½ years, reckoning compound interest at 4 per cent. Ans. £441. 5s. 10.272d.

11. A man buys 5 per cent. foreign stock at 40 and sells out at the end of the year when the stock has fallen to 38. What does he gain per cent. on the transaction? Ans. 7½ per cent.

12. The excess of the present value of a sum due in one year, reckoning interest at 5 per cent., over the present value when interest is reckoned at 6 per cent. is 10s. Find the sum. Ans. £55. 13s.

CAMBRIDGE ENG.—PREVIOUS EXAMINATION.

MECHANICS.

1. Explain why it is allowable to represent forces by straight lines. Enunciate the polygon of forces.

2. Assuming the parallelogram of forces, prove that if P, Q be two forces acting upon a particle, and if  $\alpha$  be the angle between their directions, then their resultant R is given by the formula  $R^2 = P^2 + Q^2 + 2PQ \cos \alpha$ .

A particle is acted upon by a force of 1 lb towards the East, and by a force of 2 lbs. towards the North-West, find the magnitude of the resultant. *Ans*  $\sqrt{5 - 2\sqrt{2}}$  lbs.

3. Resolve a force of 9 lbs into two others, each making an angle of  $60^\circ$  with it. *Ans*. Each force = 9 lbs.

4. Find the magnitude and position of the resultant of two parallel forces acting in opposite directions.

Parallel forces 3 lbs. and 7 lbs. act in the same directions at points A and B distant 20 inches apart. How far from the middle point of AB does their resultant cut AB? *Ans*. 4 inches.

5. Prove that the centre of gravity of a triangle AB is at G, where  $AG = \frac{2}{3}AD$ , D being the middle point of BC.

Having given the centre of gravity of each of two parts of known magnitude into which a body is divided, show how to deduce the position of the centre of gravity of the whole body.

6. If two forces acting on a lever keep it in equilibrium, prove that they are inversely proportional to the perpendiculars let fall upon them from the fulcrum.

The shorter arm of a lever is 7 inches in length, if the lever be in equilibrium when weights of 5 lbs and 8 lbs. are suspended from its arms, find the length of the other arm. *Ans*.  $11\frac{1}{2}$  inches.

7. In the system of pulleys in which all the strings are attached to the weight, find the relation between the power and the weight when the system is in equilibrium, neglecting the weights of the pulleys.

If the system consists of only two pulleys, the lower of which weighs 5 lbs. and if the power is 3 lbs., find the weight. *Ans*. 14 lbs.

8. Describe the Roman steelyard and explain what is meant by graduating it. AB is a Roman steelyard 10 ft. long: its centre of gravity is 9 in. from A, and the fulcrum 6 in. from A. If the weight of the steelyard be 8 lbs. and that of the moveable weight 1 lb., find how many inches from B the graduation marked 12 lbs. will be. *Ans*. 66.

9. A particle of given weight W is in equilibrium upon an inclined plane, whose inclination to the horizon is  $\alpha$ , under the action of a force whose direction is parallel to the plane; find the force and also the pressure on the plane.

A particle weighing 9 lbs. is in equilibrium upon an inclined plane under the action of a horizontal force of  $3\sqrt{3}$  lbs.; find the inclination of the plane, and the pressure upon it. *Ans*.  $30^\circ$ ,  $6\sqrt{3}$  lbs.

CAMBRIDGE—ORDINARY B. A. DEGREE.

HYDROSTATICS.

1. How is fluid pressure measured? If the atmospheric pressure be 14 lbs. on the square inch, what will be its measure in cwts. on a square foot?

2. Prove that the surface of an incompressible fluid of small extent under the action of gravity is a horizontal plane.

Compare the pressures at points 2 and 18 inches respectively below the surface of a basin of mercury, taking into account the atmospheric pressure when the barometer stands at 30 in.

3. Show that the resultant on a body immersed in a fluid is equal to the weight of the fluid displaced.

If a body float immersed in one or more fluids state the conditions of equilibrium.

A body exposed to atmospheric pressure has volumes  $V_2, V_1$  respectively immersed when it floats in fluids whose specific gravities are  $s_2, s_1$ . Shew that  $V_2(s_2 - r) = V_1(s_1 - r)$ .

4. Define specific gravity, and describe Nicholson's Hydrometer. What are its advantages over the common hydrometer?

5. Describe Hawksbee's air pump and explain its advantages and disadvantages.

If the capacity of each barrel be one-fourth that of the receiver, and the mercurial gauge at the commencement of the operation stand at 30 inches, what will be the least number of strokes which will reduce the height of the gauge to 5 inches?

6. Distinguish between a liquid and a gas.

Describe the experiment by which it is shown that the pressure of a gas at constant temperature varies as its density.

A hollow cylinder, closed at one end with its open end on the surface of a fluid, and forced vertically downwards till the closed end of the cylinder is on the surface of the fluid. Show that if the height of the cylinder be  $6h$  the air in the cylinder will occupy one-third of its volume,  $h$  being the height of the fluid barometer.

ANSWERS TO PROBLEMS, PAGE 180.

1. Solution by JOHN COYNE, STAFFA, ONT. :-

Let A be the point of suspension; BAC the triangle suspended from the right angle A; and EAD when suspended from the acute angle; so that  $AD=AB, AE=BC, DE=AC$ . The vertical passes through O, the middle point of BC; take F, the middle point of AE, join DF. Let N be the point where AE cuts BC and H, where FD cuts the vertical from the right angle. Now  $FD=FA, \therefore \angle FDA = \angle FAD = \angle OBA = \angle OAB, \therefore OB=OA. \therefore$  by subtracting the common angle FAH,  $\angle BAN = \angle DAH, \therefore \triangle BAN = \triangle DAH, \text{ and } HD = BN$ .

But  $BO = FD = \frac{1}{2}$  hypoth; also  $DH = 2HF \therefore BN = 2NO$ .

Now  $AC^2 = AO^2 + OC^2 + 2NO \cdot OC$ .

$AB^2 = AO^2 + OB^2 - 2NO \cdot OC$ .

$\therefore AC^2 - AB^2 = 4NO \cdot OC = 2NO \cdot 2OC = BN \cdot BC = BA^2$ .

$\therefore AC^2 = 2AB^2$ , or  $AC : AB :: \sqrt{2} : 1$ .

Remark. Mr. C. has not assumed that any of the sides will coincide. But it is easy to show that AD will coincide with AC, the other side containing the right angle, by remembering that each acute angle is the complement of the other. The proof then becomes more simple.

J. H. PHILIP, BELGRAVE, endeavours to show that the problem is impossible, as follows: Let ABC be the given  $\Delta$  and D and E the middle points of BE and CA. Then by hyp. AD must be at rt.  $\angle$ 's to BE. Let the point of intersection be F. Hence  $AB = BD = \frac{1}{2}BC = \frac{1}{2}AC$  i. e.  $AC = BC$ , and ABC cannot be rt.  $\angle$ 'd at B or C. i. e. the case cannot occur.

2. Most of the solutions received to this problem assume that the line bisecting the angle will fall on that side of the line bisecting the base nearest the greater angle. The following solution is due to F. CONGDON, B. A., HALIFAX, N. S.: Let ABC be the  $\Delta$ , A being the vertex. If  $AB = AC$  the bisecting lines coincide and cut the base at rt. angles. But let  $AC > AB$ , and let AP bisect the angle. Make  $AD = AB$ , join PD. Then the  $\Delta$ 's ABP and ADP are equal.  $\therefore \angle PDC > \angle APD = \angle APB > \angle DCP \therefore PC > PD = BP \therefore$  the middle pt. of BC is in PC. Let Q be this point, join AQ. Then  $\angle APB > \angle AQP$ , and  $\angle APQ > \angle APD = \angle APB, \therefore \angle APQ$  is still  $> \angle AQP, \therefore AQ > AP$ .

3. This is best effected by an algebraical analysis. Let a be the line, x its produced part, and b the other given line. Then we require  $(a+x)h = x^2 \therefore x = \frac{1}{2}(b \pm \sqrt{b^2 + 4ab})$ . This gives us the construction: On b describe a square, produce one side a distance equal to four times a, complete the rectangle; find PQ the side of a square equal to this rectangle as in II. 14. Produce PQ a distance = h. Half this line is equal to the distance a must be produced. Other constructions easily suggest themselves from the formula.

Solution by M. S. MCKAY, Carriboo River, N. S.:

Let AB and x be the given lines. Produce AB to N and make  $BN = x$ , on AN describe a semi-circle, draw BS at rt. angles to AN, bisect BN in Y. Join Y with S the point of intersection of the semi-circle on AN with BS. With Y as a centre and YS as a radius describe a circle, produce AN until it meets the circumference in Q. AB is produced to the read. point O.  $\therefore SB^2 = SY^2 - BY^2$  (Euc. I. 47.)  $\therefore SB^2 = YQ - BY^2$  then  $SB^2 = (QY + BY)(QY - BY)$  (Hamblin S. II. B.) or  $SB^2 = QB \cdot NQ$ . But  $SB^2 = \angle^2 \cdot BN$  (Euc. III. 31., II. 4., I. 47.)  $\therefore AB \cdot BN = QB \cdot NQ$  then by adding to each of these  $OB \cdot BN. AB \cdot BN + OB \cdot BN = QB \cdot NQ + QB \cdot BN = AQ \cdot BN = BQ^2$ . But  $BN = X \therefore AQ \cdot X = BQ^2$ .

4. Let h = height of pole, then  $(h-y)^2 + (x-y)^2 = h^2$  whence  $h = \frac{x^2}{2y}$ . Some of our friends took x ft. from the pole along the

ground and obtained  $h = \frac{x^2 + y^2}{2y}$ .

5. Cube (1), square (2) take sq. rt. of diffce. and  $3x^2y + y^3 = (b^6 - a^6) \div (b^2 - a^2)$ . Add and subtract this to (2) and take the cube root and  $x \pm y = \{b^3 \pm \sqrt{b^6 - a^6}\}^{\frac{1}{3}}$  whence x and y are found by addition and subtraction =  $\frac{1}{2}\{b^3 + \sqrt{b^6 - a^6}\} \pm \frac{1}{2}\{b^3 - \sqrt{b^6 - a^6}\}$  respectively.

6. Ans. 10 gallons.

7. This is really  $\sin^2 x + \cos^2 x$ , and of course = 1. It may be proved however by simply writing down the squares and adding them together when all the terms vanish except the 1. None of our correspondents solved this problem.

8. Solution by Mrs. GEO. C. WARBURTON, Toronto.

Let  $a$  and  $b$  represent the numbers,  $g$  their G. C. M., and  $m$  their L. C. M., then  $m = \frac{ab}{g} = \frac{ab}{16} \therefore 16 \times 192 = ab$ ; i. e.  $16 \times 16 \times 3 \times 4 = ab$ ,  $\therefore 48$  and  $64$ , or  $16$  and  $192$  are the numbers.

9. Solution by the same:

He had lived 172 days in 1851, counting back to the beginning of the leap year, 1848,  $(172 + 365 + 365 + 366) = 1268$  days.

$80000 - 1268 = 28732$ . In each preceding 4 years there were  $(365 \times 8 + 366) = 1471$  days.  $28732 + 1471 = 19$  and remainder 978 days. Hence he had lived  $(19 \times 4 + 4)$  years and 978 days = 82 years and 248 days.  $1851 - 82 = 1769$ , and  $365 - 248 = 122$ .

If 1800 had been leap year, his birthday would have been the 122nd day of 1769, but as 1880 was not leap year, it fell on the 121st day, i. e. on May 1st, 1769.

Many of our correspondents placed it on the 2nd of May.

Mr. G. M. DOCKRILL, Florence, solved Nos. 4 and 6.

Mr. F. G. HANEY, Montreal, No. 6.

Miss HARRIET J. HART, Kingsville, 6 and 8.

Mr. D. M. CHISHOLM, Caledonia Mills, Antigonish, 5 and 6.

Mr. JAS. H. PHILIP, Belgrave, 1, 2, 4, 5, and 6.

Mr. M. S. MCKAY, Carriboo River, N. S., No. 3.

Mr. ROBERT DRINNAN, Medonte, 4, 6, 8 and 9.

Mrs. G. C. WARBURTON, Toronto, No. 2, p. 103, and 2, 4, 6, 8 and 9, p. 180.

Mr. GEO. B. DANGERFIELD, Hintonburgh, 2, 4, 6, and 8.

Mr. JOHN IRELAND, Fergus, sends us a contribution on "Curiosities in Triangles."

We return cordial thanks to all our correspondents.

### Special Articles.

#### THE PROBLEM OF TEACHING TO READ.

BY J. M. D. MEIKLEJOHN, M.A.

(Continued from last month.)

Our English notation having been thus left uncultivated and uncared for during many centuries, there now appeared upon the scene a force which might have done much for it, but which in reality did little or nothing—but a good deal against it.

This force was the Revival of Learning, which introduced the nation to the riches of Greek and Latin literature, and made learning an established power in England. It introduced us to books; and from these books—through the eye, and not through the ear—there came into our mother-speech thousands of words like *virtue*, *suggestion*, *opinion*, *alter*, *determine*, and so on. But these Latin words were perfectly regular, and were written in a quite self-consistent and harmonious notation; and, being introduced by the eye from books, mistakes were not made in the transcription or the printing of them, but they were transferred bodily and without change, into our own language. But all this time English notation—and even English style—was little cared for. Scholars wrote in Latin; and even as late as the time of Milton and Waller—we'll on into the seventeenth century, and after the appearance of our great dramatic literature—it was thought the right thing to compose in Latin. Milton thought of writing the works he hoped to live by in Latin; he was Foreign (or Latin) Secretary to Oliver Cromwell; and Waller goes so far as to say:

Poets that lasting marble seek  
Must carve in Latin or in Greek.  
We write in sand; our language grows;  
And, like the tide, our work o'erflows.

This merely dialectic character, our then language has never been able to throw off. It is still, in style, in vocabulary, and above all, in its notation, a conglomerate of dialects—a pudding

stone of local varieties. We possess, in fact, not one notation—but three. These three are the English, the Norman-French, and the Latin. Of these three, the English notation is the worst; the Norman-French is very bad, while the Latin notation is perfect.

But the whole of our language, as it is written down at present, is a blurred palimpsest; and the eye of the child is confused and demoralised by the attempt to decipher it. The page is scored all over with dialectic notations—for the language grew simultaneously from different centres, with fragments of Norman-French writing, and with fragments of classical Latin—not to mention the errors of copyists; \* and this is what English children have to be taught. The language is full of marks—like *w*, *y*, *i*, *gh*, and *e*—which have no meaning or force whatever to the child, which are simply of value to the philologist as history; † while they are 'stumbling-blocks and rocks of offence' in the primary schoolroom.

The dialectic character of the language is every-where visible. Among scores of instances there is one that shows how our traditional usages of writing and pronouncing not only hinder the progress of the child, but obscure the plainest facts of the language. The simple symbol *one* we pronounce as if it were written *wun*. That is, we have adopted, for this word, a Dorsetshire or West of England pronunciation. We say *wun*, but we draw the line there, and we do not go on to say *wuts* for *oats*, or *woak* for *oak*. Again, in the compounds of *o-n-e*, we entirely discard the Dorsetshire pronunciation, and give it the simple sound which all analogy entitles it to have, and make it rhyme with *tone*. Thus in *only*, *alone*, and *atone*, ‡ *one* has its correct and 'natural' sound.

It is unnecessary for our present purpose to go into the question of what an alphabet is, or of its history. It may suffice here to mention that all our present European alphabets seem to be decayed fragments of a pictured speech. The steps seem to be: picture; symbol; letter; and thus a letter is a short-hand representation of that which was once a more or less elaborate picture of an external thing. But, whatever may have been the past history of a letter, its use now—its only function at present is to serve as a signal. The three letters *h a t* serve as a signal to the child or other reader to say *hat*. There is to us in the present day no necessary relation between the sound *hat* and the letters which mark the sound upon paper; and the names of the letters—*aitch*, *eh*, *tea*, are, for the ordinary and unphilological reader, just as arbitrary, accidental, and essentially meaningless.

If, then, an alphabet can be fairly regarded as a code of signals, we have a new stand-point from which to examine our own alphabet. There are two necessary conditions of every good code of signals, and it is absolutely necessary that both of them be observed with the most minute accuracy. The two conditions are:

1st, Every signal must correspond to and ask for one thing and one thing only; and

2d, Each thing must be asked for by only one signal.

At first sight, these two conditions seem to be the same—only stated in different ways. But a little reflection will shew that this is not so.

If, for example, in H.M. navy, the signal of 456 asked a neighbouring ship for a tub, or a kind of shot, or a piece of rope, we should have the first canon violated; while, if gunpowder could be called for by some two or three signals—450 or 326 or 125—we should have the second condition not observed. Now this was just

\* Such as the philological blunder of the *g* in *foreign* and *sovereign*; and the vulgar blunders in *tongue*, *grocer*, *fozyllove*, &c.

† The gutturals of our language now disguise themselves as *w*, *gh*, *y*, *i*, &c.—as *w* in *sorrow*, as *gh* in *light*, as *y* in *day*, and as *i* in *hair*.

‡ *Atone*. In the sixteenth century, meant to come together into one. Thus Shake speare has (in *As You Like It*, V. iv. 116):

'When earthly things, made even,  
Atone together.'



the condition of things in the navy before the time of Captain Marryat, the well-known novelist. The code of signals then in use had grown up by tradition; it was a mass of confusion; there was no principle in it; and blunders and even misfortunes were the result. But Captain Marryat took it in hand, introduced order and self-consistency into the notation and the practice of it: and I believe that his system is still at work in the British navy.

We expect, and the young child also naturally expects to find the signs written or printed on paper observe these two simple conditions. Every child expects—and his expectations on this head are both 'natural' and reasonable—that the form of a word shall change when the sound changes; and that the sound shall remain the same with the same form. How are these natural and reasonable expectations met? *N o* is *no*; add a *w*, and it is *now*. So far we are on firm ground. But put a *k* in front of *now*; and it is *no* again. Take the symbol *ow*, and add *c* to it, and it makes *cow*; but add *l* to it, and it is *low*. *O n* is *on*; and here again we are quite safe. But take one little—the very least step farther; and we are plunged into the middle of one of our south-western dialects. Add *e* to *o n*; and it becomes *uen*. But put *al* in front of it, and it is revived; it recovers its ancient habit, and becomes the regular and respectable *alone*. But front it with *g*, and it is *gone*; with a *d*, and it is *done*. *E r e* is *ere*; add *h*, and it is *here*; add *th*, and it is *there* again. *Y e s* is *yes*; but place an *e* in front of it, and it becomes *eyes*. Such is the manner in which our language keeps faith with the expectations of the child: at every third word it alters its course—it perpetually 'breaks the word of promise to the hope,' because it can keep it neither with eye nor with ear.

He expects, moreover, that the letters should be a guide to him in the recognition of the word. A letter, too, he thinks, will always stand for one sound; and one sound will be represented on paper by only one letter. If a letter stands for several sounds, it will be in the confusing condition of the signal that may call for several things; if a sound is represented by several letters, then the second malformation attaching to a code of signals could be asserted of this procedure. But, if one letter stands for only one sound, and one sound is always represented by only one letter, the child gradually accustoms himself to associate the one with the other; his experience is always true and self-consistent; and every act of attention he makes goes to the good—goes to build up the edifice of his knowledge.

But, in the most genuinely English part of the language, this is not at all the case. It is not only not the truth; it is the very opposite of truth. The child's experience is more upset in the notation of the words which are the native words of his own mother-tongue, than in any other part of our national language. The two malformations which infest our speech are there found in the highest degree and in their most virulent form. These two malformations are:

1st, One symbol or printed sign may be interpreted to the ear in from two to nine different ways. This is seen in the well-known case of the symbol *ough*, which is translated into sound in nine different ways. Thus:

B	ough	=	ow
Bor	ough	=	u
C	ough	=	off
En	ough	=	uff
H	ough	=	ock
Hicc	ough	=	up
Th	ough	=	o
Thr	ough	=	oo
Thor	ough	=	o

The symbol (*ough*) remains the same; but the sound—which varied in the old dialects of England—still varies.

2d, The second malformation consists in this—that the sound remains the same, but the symbol—or way of writing or printing it—is constantly changing. Thus we have:

W	ai	t	} Here there are five different = a symbols to represent to the eye one sound.
W	eigh	t	
Gr	oa	t	
Th	oy		
S	ay		

These two phenomena are the parents of difficulties and confusions, 'never ending, still beginning,' which are felt every year in the infant and younger classes of our schools; but, because the nature of them has not been fully examined and exactly estimated, no complete remedial measures have as yet been taken.

(To be continued.)

FATHER STAFFORD—A REMISCEANCE AND A TRIBUTE.

I know no more fitting medium than the CANADA SCHOOL JOURNAL through which to offer a tribute of esteem to the memory of the late Father Stafford. My acquaintance with him, personally, was of the briefest,—that which is gained and measured by the seven or eight days of an Atlantic voyage. I have no particular knowledge of the work of his life, but only that general conception of its scope and value which is to be gained from the emphatic and concurrent commendation which his labors have won from all who have directly witnessed their results. Still less can I lay claim to any such familiarity with his habits of thought, his favorite studies and authors, his special endowments, with, in short, the inward and invisible basis of his character as would warrant elaborate reflections on his virtues. I note simply the impressions made during the brief associations to which I have referred. But these impressions are ineffaceable.

On the 21st of October, 1881, I first met the now deceased clergyman on the Allan quay at Londonderry, Ireland, where, with a group of voyagers looking wistfully westward, I had been standing for hours, awaiting the arrival of the train from Dublin with supplementary mails and passengers for Canada. During those impatient hours under a leaden sky, the grimy little tender which was to convey us down Lough Foyle to Moville, where the good steamship *Parisian* lay in waiting, had given repeated and somewhat deceptive intimations of her readiness, if not her anxiety, to get through with *her* part of the business of transporting us to our western homes. Horace's philosophy of making lighter by patience the unavoidable ills of life was, I fear, not acted upon by *all* the passengers thus held in check under disagreeable circumstances. But a tremendous gale, sweeping the British coasts the night before, had detained the mail steamer from Holyhead, and the be-lated train, about whose movements we were so anxious, was simply proving that nature is still sometimes stronger than man.

The first *car* (according to the Irish *usus loquendi*) from the train, when at length it *did* arrive, brought down upon the quay the worthy priest to whose memory I am paying this slight mark of respect. I can never forget the frank and courteous salutation by which he announced himself a fellow passenger and a Canadian, much less the pleasant intercourse which enlivened and beautified the dreary days of storm and danger which followed. Fortunately we were both of the small percentage of passengers from whom Neptune exacted no tribute, so out of those October gales grew opportunities for quiet converse which calmer seas might have denied. Having gone abroad in quest of health, he was returning home with full belief that the treasure sought had been secured on a permanent tenore and he was correspondingly light of heart. His spirits too

were cheered by the prospect of speedy re-entrance upon the labors to which he was so much devoted.

Let me briefly note one or two of the impressions left upon my mind :

1. That he possessed a mind of a commandingly judicial type. What men call their convictions are often little more than propositions or prejudices, as the case may be, hastily adopted on *ex parte* information, often the creations of pure accident, or without any warrant whatever in either reason or fact. Mr. Stafford's opinions, whether I agreed with them or not, I could not but recognize as the outcome of mature and dispassionate reflection. A conscientious desire to estimate at their full value considerations urged in modification of his own views was very manifest.

2. That his ability to "distinguish between things that differ" was particularly conspicuous in his treatment of the great problems of popular education. He found much to approve of in the schools and school systems of various European countries, expressing, however, a decided opinion that in important respect these might learn valuable educational lessons from Canada. His views on the educational requirements of our own country, on methods of instruction, on the necessity of professionally trained teachers, and cognate subjects explained the secret of his own success as a patron of education.

As we parted at Rimouski he placed in my hands a budget of letters and despatches to give friends an intimation of his safe and to them unexpected early return. In just a year the circle of his earthly labor was completed.

Education Office, Halifax, Nov. 16th, 1882.

D. ALLISON.

#### THE IMPORTANCE OF METHOD IN EDUCATION\*

It will depend upon the use of the means, or the method employed by the teacher, whether or not he can accomplish the work expected of him. There are two ways by which knowledge is gained: one is finding the knowledge ready made: the other is through the exertion of the mind itself. The method will determine two things—the character and amount of knowledge, and the character of the training acquired in coming into possession of the knowledge. Proper mental training always brings two results—a consciousness of increased power and at the same time a consciousness of the possession of new knowledge. The ready made knowledge may be got from a book or be given to us by another. Whether the knowledge will be of any real value to us will depend upon the mind's action in connection with it. If the mind put forth no act the knowledge cannot be taken in—it is left out in the cold, to use a common expression—it does not grow, it has no root, it withers away. It is this kind of knowledge that can never be found when wanted, or if perchance it may have reached that part of the brain called by physiologists sensorium, which has the power of reproducing its impressions just as a parrot can, it can be reproduced at a given signal. The fact, or rule, or whatever it may be, is glibly repeated and passes for knowledge, but the pupil can apply it to nothing except to some particular case with which it was previously associated. When some one else than his teacher questions him, he does not understand, does not know what is meant—the signal is not the same. He often hazards an answer which may be a correct one to another question but absurd to the one proposed, and as ludicrous as the scene which has been described between Frederick William the Great and a tall French grenadier who knew only three words of German. He was instructed to reply to the King's three general questions on parade, "How old are you?" "Three

and twenty." "How long have you been in my service?" "Three years." "Are you satisfied with your rations and lodgings?" "Both your Majesty." The King, however, took the very unusual course of inverting the first two questions and the grenadier of course made himself three years old and twenty-three years in His Majesty's service. The king amazed at such answers did not put the other question about the rations, but the inquiry, "Are you a fool or am I?" "Both your Majesty." Such is often the character of the knowledge which we get ready made, and the application we make of it. No doubt examples as ludicrous have been witnessed by some of yourselves. Let me give you one or two, not for the purpose of making sport, but of illustrating the character of knowledge got ready made without bringing the mind to bear upon it. "What is the Equator?" was a question asked of a class in geography not very long ago. "A line perpendicular to itself and called the meridian." In another class the following questions were asked: "What is the difference between the noun 'book' and the book itself?" "What is an abstract noun?" "A collective noun?" To which the following answers were given: "There is no difference." "An abstract noun has no particular calling." "A collective noun is what it wants to make it more complete." In another class the following answers were given to the questions: "What is the circumference?" "Distance round the middle of the outside." "Distance through the middle." "What is the meaning of develop?" "To swallow up." "Give an example." "God sent a whale to develop Jonah." I do not say there are many such cases, I hope there are not, but the existence of any show that knowledge, however accurately it may be given, may be reproduced in a most absurd form, unless the mind is called into exercise. It must not, however, be assumed that when the knowledge is accurately reproduced it is therefore understood by the pupil or of service to him. A long series of questions may be answered correctly and not one of them be understood. The verbal memory of children is very powerful. They can readily remember sounds without attaching any idea to them, and can readily reproduce them.

The teacher has, therefore, frequently to adopt the other method of securing knowledge, viz: through mental exertion. He has to train the pupil to do things for himself, to get his own ideas from things. A physical, mental, or moral act can be done only by performing it. Every one has to do those things which he would acquire the power of doing. You know yourselves that you could never acquire the power of readily solving arithmetical problems without performing the operations yourselves, nor acquire a dexterous movement of hand without performing the acts through which the power is acquired. Now look how nature does. She gives the child no laws, no rules, no principles, no formulas. She simply gives the material, the faculty, and the occasion for its exercise. There is much repetition in her teaching, in order that the difficult may become easy and use become second nature. She does not tell the child but prompts him to action and induces him to think what he is doing. She does not explain to him the difference between hard and soft, or between a hot stove and a cold one, but says, "feel them." Lay your facts, she says, side by side and compare them, find out where they are alike and unlike. Her business is the training of faculty and the development of power.

These two methods of acquiring knowledge may both be successful as respects the knowledge, but their effects upon the mind are very different. When the mind's activity consists in merely comprehending the thoughts of others, the truths which have been discovered and explained, it becomes a receptacle, a working one, it is true, working the nourishment into its own substance, but preparing it only for taking in more and making progress. The method which presents the material to the pupil for observation and re-

\* Abridged from the opening address of Principal Crocket of the Provincial Normal School, Fredericton, N.B.

flection, and simply stimulates and directs the mind to an orderly plan of study, trains him to form his own ideas of things, to put forth his own efforts in the acquisition of knowledge. I do not mean to put the one method against the other, for both are necessary in our schools; pupils must have assigned lessons to learn from books, when they are sufficiently advanced to master them, but I do say that the one method is too generally followed to the exclusion of the other. The teacher in too many instances becomes a mere hearer of lessons instead of a trainer.

There is a constantly increasing demand for results of greater commercial value from our school system, and the school must consider the question. If our boys had training in the elements that are common to all industrial pursuits, and our girls training in the principles of domestic economy, all reasonable demands would be met without disturbing the primary aim of the school or increasing the number of subjects in the course.

Such training should embrace industrial knowledge and manual dexterity. Industrial knowledge consists in an acquaintance with industrial materials and processes. Industrial materials are of course the various materials used in the industries consisting of substances from the mineral, vegetable, or animal kingdom. Industrial processes are those operations by which raw materials are converted into forms for our use.

You have seen that we have in the course the subjects that form the elements of industrial knowledge. Instruction is required in minerals, plants, and animals, and their uses. With respect to the processes, a large number relating to the most useful industries are described in our Readers, and these lessons are required to be supplemented by oral instruction. Industrial drawing, the subject of Form, and of Geometry, so far as taught, all bear directly upon many industries.

That they shall result in industrial gain will depend upon the mode of teaching them. Let me give you a few practical hints in the form of some examples.

The subject of Form, which is taught in the first two grades, may be made mainly constructive. During the first year, after the pupil has gained perceptions of the various forms brought under his notice, proceed to construct them of such suitable material as can be conveniently had. The ball, cube, cone and cylinder may be formed of clean moist or moulding sand, or suitable clay. They should be made as accurately as a child can be taught to make them, and considerable pains should be taken to give him the necessary facility of manual movement. During the second year the material should be of a more resisting nature than sand, perhaps pasteboard. As a sample of an exercise, suppose he is required to construct a square whose side is three inches, or any convenient length. Require him to place his ruler upon the piece of pasteboard and mark with his knife along the outer edge. This operation is not so easily done as one might suppose. The ruler has to be correctly applied and firmly held with the left hand, so that it cannot slip and produce a crooked line instead of a straight one. He should also be required to do it with the least amount of waste. He will have to be shown, in the first instance, how to move the ruler as far as possible towards the edge, so that none but the waste parts may be marked off. When this is done he proceeds to cut. His first attempts will be awkward and the line will be imperfectly cut, it will be ragged and probably uneven. He will require to be shown how to steady the pasteboard and how to hold the knife when he cuts. Let him test the accuracy by applying his ruler to the cut. Let it be done again and again, if necessary, but not so often as to discourage him. Let us suppose one side completed.

The second adjacent side is ruled off and completed in the same way. Let him now apply the carpenter's square to test the work (small carpenter's squares can be had for the purpose). He will not only learn the use of this tool, but he will become practically acquainted with a right angle, and his eye will soon detect the slightest deviation from it. The two remaining sides will be constructed in a similar manner and the square completed. There will, no doubt, be many trials and repeated corrections before a fairly accurate square has been made, but the pupil has made substantial gain. He has learned to use a ruler and knife properly, and acquired some manual neatness and dexterity. Exercises may

be proposed on the square, by means of which its geometrical properties may be practically understood. They may be further led to find out that the diagonals of a square are not only equal to each other, but bisect each other—truths which they will never forget when taught in this way. If each form is similarly dealt with, the drawings which the pupil makes in his subsequent course will be not only much better executed, but of far deeper interest.

When he has entered upon his course in industrial drawing, the pupil should frequently cut out forms before drawing them, sometimes with scissors as well as with a knife. While studying the elements of geometrical drawing, such as bisecting lines, angles, erecting perpendiculars, etc., he will acquire facility in using the compass. In drawing plans of the school-house, play-ground, etc., of given dimensions, he will become accurate in measuring and accurate in representing measurement.

Arrived at the study of formal geometry, the pupil should, previous to drawing his figures on the blackboard for demonstration, construct them of pasteboard or paper, etc., whenever practicable, and find out the geometrical truths which he is to establish by demonstration. Industrial tools, whose principles depend upon his geometrical truths, should be explained.

In the teaching of arithmetic how many opportunities are afforded of giving a practical character to the work—by associating articles of commerce in the neighbourhood with the questions—requiring the pupils to frame bills of parcels for themselves, and to make them out accurately and neatly! The tables of weights and measures should be determined by experiment and each operation gone through properly, the filling of a gallon or quart from a pint measure, the filling of a pint bottle from a small phial of so many ounces, the measuring of length with a rule or tape line, finding by measurement the content of the play ground, or some other portion of land, all having in view manual dexterity as well as practical knowledge.

Geography, and even History, may be made highly practical as well as powerfully educative. The great natural forces and products which underlie all industries—the industries of a country depending on its products and forces—the interchange of these—and the brotherhood of man, are fitted to awaken and keep alive an interest in industrial work and workers.

Every good citizen of an enlightened country respects the institutions under which he lives, he moves amongst its people, he is protected and governed by its laws. His training towards manhood lies through a knowledge and discharge of his duties as a citizen as well as a workman. How much valuable instruction of a practical character may be imparted and with what interest it will be received, if, instead of loading the pupil's memory with isolated facts little understood and appreciated because they begin and end in themselves, we group together facts that have a bearing upon the great epochs of our history of civil liberty.

A king's reign is not a division of history. Kings die and dynasties, but the great forces move onwards. What are the moving forces? What are the events associated with such forces? Whatever divisions our text books may make it is by some such treatment as I have indicated that we can hope to make history influence character.

It is unnecessary for me to add one word respecting the importance of a study of method and its principles. The whole of this address goes to show that neither the proper aim of the school nor the wants of society can be met unless the work is conducted upon sound principles of method. It is true that some teachers, and more especially young teachers, are apt to pay more regard to the mechanical processes than to the principles of method, and they cannot of course reach satisfactory results, but no intelligent man would on this ground affirm that method tends only to give a mechanical character to teaching. If method is not fitted to lead to great and important results, why should the institutions of the most enlightened countries take practical steps to give a knowledge of it? Two of the Universities of Scotland, Edinburgh and Saint Andrews, have established chairs of education, and the London University has just announced that it will hold a yearly examination in the art, theory, and history of education. Socrates, the Greek philosopher, regarded method as the first thing. Comenius, Locke, Rousseau, Basedow (of whose work Goethe says, "such methods must promote mental activity and give the young a fresher view of the world,") Pestalozzi, Froebel—all insisted upon the importance of method, and Alexander Bain and Herbert Spencer, two of the deepest thinkers of our own day, tell us that all modern systems of instruction must be based upon nature's plan and nature's method.

THE TEACHER'S PROFESSION.

The following article from *The Present Age* will afford Canadian teachers some idea of the status of their confreres in parts of the United States:—

We have in this country an army of teachers reaching to its tens of thousands. The work done by these teachers is of more importance to the welfare of the race than that done by the pulpit—for it touches the daily life of the community at a dozen points, where religious teaching touches it at one. The recruits for the work comprise a large proportion of the best intelligence possessed by our young men and women; and yet no class among us has less influence, no class counts for less outside of the narrow detail of its daily employment.

This is not the fault of the teachers themselves. It is due to the fact that teaching is not a profession among us. It is but a trade, and a poor trade at that—even a poorer trade than the government service. And teaching never can be a profession until our faulty method of appointing teachers is remodeled.

With all our far-reaching system of common schools, our boast of their great advantage to our citizens, no country treats its teachers as shabbily as we do. In other countries they constitute a profession, humble perhaps, and accounted by selfish aristocrats as little above menial service, but still a distinct profession, which can lay down its own rules, and follow them, and cannot be made amenable to any outside criticism; which can assure its members a safe tenure of office, and thus give them an independence which among us they never could enjoy.

In our country we have an autocracy as irresponsible as any despot, which has it in its power to raise an insuperable bar between the schools and any needed improvement of their methods, between the teacher and any portion of the honor and increased emolument which he may earn. This autocracy is known to us as—school boards.

Who determines upon the teacher's qualifications and his work, his worthiness to take or retain his responsible office? Naturally one would judge that this should be done by a board of teachers, just as a lawyer's attainments are estimated by those who are well skilled in the profession. On the contrary, we find that no such knowledge of the profession is ever so much as thought of in the election of school boards. They are usually chosen for mere political considerations; if any other reason has any part in their choice it is perhaps one far removed from schools. This board may be composed of good, intelligent men, but it is quite as likely that it is made up of unscrupulous politicians. While the chance that even one of their number has any practical knowledge of schools and their needs is so improbable as to partake of the nature of a miracle, should it occur. The members of this board are not likely to be superior to any vulgar idea which may sway the community in which they live; and sectarian bigotry, prejudice, parsimony, political partisanship, greedy self-seeking anon govern their actions. And what protection has the teacher against the injustice that may thus be worked upon him and others?

The theory is, that the teacher serves the public. He does not. He serves the will and caprice of a body of men who may be utterly indifferent to the best good of the public. He must look to them in the first place for appointment; no matter how well fitted for his place, however faithful to the trust reposed in him, he must depend for the retention of his office upon their decision, a decision which may be swayed, as we could adduce instances to prove, by the most unworthy considerations. The teacher is no more able to protect his tenure of office than the postoffice clerks. Here is a field for the civil service reformers to work in, and the sooner they take hold of it, the better.

The natural results follow this mode of administering school government. The best material is duly drawn out of the business. Earning no professional standing, and but poor pay, the brilliant man teaches until he can secure an opening elsewhere, and then is gone. Only those who can do no better elsewhere, will retain a position wherein they can reap no independence and but small advantage from the faithful performance of duty, only those who must, will cringe before arrogant school boards to retain their positions. Two primary ideas have governed the administration of school boards, 1st, to get a teacher for the least possible sum; 2nd, to make him feel that he holds his position by their favor only.

Of what avail is it that this teacher has devised some excellent improvements for his school? The omnipotent board will not allow

him to carry them out. Of what good is it that that one has brought his school into most excellent discipline? The autocratic board may dispose of him next week, to make room for a raw recruit, whose father is perhaps mayor or alderman.

The first reform needed to improve our schools is to raise the profession of teaching, and the only way to elevate the profession is to free teachers from this utter and helpless dependence upon unprofessional men, this bondage to outside ignorance.

Matters are not quite so bad in Ontario, but there is even here great room for improvement. Part of the blame must rest on the teachers themselves, however. If they do not learn to regard themselves as members of an honorable profession they cannot expect others to do so. They must respect themselves, respect their fellow teachers, and respect their calling, while they respect also the public whose servants they are. It is satisfactory to notice the tendency in the Education Department to recognize more fully the profession of teaching by requiring all teachers to have a professional training; if the teachers are true to themselves the rest will come in due time.

THE ENGLISH EDUCATIONAL CODE.

It is a matter of some interest to educationists in Canada to know how schools and schoolmaster are dealt with under the English Education Act. For this reason we reprint from the *London Educational Record* the following summary of the new educational code. It will be seen from it that the principle of "payment by results" receives fuller recognition than before, that greater flexibility has been introduced into the programme, that some relaxation has taken place in the requirements for entrance into the teaching profession, that improvements have been made in the schedules of examination, and that the responsibility of inspectors has been increased rather than diminished. In some respects the tendencies of the English system differ from those of the Ontario system; time alone can tell how far either is for the best:—

"The New Code makes important modifications in the existing system in respect of

- I. The Grant and the mode of estimating it.
- II. The Teachers.
- III. The Instruction.
- IV. The Inspection.

I.—The grant has hitherto been computed in a rather complex way. Four shillings per head has been given on average attendance; a sum of 9s. per head on all scholars who, having fulfilled a given number of attendances (250), have passed the standard examination in reading, writing, and arithmetic; certain other sums paid on average attendance for singing, grammar, geography, needlework, &c.; and a further sum per head on all scholars who, being in Standard IV., or upwards, have passed an examination in certain specific subjects, e. g., mechanics, animal physiology, &c.

The total grant thus earned has been steadily increasing, and now amounts very nearly to 16s. per head on average attendance. At the same time the maximum grant is fixed at 17s. 6d., or at one half of the total income of the school from all sources. Hence in Board and other schools in which the cost per head has been large, it has sometimes been possible to claim a grant of 20s. or more per head.

The statutory limitation in the amount of the grant (El. Ed. Act, 1876) is of course retained. But (except in regard to the passes in specific subjects, henceforth to be limited to Standard V. and upwards) the whole grant made to a school will be computed on the average attendance, and will be appropriated to the various items of school work as follows:—

1.—For average attendance only .....	s. d.
2.—For reading, writing, and arithmetic, on individual examination, a sum not exceeding, but computed at 1d for every per cent. of passes .....	4 6
3.—For singing; by ear 6d., or by notes .....	1 0
4.—For a class subject; English, if fair 1s., and if good .....	2 0
5.—For a second class subject; geography, history, or elementary science. Ditto .....	2 0
6.—For needlework; girls only .....	1 0
7.—For general merit, according to the report of H.M.I., 1s., 2s. or 3 0	3 0

£1 1 10

It has been carefully computed that under this arrangement most schools will obtain pretty nearly the same grant as at present. There is a slight increase in the first item, the unconditional or "steading" part of the grant, to which the managers of voluntary schools attach so much importance. But at every other item the question of the goodness of the work comes in. The grant on individual examination varies as the numbers who pass; that on class examination, as well as that on singing, varies as the quality of the result; and the new grant for merit takes account of the spirit, order, and intelligence of the school as a whole.

Teachers complained much, and not without reason, that their professional success was too often judged by the percentage of passes in reading, writing and arithmetic, and that this alone was a mechanical and unsatisfactory standard of estimation. No doubt they were often so judged by managers, because this was the only part of the grant variable by results. Every other sum was either given or instituted *en bloc*. There will in future be no temptation to aim at a higher percentage of passes at the expense of other considerations, because the question of quality or merit will come in at every step. Reading, writing, and arithmetic, though still important, will not be the only variable features in determining the grant, and it will be quite possible for a school which passes (say) 80 per cent. in the standard to attain a higher grant than the one which passes (say) 90 per cent., and secures that result by the sacrifice of general intelligence.

II. *The teachers* will find themselves relieved from the onerous and disagreeable task of finding for every scholar a *Child's School Book*, and recording in it every particular concerning his birth, education and progress.

All the trouble connected with the Honour Certificates, and the preparation of a separate schedule for exemption from school fees will disappear.

It will be no longer necessary to whip up the attendance on the day of inspection of children who have left school. The examination will be confined to scholars actually in the school at the time, or not more than six weeks before. Much greater liberty of classification will be allowed. Hitherto it has been felt as a grievance that every child who had been presented in one Standard, should be passed up to the next, and that the unavoidable absence of a scholar on the day of examination entailed a loss in the grant. Now a special provision has been inserted to the effect that, although as a rule all children should be thus advanced and presented, exceptions to this rule may be allowed, if duly notified and explained to the Inspector. Greater liberty will also be given in regard to the choice of subjects. The new Code assumes that in regard to all instruction beyond necessary rudiments, that is the best subject, in any given school, which the teacher can teach best. Accordingly the range of choice in class subjects has been somewhat enlarged. Instead of grammar and geography, geography, grammar, and elementary science are offered, of which, under certain conditions, two may be taken.

Moreover, although a course of instruction in geography and elementary science has been laid down for general guidance, a special provision has been inserted that in cases in which the managers and teachers prefer an alternative course, similar in its main purpose but differing from it in detail and in order of development, such a course may be substituted with the sanction of the Inspector. In this way it is hoped that the ablest and most original of the teachers may be encouraged to devise their own methods, and to lead the way to further improvements.

The older teachers, who have through ten years' service obtained good reports, and whose certificates have been raised to the first class, will no longer be subject to the necessity of annual entries on their certificates, but will be entitled to claim from the managers a certified copy of the Inspector's report on their schools. This is a change which has been much desired by teachers, who felt it a grievance that, after long experience, their standing was liable to be seriously injured by a certificate entry made perhaps by a young inspector.

Graduates of universities, and women who may have passed certain university examinations, are admissible as assistants without the formality of an entrance examination. They will be required, however, to pass through the same period of probation, and to pass the same examination, and to give the same proof of practical skill as others before they receive certificates, or will be recognized as competent to take charge of schools.

This will probably have the effect of introducing into elementary schools a very few men and a great many women who have been drawn to the work by preference and aptitude, and have received a liberal education, but who have not been through the usual routine of pupil teachership and normal training.

The new arrangements about Inspectors will also provide for the ablest of the Inspectors' assistants, who are recruited from the ranks of certificated masters, to rise to the rank of Sub-Inspector, a position of greater influence and higher emolument than has ever yet been opened (in the inspection of schools) to certificated teachers.

III. *Instruction.* The schedules of examination have been carefully re-cast, and the work of the several years better graduated. In reading, the Inspector is to test the intelligence of the children by questions on

the meaning of what is read; and one of the books required in the higher standard is to relate to English History. In arithmetic, the order of the subjects is more logical, and in closer harmony with the best modern methods; while special provision is made for the practice of mental or oral arithmetic *pari passu* with written exercises. The class subject "English" is no longer confined to technical grammar, but includes simple and graduated recitation from good authors, with exercises calculated to enlarge the scholar's vocabulary, and to throw light on the meaning, the structure, and the right use of words, as well as on their grammatical relations. Having regard to the fact that other subjects, such as geography and elementary science, are often learned as memory exercises only, and whereas exercises in language are a training in thinking, the regulations prescribe that, although there may be a choice as between geography and science, English shall always be taken as one of the class subjects. "No scheme for geography connects the first lessons on physical facts and phenomena with topography and statistics, and the names and position of places which generally fill the school books, and is carefully framed to encourage children to begin at home and observe the geographical facts of their own neighborhood and county.

The course of lessons on elementary science is purposely left rather vague, as it should differ largely according to the character of different localities and industries, and to the special gifts and knowledge of the teacher. But its general character is indicated in the words, "A progressive course of simple lessons on some of the following topics, adapted to cultivate habits of exact observation, statement, and reasoning," and in directions which show that if any branch of science is intended to be taken up in the higher standards, it ought to be preceded in the lower classes by a series of untechnical lessons on the main facts and phenomena to which that science relates.

In Infant schools there is a special recognition of the importance of the Kindergarten, and yet of its due relation to the scheme of general instruction, in the language of the Code prescribing that in such schools provision shall be made (1) for suitable instruction in the rudiments of reading, writing, and arithmetic, (2) for a course of simple lessons on objects, and on the phenomena of nature and of common life, and (3) for appropriate and varied occupations for the little ones.

On the whole, the effect contemplated by these proposals is to retain every security afforded by the existing system for exactness and thoroughness in elementary instruction, and at the same time to encourage less mechanical and more intelligent teaching, and to have regard to the quality of the instruction and discipline, as well as to the number of scholars who can come up to a given mechanical test. It is hoped that the results may in future be weighed as well as counted. The Standard examination in reading, writing, and arithmetic, and the record of individual passes, introduced by Mr. Lowe, will be retained, as experience has proved it to be a real safeguard against careless teaching and superficial inspection. And, considering the fact that to the child of the labouring man passing in the standard allowed by law for total or partial exemption from school attendance is a matter of serious importance, a substantial part of the grant is still dependent on the percentage of passes, and is especially designed to encourage teachers in the effort to bring as many scholars as possible up to the simple requirements of the legal standards. But the merit grant will enable Inspectors to discriminate between schools in which this result is achieved by enabling a number of scholars barely to pass, and those in which scholars pass with ease and credit. And in recommending further grants for class subjects, the Inspector, who has hitherto had no alternative but to grant for grammar, geography, and history, the whole sum or none, will now have a third and most useful alternative. He will have to report *how* the subjects have been taught. If well, the whole grant will be awarded, and if only fairly, one half the grant.

IV. *Inspectors.*—All these changes impose new and grave responsibilities upon Inspectors, and presuppose a critical insight into the heart and spirit of the schoolwork, which though often most beneficially exercised by individual Inspectors, has hitherto had little recognised influence in determining the amount of the grant. It will thus become more necessary than ever that there should be uniform and concert among Inspectors as to the way in which discretion shall be exercised, and the principles on which certain requirements shall be interpreted. Accordingly special provision has been made (though by departmental regulation and not in the Code itself) for reorganising the Inspecting Staff, and for bringing the senior Inspectors into annual council, and for enabling the Inspectors of the various districts to compare experience and to resolve on some tolerably uniform rules of action. It is evidently not desired by these arrangements to eliminate the special methods of Inspectors or diminish their independence, but only to guard against reasonable complaints of injustice and caprice.

"I congratulate you," said president Conard to the teachers of Arkansas, "upon the superiority of the text-books now put into the hands of pupils—superior in style and finish; containing more matter and more valuable matter; higher in their aim and purpose; tending rather to develop than to fill; encouraging the pupil to think for himself, and leading him to question further upon all that he sees and hears."

Examination Questions.

JULY EXAMINATIONS, 1882.

FIRST CLASS TEACHERS—GRADES A AND B.

ELEMENTARY GEOMETRICAL OPTICS.

TIME—Two Hours.

1. Give a concise non-mathematical description of what takes place when a divergent pencil of light falls upon :

- (a) A plane mirror,
- (b) A concave mirror, the origin of the pencil being in the axis,
- (c) A convex mirror under condition as in case (b),
- (d) A thick transparent plate of glass.

2. Two plane mirrors are inclined to one another at an angle  $\epsilon$  ; investigate an expression for the deviation of the ray after successive reflection at the surface of each mirror.

In what instruments is this principle of reflexion employed ?

3. If a ray of light meet a prism and leave it at the same angle, ( $\phi$ ), and if  $\mu$  be the index of refraction and  $\epsilon$  the angle of the prism,

$$\sin \phi = \mu \sin \frac{\epsilon}{2}$$

and if  $\delta$  be the deviation of the ray,

$$\mu = \sin \frac{\delta}{2} \left( \cot \frac{\epsilon}{2} + \cot \frac{\delta}{2} \right).$$

4. A prism whose section is an equilateral triangle is to be employed for producing total reflexion without refraction.

Determine the lowest allowable index of refraction for the substance forming the prism.

5. The object glass of a microscope consists of two convex lenses separated by an interval of two inches. The focal length of the first lens is 3 inches, and of the second 8 inches, and an object one-tenth of an inch in length is placed 4 inches in front of the first lens. Determine the position and size of the image.

6. While looking at the page of a book from a distance of 12 inches, I place a plate of glass ( $\mu=1.5$ ) upon the page. How does that affect the appearance of the print, and to what extent ?

7. Explain the following terms employed in relation to telescopes :—Objective, Ocular, Positive Eyepiece, Negative Eyepiece, Amplifying Lens, Diaphragm, and state the purpose of each.

8. How much shorter would a Cassegrain's telescope be than a Gregorian, if in each the focal length of the great speculum were 4 feet, that of the eyepiece 2 inches, and if the magnifying power were 100 ?

ANALYTICAL GEOMETRY.

1. Show that the general equation  $Ax + By + C = 0$  represents a straight line.

Determine its intercepts on the axes, the angles it makes with the axes, and the length of the perpendicular on it from the origin (axes rectangular).

2. Obtain a general expression for all lines passing through the intersection of

$$\begin{cases} Ax + By + C = 0 \\ A'x + B'y + C' = 0 \end{cases}$$

and deduce from it the equations to (1) that which passes through the origin, and (2) that which is parallel to  $Ox$ .

3. Find the area of a triangle the co-ordinates of whose angular points are given, and thence show that all triangles on the same base and of equal area are between the same parallels.

4. Show that the equation

$$x^2 + y^2 + 2Ax + 2By + C = 0$$

represents a circle ; and determine the constants in it that it may be touched by the co-ordinate axes and by

$$\frac{x}{a} + \frac{y}{b} - 1 = 0.$$

5. Classify the curves

(1).  $2x^2 - 3y^2 + xy + 5y - 2 = 0.$

(2).  $x^2 + 2y^2 - 3xy - x + 4y + 1 = 0.$

6. If  $\alpha=0, \beta=0, \gamma=0, \delta=0$  be the equations to four straight lines, interpret the equations

(1).  $\alpha\beta + \gamma\delta = 0$

(2).  $\alpha\beta + \gamma^2 = 0$

(3).  $\alpha^2 + \gamma^2 = 0.$

7. Find the tangent to the ellipse  $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$  at the point ( $x', y'$ ) ; and interpret your resulting equation when the point ( $x', y'$ ) is within or without the ellipse.

8. In an ellipse, centre  $C$ ,  $Z$  is the foot of the perpendicular from the focus  $H$  on the tangent  $P$  ; show that if  $R$  be the bisection of  $HP$ , then  $ZR, RC$  are in the same straight line.

9. Obtain the equation to the tangent to the conic

$$\frac{c}{\zeta} = 1 + e \cos \theta \text{ in the form } \frac{c}{\zeta} = e \cos \theta + \cos (\theta - a);$$

and if  $PT, P'T'$  be tangents at  $P, P'$ , and  $F$  be the focus, then  $FT$  bisects the angle  $PP'F$ .

10. A circle through the foci of an ellipse and the point  $N$  on the axis minor, cuts the axis minor again in  $T'$  and the ellipse in  $P$ . Show that  $P'T, PN$  are tangent and normal to the ellipse.

ALGEBRA.

TIME—Two Hours and a Half.

1. If  $a^2py + b^2x = a^2qy^2 + b^2 = (y - \beta)q + 1 + p^2 = (a - x)q + (1 + p^2)p = a^2y^2 + b^2x^2 - a^2 = 0$ , eliminate  $p, q, x$  and  $y$ , and obtain an equation involving the remaining quantities.

2. Show that the determinant

$$\begin{vmatrix} abc \\ a'b'c' \\ a''b''c'' \end{vmatrix} = \frac{1}{b'} \left\{ \begin{vmatrix} ab \\ a'b' \end{vmatrix} \cdot \begin{vmatrix} b'c' \\ b''c'' \end{vmatrix} - \begin{vmatrix} a'b' \\ a''b'' \end{vmatrix} \cdot \begin{vmatrix} bc \\ b''c'' \end{vmatrix} \right\},$$

and that the second form becomes indeterminate when  $b'$  becomes zero.

Evaluate the determinants—

$$\begin{vmatrix} 4 & 3 & 2 & 3 \\ 6 & 5 & 3 & 4 \\ 4 & 7 & 4 & 1 \\ 6 & 5 & 1 & 2 \end{vmatrix} \text{ and } \begin{vmatrix} 0 & 1 & 1 & 1 \\ 1 & 0 & x^2 & y^2 \\ 1 & x^2 & 0 & x^2 \\ 1 & y^2 & x^2 & 0 \end{vmatrix}$$

3. Find an expression for the sum of  $n$  terms of the series  $2 + 22 + 222 + 2222 + \dots$

4. Revert the series,

$$y = 1 + \left(\frac{x}{2}\right) + \frac{3}{1.2} \left(\frac{x}{2}\right)^2 + \frac{3.5}{1.2.3} \left(\frac{x}{2}\right)^3 + \dots$$

and thence show that when  $y = \frac{1}{2}, x = -3$ .

5. If  $a, b, c, d$  be four consecutive terms of a series in which the fourth differences are approximately zero, show that the value of  $m$ , a term interpolated midway between  $a$  and  $b$ , is expressed by

$$\frac{1}{16}(5a + 15b + d - 6c).$$

6. Resolve  $\frac{2}{(1+x-x^2)(1-x^2)}$  into its partial fractions.

7. If in the expansion of  $(1+x)^n$  the co-efficients after the first term be denoted by  $n_1, n_2, n_3, \dots$ , and if  $p_1, p_2, p_3, \dots$ , denote like functions of  $p$ , an integer less than  $n$ , show by the expansion of  $(1-x)^{-n}$  that when  $n$  is a whole number,

$$\frac{1+n+p}{[n-1][p+1]} = n_1 + n_2 p_1 + n_3 p_2 + \dots + n_{p+1} p_p$$

8. Express  $\sqrt{13}$  as a continued fraction and obtain the first five convergents.

9. A debenture pays interest  $n$  times a year at  $R$  per cent. per annum, and runs for  $t$  years. It is to be sold so as to yield the purchaser  $r$  per cent. upon his investment. Investigate a formula for its present value, all interest being compound.

10. Develop  $a^x$  according to ascending powers of  $x$ , and explain the meaning of the constant co-efficient of  $x$ .

TRIGONOMETRY.

TIME—Two Hours and a Half.

1. State clearly what is meant by the terms *sine* and *tangent*, and write the value of each of these in terms of all the remaining goniometrical ratios.

2. Prove the following formulæ :—

(a)  $\cos(A+B) = \cos A \cos B - \sin A \sin B.$

(b)  $\sin \frac{A}{2} = \frac{1}{2} (\sqrt{1+\sin A} - \sqrt{1-\sin A}).$

(c)  $\tan \frac{A}{2} = \sqrt{\frac{1-\cos A}{1+\cos A}}.$

$$(d) \Delta = Rr(\sin A + \sin B + \sin C),$$

where  $\Delta$  is the area of a triangle whose angles are  $A, B, C$ , and the radii of whose circumscribed and inscribed circles are respectively  $R$  and  $r$ .

3. From the isosceles triangle having its basal angle double its vertical one find  $\sin$  and  $\cos$  of  $18^\circ$  and of  $54^\circ$ .

4. In travelling over a distance of 13 miles directly northward, the stars are observed to have changed their meridian altitudes by  $1122''.6$ . From these data calculate the earth's diameter.

5. Determine  $\theta$  from the equation—

$$\cos 5\theta + \cos 3\theta + \cos \theta = 0.$$

6. Put into a form adapted to logarithmic computation, the equation—

$$\cos a = \cos b \cos c + \sin b \sin c \cos A.$$

7. Divide the angle whose tangent is  $\frac{1}{10}$  into two angles whose tangents are each expressed by a simple fraction with unity in the numerator.

8. If  $p$  be the perimeter of a regular polygon inscribed in a circle whose diameter is 1, and  $\theta$  half the angle subtended at the centre by one of the sides—

$$\pi = p \sec \frac{\theta}{2} \sec \frac{\theta}{4} \sec \frac{\theta}{8} \dots \text{ad. inf.}$$

9. If the angle  $\phi$  is given by the condition  $\cos \phi = a$ , then  $\frac{\phi}{n}$  has  $n$  values. Explain this for any value of  $n$  greater than 2, and show what use is made of it when  $n=3$ .

10. Through the centre of an equilateral triangle a line is drawn making an angle  $\theta$  with the side  $BC$ , and cutting the other sides in points  $X$  and  $Y$ .

If  $s$  be the side of the triangle, investigate an expression for the product  $AX \cdot AY$  in terms of  $s$  and  $\theta$ .

### DYNAMICS.

#### TIME—TWO HOURS AND A HALF.

1. A certain acceleration is represented by 32 when one foot and one second are the units of space and time. By what number will it be represented when 4 inches and 3 seconds are the units?

2. Obtain a formula for finding the space described in a given time by a body moving with given uniform velocity.

A body projected in the direction of a uniform acceleration describes  $a$  and  $b$  feet in the  $m$ th and  $n$ th seconds respectively. Find the space described in  $n-m$  seconds.

3. State Newton's Laws of Motion, giving illustrations of the third.

Explain the use of Atwood's machine in finding the acceleration due to gravity.

4. Find the work done in the following cases:—

(1). Raising a body of given weight to a given height along a rough inclined plane (coeff. of friction  $\mu$ ) whose inclination is known.

(2). Raising a window-blind of given dimensions and weight by means of a roller at its top.

5. When a particle is projected *in vacuo* at any inclination to the horizon, and subject only to the influence of gravity, its path is a parabola.

Show also that the velocity at any point is the same as that acquired in falling freely from the directrix to that point.

6. If a particle be projected with velocity  $u$  and inclined at an angle  $\alpha$  to the horizon, and at the same instant another particle be dropped from a point in the directrix of the parabolic path of the former find where in the direction this point must be situated, that the particles may collide.

7. A string of length 4 feet and capable of supporting a weight of 10 lbs., has attached to one end a weight of 3 lbs., and is whirled in a horizontal circle. Find the angular velocity of the string when it breaks.

8. An elastic particle impinges on a fixed surface; obtain equations for determining its motion after impact.

One end of a smooth tube is at a given height above a horizontal plane on which the other end rests. An elastic particle descending the tube rebounds from the plane; show that its range is greatest when the inclination of the tube to the horizon is

$$\tan^{-1} \frac{1}{c}$$

9. When bodies are in motion, subject only to their mutual action, the velocity of their centre of gravity is uniform.

### PAPERS SUITABLE FOR INTERMEDIATE EXAMINATIONS.

#### ENGLISH LITERATURE.

(*Goldsmith's Traveller.*)

1. Give a sketch of the life of Dr. Goldsmith, referring especially to the incidents which gave origin to the "Traveller,"

2. Mention his more important works, classifying them under such heads as history, drama, fiction, &c.

3. Explain the following:—

(a) A lengthening chain.

(b) These rocks by custom turn to beds of down.

(c) The pregnant quarry teemed with human form.

(d) The pasteboard triumph.

(e) Force a churlish soil.

(f) Their level life is but a smouldering fire.

(g) Their morals, like their pleasures, are but few.

(h) Skilled in gestic lore.

(i) Ostentation here, with tawdry art,  
Pants for the vulgar praise which fools impart.

(j) Thus polluting honor in its source.

4. What people or country does he refer to in the following:—

(a) They please, are pleased, they give to get esteem,  
Till, seeming blest, they grow to what they seem.

(b) At gold's superior charms all freedom flies;  
The needy sell it, and the rich man buys;  
A land of tyrants, and a den of slaves.

(c) While sea-born gales their gelid wings expand  
To winnow fragrance round the smiling land.

(d) For, as refinement stops, from sire to son,  
Unaltered, unimproved, the manners run;  
And love's and friendship's finely-pointed dart  
Fall, blunted, from each indurated heart.

(e) There, all around, the gentlest breezes stray;  
There gentlest music melts on every spray;  
Creation's mildest charms are there combined:  
Extremes are only in the master's mind.

5. Quote the following passages:—

(a) The simile by which he illustrates the love of the Swiss for their homes.

(b) The simile by which he likens his wasted life to the horizon.

(c) The passage in which he shows that the patriot always regards 'his first best country ever is at home.'

(d) Any passage wherein he gives his opinions about the injurious effects of commerce.

6. Point out the figures in the following passages:—

(a) Blest that abode, where want and pain repair.

(b) With patient angle trolls the finny deep.

(c) Fired at the sound, my genius spreads her wing.

(d) Dull as their lakes that slumber in the storm.

(e) Hence all the good from opulence that springs,  
With all those ills superfluous treasure brings,  
Are here displayed.

7. Blest be the spot, where cheerful guests retire  
To pause from toil, and trim their evening fire.

(a) What kind of sentence is this?

(b) Analyze it in full and parse 'ba.'

(c) What kind of an infinitive is 'to pause?' Expand it into a clause.

8. I sit me down a pensive hour to spend.

Explain the use of 'me.' Is this the usual construction now? If not, what is it?

9. Onward, methinks, and diligently slow,

The firm connected bulwark seems to grow.

(a) Explain 'methinks' and give its etymology.

(b) Analyze in full.

(c) 'Diligently slow;' what figure?

10. (a) To whom is this poem dedicated?

(b) In what metre is it written? Give the names of other poems written in the same measure.

11. Vain, very vain, my weary search to find  
That bliss which only centres in the mind.  
Why have I strayed from pleasure and repose,  
To seek a good each government bestows?  
In every government, tho' terrors reign,  
Though tyrant-kings or tyrant laws restrain,  
How small, of all that human hearts endure,  
That part which laws or kings can cause or cure.

- (a) Where has Goldsmith been trying to find that bliss which only centres in the mind?  
 (b) Why does he think laws and kings play a very small part in human happiness?  
 (c) What is your idea as to one form of government being as conducive to human happiness as another?  
 (d) Point out all the figures, classifying each as a figure of etymology, of syntax, or of rhetoric.

PAPERS SUITABLE FOR HIGH SCHOOL  
 ENTRANCE EXAMINATIONS.

HISTORY.

- (a) Name the different Houses that have ruled England between 1100 and the present time.  
 (b) Name the five most noted kings between 827 and 1066.
- Give the name of the first monarch of each House and the date of his commencing to reign.
- In what reign in English History do we find almost uninterrupted peace? What was the reason?
- (a) Has the reign of Queen Victoria been peaceful?  
 (b) Prove your answer to be correct.
- (a) What monarchs of England knew anything about railways, steam-boats, telegraphs, telephones.  
 (b) Give a reason for each answer.
- Did Henry IV. know anything about printing? Why?
- (a) Name the great political parties in Charles I's reign; in Anne's reign; in Victoria's reign.  
 (b) What points of difference can you draw between them?
- (a) What American towns did the British or Canadians burn in the War of 1812?  
 (b) What Canadian town did Americans burn in the same war?  
 (c) In what battle of this war and in what year was each of the following men killed: Brock, Tecumseh.  
 (d) Relate the Affair of the Chesapeake and Shannon.
- (a) What caused the rebellion of 1837?  
 (b) Who were the chief leaders of the rebellion?  
 (c) What battles were fought in 1837-8?  
 (d) Locate each of the above battle fields.  
 (e) Name the chief battles of 1812-13-14.
- Which were the first settlements in Quebec? Which the first in Ontario? Which the first in Nova Scotia?
- Name the most important event in each reign of the House of Hanover.
- Which do you consider the two most important events in the sixteenth century?
- Arrange the following names according to the times in which they flourished, beginning with the one nearest our own time and ending with the one most remote, Cobden, Becket, Gladstone, Wm. Lyon Mackenzie, Cromwell, Chatham, Marlborough, Newton, Wellington, Shakespeare, Bede, Milton.  
 Values:—1, 6; 2, 5; 3, 4; 4, 6; 5, 10; 6, 5; 7, 6; 8, 8; 9, 16; 10, 9; 11, 6; 12, 4; 13, 12.

LITERATURE.

FOURTH BOOK.

- Explain each of the following terms: 'Gospel dispensation,' 'attempt to conjecture,' 'sitting abaft,' 'a bleak stretch of rocks looming through the fog,' 'received with every demonstration of joy,' 'kept the great king at bay,' 'Gibraltar was formally, but reluctantly ceded to England.'
- From what lessons are the passages in question 1 taken?
- (a) Who was the conqueror of Wales?  
 (b) Who was the conqueror of Mexico?  
 (c) Who was the conqueror of Peru?
- Give the dates of the above conquests.
- Name the discoverer of Canada, of America, of the Pacific Ocean, of the Mississippi, of Newfoundland.
- What is told in the Fourth-Book about each of the following men: Sir Humphrey Gilbert, Sir George Rooke, Sir Walter Raleigh, Napoleon, Xerxes, Hermann, Leonidas?
- Name the chief works of the following writers: Scoresby, Robertson, Hawkins, Humboldt, White.
- (a) Which of the lessons did Jerror write?  
 (b) Which one did Segur write?  
 (c) Tell what you know about Segur?

- Give dates for each of the following: Destruction of Pompeii, Battle of Thermopylae, Battle of Hermann.
- Tell all you know of Cassel.
- (a) Who was the last native ruler of Mexico?  
 (b) Who was the last native ruler of Peru?  
 (c) Who was the last native ruler of Wales?
- Give, in your own words, a description of the earthquake at Caracas.
- Show that you have studied the account of the burning of Moscow by answering the following questions: In what year did it occur? Who were the incendiaries? What was their object in burning it? How is Moscow situated? What calamities attended the burning? What calamities followed the burning? Who was Emperor of France at this time? Who was Czar of Russia?
- Write brief notes upon Longfellow and Gray.  
 Values—1, 7; 2, 7; 3, 3; 4, 3; 5, 5; 6, 14; 7, 10; 8, 6; 9, 6; 10, 3; 11, 6; 12, 8; 13, 16; 14, 6.

GEOGRAPHY.

- Name ten railways in Ontario and give the termini of each.
- Name the principal canals of Quebec and Ontario; tell what each of them connects, and also the necessity for each.
- Name the counties in Ontario that do not touch any of the great lakes.
- What connects Lake Huron with Lake Superior, Lake Huron with Lake Michigan, Lake Nipissing with Georgian Bay, Sea of Azov with Black Sea, Baffin's Bay with Arctic Ocean, Irish Sea with Atlantic Ocean?
- What separates Cape Breton from Nova Scotia, Vancouver Island from British Columbia, Newfoundland from Labrador, Japan from Asia, Cuba from Florida, Tasmania from Australia, Arabia from Egypt, Sicily from Italy, Denmark from Norway, from Sweden, England from France, Scotland from Ireland?
- Name at least two rivers that empty into each of the following bodies of water:—Gulf of Carpentaria, Bay of Bengal, Gulf of Mexico, Irish Sea, Black Sea, James' Bay, Gulf of California, Caspian Sea.
- Name what you think is the chief range of mountains in each of the following countries:—Austria, Mongolia, Madagascar, Cuba, Quebec, Mexico, Morocco, Australia, Nova Scotia, France, England, Spain.
- (a) Draw a map of Hindostan and put upon it its five chief cities, four rivers, two capes, and two chains of mountains.  
 (b) Write a list of the productions of Hindostan.  
 (c) What systems of religions flourish there?
- Name the principal islands in each of the following groups:—West Indies, Japan, New Zealand, Philippine.
- Where do we in Canada obtain tea, coffee, currants, nutmegs, salt, petroleum, coal, oranges?
- Write a short description of Manitoba. Name its counties, principal towns, largest rivers and lakes, and give a clear idea of its physical features.
- Where are the following:—St. John, Youcan, Benin, Callao, Cyprus, Dollart, Formosa, Hochelaga, Sackville, Portsmouth, Jura, Don, Whale, Rio Janeiro, Bogota, Dantzic.  
 Values:—1, 10; 2, 10; 3, 8; 4, 6; 5, 12; 6, 8; 7, 12; 8, 13; 9, 8; 10, 8; 11, 8; 12, 16.

Practical Department.

HINTS ON TEACHING SPELLING.

When should pupils begin to spell? There should be no oral spelling, or written spelling either, from memory during the first year and a half or two years of school life; yet pupils should be learning to spell from the start. How? By copying in script well-written sentences set by the teacher on the board.

Sometimes these sentences may be taken from the primer, but they should generally be the language of the pupils themselves, including certain words given by the teacher.

*Assigning Spelling Lessons.*—The teacher should not merely say, "Prepare the tenth lesson," or "Your dictation will be the first twelve lines on page twenty-four." The pupils should pronounce after the teacher the words of the lesson, looking at them carefully



as they do so. Peculiar or difficult words should be written on the black board and spelled simultaneously by the pupils, and hints should be given to aid in the preparation of the lesson.

*Preparing Spelling Lessons.*—We wish to teach the forms of the words, not their sounds. Unfortunately, forms of the words do not always agree with the sounds in English; hence the form of a word must be impressed on the mind through the eye and not through the ear. It is perfectly clear, therefore, that the art of making good spellers consists in teaching pupils to see words accurately. The London Times once said, "Spelling is learned by reading, and nothing, but reading, can teach spelling." It may be accepted as a rule that a good reader is always a good speller. These facts all point the thoughtful teacher to the conclusion that we have already stated—spelling depends upon the power of seeing with precision. It follows that the exercise which compels the pupils to look most carefully at words must be the best method of preparing a spelling lesson. Unquestionably, this exercise is transcription. Let the pupils copy on their slates the lesson to be prepared. The lesson may be prepared as a home exercise, if due care be taken by the teacher in examining both writing and spelling. This is necessary in order to compel scrutinizing attention to the words to be copied. The whole value of the exercise depends on this being done.

Repeating the letters of a word orally is of little benefit. Make the pupils see the words, and, if possible, never let a pupil see a word wrongly spelled.

*Testing Spelling Lessons.*—There are only two methods, oral and written. The oral method alone is of very little practical value. An American writer records the case of a young man "who won three prizes at spelling-schools, but made five mistakes in spelling in a note written to a school board." Oral spelling does not accustom the eye to the form of the word in writing. This is a fatal objection to it, and all modern teachers recommend that spelling lessons be conducted chiefly in writing.

*Correcting Spelling Lessons.*—They must be corrected thoroughly. If proper preparations have been made as recommended, very few errors will be made. In a large class the teacher will not be able to examine personally the book or slate of each pupil, except in the case of review lessons consisting of words previously misspelled in the class. These should always be examined by the teacher. In other lessons, one of the following plans may be adopted:

1. The pupils exchange slates, and the teacher gives the correct spelling, word by word, the pupils marking those that are wrong.
2. Pupils retain their own slates, and the different pupils are called on to spell the words. Those agreeing with the spelling indicate it by raising the hand before the teacher decides as to its correctness. Marking as before.
3. Slates are exchanged, and the corrections made as in No. 2.

While the teacher writes the correct spelling on the board, each pupil may correct his own work, and slates and books be exchanged for revision only. The latter method is probably the best with honest pupils.

In all cases where slates are exchanged, the pupil owning the slate should have the right to appeal against the marking done by his neighbor.

*Reviews.*—Each pupil should write correctly the words which he misses, about five times, to impress the correct forms on his mind. In addition to this, he ought to make a list at the end of his book of all the errors he makes. From this list the teacher should prepare his reviews. The words missed are the only words that need to be taught. "Leave no enemy in the rear." Review regularly.

*General Suggestions.*—1. The teacher should always articulate clearly and pronounce correctly when giving words for spelling.

2. Never overstrain the enunciation of a word in order to indicate its spelling.

3. Allow only one trial in spelling orally or in writing.

4. In spelling orally, the divisions into syllables should be marked by slight pauses, but in no other way.

5. Do not assign lessons too difficult for the pupils who have to prepare them. This compels the pupils to spell badly.

6. It is desirable that spelling should be taught to a considerable extent by means of composition, in order to give the pupils practice in spelling the words in their own vocabularies.

7. In some of the dictation lessons, time may be saved by having only the words in italics spelled. The teacher should read the whole sentence and emphasize the word to be spelled.—*Educational Journal of Virginia.*

## SCHOOL-ROOM SKETCHES.

In a visit to one of the up-town schools, the principal related the following incident:

I went into one of the class-rooms on one occasion, when the teacher called up one of the pupils and said to me. "I wish you would take him out of my class. I can do nothing with him."

I looked at the little fellow who stood quietly looking down at the floor, and I said "Why, what's the matter? Is he so very bad? Don't you think you can do something with him?"

"No! nothing at all. There is nothing good in him. I can't make anything of him. He is all bad."

"What! all bad! Oh, I hope not!" and turning to the boy I said. "Look up at me. This is a very bad report your teacher gives. What shall we do? I think there is something good in you. Now, I would like to see some of the good boys."

The teacher called some five or six of them, and they stood up, and told one of them to step forward, which he did. I looked at him, and then at the culprit, and I said. "I think we can find something good in him. He's not all bad."

I looked at the good boy from head to foot. His shoes were dirty, and had no "shine" on them. I looked at the little fellow before me, and saw that his shoes were clean, with an attempt at a polish, which struck me as a point. So I said;

"Here's something good right away. Harry is a good boy, but he forgot to clean his shoes. But here's Jimmy, that has his shoes clean. Who cleaned your shoes, Jimmy?"

"I did it myself, sir?"

"Who put it into your head?"

"Nobody, sir. I did it myself."

"Now, then, boys," said I, here's something good in Jimmy. He's not all bad—not quite so bad. Here's one good thing to start with—I think we can find some more good things. Jimmy, would you rather be a bad boy or a good boy?"

"I'd rather be a good, sir!"

"Would you really—now? Stop and think about it. Would you really rather be a good boy than a bad?"

"Yes, sir."

"Well now, we have two good things. He tries to keep clean, all of himself, and he would rather be good than bad. I think we can try him. Will you try, Jimmy?"

"Yes, sir?"

"Well, then, boys, shall we try Jimmy a little longer, before we put him out of the class?"

To which all the boys and the teacher answered with a hearty, "Yes sir!" and the little fellow went to his seat with the sympathy of his classmates, and my own.

"By the way," said the Principal, "you know I never want to do anything to make my scholars lose their self-respect. For that reason I never allow my teachers to report a scholar publicly before their classes. I try to keep these things as much between the teachers and myself as possible, and I endeavour to have the scholars feel that they are responsible for their own character and the good character of the class. As the complaint in this case was made in the presence of the whole class, I tried to make the best use of it I could."

"More than a year has passed by, and I do not recollect having had Jimmy under my personal reproof since that time."

I could not help admiring the tact as well as the moral insight of that principal, and I went away from the school earnestly wishing him a thousand blessings upon his work.

## A LANGUAGE LESSON.\*

## EXERCISE I.

(Can you read this piece right off so as to make sense? Can you rewrite it and spell all the words as they should be?)

A rito suite little buoy, the sun of a grate kernel, with a rough around his neck, flue up the rode as quick as a dear. After a thyme he stopped at a gneu house and wrung the belle. His tow hurt hymn, and he kneaded wrest. He was two tired to raze his fare, pail face. A feint mown of pane rows from his lips.

The made who hord the belle was about to pair a pare, but she through it down and ran with all her mite, for fear her guessed wood not weight. But when she saw the little won, tiers stood in her eyes at the sito.

"Ewe poor dear! Why doo you lye hear? Are you dying?"

"Know," he said, "I am feint."

She boar hymn inn her alms, as she sught, too a room where he mite be quite, gave him bred and meet, held a cent-bottle under his knows, untide his cholor, rapped hymn up warmly, and gave him a suite drachm from a viol, till at last he went fourth as hail as a young hoarse.

## HINTS.

First distribute the slip and let the class look at the exercise in silence a few minutes. Watch the faces to see in how many the "light" begins to shine. After a sufficient time, say: "Well, Mary, what is the matter with this piece?" After she has told, "How many can correct any word in the first sentence? Well, John, what word?" So let them correct all they can in the first sentence. They may not be able to correct *suite* and *buoy*. If not, help them. So go through each sentence as far as the time of the recitation will permit. Let them take the slips home with them, and prepare the remainder of the exercise for the next recitation, and also write out the whole piece as it ought to be. Be careful to have them distinguish between the pronunciation of *alms* and *arms*, *quite* and *quiet*, *hoarse* and *horse*.

## EXERCISE II.

(Rewrite this story leaving out all the needless words and expressions.)

On a large dairy farm where a great many cows were kept the churning of the butter was done by a tread-mill worked (squirrel-cage fashion) by two animals, a dog and a sheep. The dog, "Bruce," hated the work, and did not like to do it; and when churning-day came around he would run away and go off and hide himself so that he could not be found. At last he did it so much they were obliged to keep him shut up and confined in some place or other. The sheep, perhaps, learned from the dog the trick of running away and hiding on churning-day, but she was quite as shrewd at it as he was.

The dog and the sheep churned by turns on alternate days, thus Bruce worked the churn Mondays, Wednesdays, and Fridays. Old Sheepy worked the other remaining three days of the six. On Tuesday, Thursday, and Saturday mornings, when her turn came, Old Sheepy could never be found without much hunting for her where she used to hide. The other three mornings when she had nothing to do she would stay in the yard and feed on the grass near the house. So John was obliged to drive her into an enclosure where she could not get out, and there confine her for all the night previous to her churning-day, as it took too much time to hunt for her and find her in the morning.

On Monday evening Bruce, having done his day's work at the churn, was taking it easy lying on the rug in the sitting-room where the farmer's family were having a quiet friendly chat. At eight o'clock some one spoke up and asked, "Has any one shut up Old Sheepy?"

No one knew. So off John ran to get the animal, but soon returned back again, not able to find her.

"No matter," said Mary, "Bruce has had it easy to-day, as he has not worked hard. We'll put him on to-morrow; for we never had on hand more cream ready to be churned than now."

Bruce pricked up his ears as if to say, "Catch me churning Old Sheepy's butter."

When bed-time came, and the folks were getting ready to retire and go to bed, Mary said, "I will not let old Bruce out to-night. I will put him in the wash-room."

Mary did not quite know Bruce, if she thought he was silly and simple enough to be caught napping after hearing her first remark, which she had made some time before. Bruce had slipped out of the sitting-room somehow, and there was nothing to be done but to wait until morning, and hunt him up.

At midnight a great noise was heard near the house. John got up and went out to see what was the matter out there. He found that Bruce had hunted up Old Sheepy in her hiding-place, and had driven her into the enclosure to have her ready for her churning work the next Tuesday morning.

## HINTS.

Distribute the leaf and give the class time enough to read the exercise clear through. "There are some useless words used in telling that story, are there not, Willie?" Willie will probably say, "Yes." Put him right to the proof. If you have trained him aright he did not say "Yes," without having in mind some sentence or sentences that might be shortened. If he did not actually have in mind an instance of redundancy, he would say to your question, "I did not see any words that seem to me useless." If he says the latter, congratulate yourself on having a thoughtful boy. If he says "Yes," say, "Show us a place, Willie, where some of the words might be left out." If he fails to point out such a place, try to impress him with the idea that he ought not to have said "Yes;" that the right way for us to do is not to assent to anything until we understand it and see clearly that it is so.

If Willie fails to find a redundancy, ask, "Who sees a place in which some of the words are of no use?" It seems better to go at the lesson this way rather than to begin with the first sentence, and so in order, for this reason:—You wish to get clear, independent action on the part of the children. It is quite likely that there are redundancies elsewhere which will catch their attention more quickly than those in the first line. At any rate by letting a child announce what he has discovered by himself you give him greater independence and self-confidence, and an inspiration born of success which will make him quicker and sharper in detecting other places to be improved. So for the first recitation we would take whatever criticism they offer. Pay no regard to system. It is easier to arouse mental activity in this way. As soon as you have evidence that all the criticisms have been made which are likely to be volunteered, it is time to begin at the first sentence, and correct the errors as you go.

Do not forget that it is the development of the child's thoughtfulness that you are to aim at. The amendment of the story is entirely subordinate; it is only a means. So be sure that your pupils see clearly why this or that word or phrase can be left out. Get them to tell you that "a large dairy farm," means "a farm where a great many cows are kept," and so the last clause may be omitted. Get them to tell you that on a farm nothing else is churned except the butter (or the milk) and that therefore there is no need of saying "the churning of the butter." Get them to tell you that it would be as well to say "worked by a dog and a sheep," as to put in "two animals." Now try them and see if they do not think the parenthesis is superfluous. Then make them see that it is helpful in giving clearness to the thought. If it had simply said "a tread-mill" how many of them would have known what was meant? How many get the idea from the "squirrel-cage?" "Now let us have the sentence written the way it ought to be,—'On a large dairy-farm the churning was done by a tread-mill worked (squirrel-cage fashion) by a dog and a sheep.'" Make them see that the whole thought is expressed by that sentence. The opportunities of arousing thought, of bringing common-sense into play in this lesson are almost inexhaustible. Of course, in many places the only question is a question of taste. When such is the case it is usually better to cut the matter short rather than waste time in trying to get your pupils to arrive at what they are not yet mature enough to appreciate.

\*Adapted from an article in the Chicago Schoolmaster.

Put into its best form by simply making omissions in it as it now stands the story will read somewhat thus :

On a large dairy farm the churning was done by a tread mill worked (squirrel cage fashion) by a dog and a sheep. The dog, Bruce, hate the work ; and when churning day came he would run away and hide so that he could not be found. At last he did it so much they were obliged to keep him shut up in some place or other. The old sheep perhaps learned from the dog the trick of hiding on churning-day, but she was quite as shrewd at it as he was. The dog and the sheep churned on alternate days thus. Bruce worked the churn Mondays, Wednesdays, and Fridays. Old Sheepy worked the other three days of the six. When her turn came, Old Sheepy could never be found without much hunting. The mornings when she had nothing to do she would stay in the yard and feed on the grass near the house. So John was obliged to drive her into an enclosure and there confined her for the night previous to her churning-day, as it took too much time to hunt for her in the morning. One Monday evening Bruce, having done his day's work was taking it easy on the rug in the sitting-room where the farmer's family were having a quiet chat. At eight o'clock some one asked, "Has any one shut up Old Sheepy?" No one knew. So off John ran to get the animal, but soon returned not able to find her. "No matter," said Mary; "Bruce has had it easy to-day. We'll put him on to-morrow; for we never had more cream ready than now." Bruce pricked up his ears as if to say, "Catch me churning Old Sheepy's butter!" When bed time came, Mary said, "I will not let old Bruce out to-night. I will put him in the wash-room." Mary did not quite know Bruce if she thought he was silly enough to be caught napping after hearing her first remark. He had slipped out of the sitting-room somehow, and there was nothing to be done but to wait until morning and hunt him up. At midnight a great noise was heard near the house. John got up and went out to see what was the matter. He found that Bruce had hunted up Old Sheepy and had driven her into the enclosure to have her ready for her work the next morning.

EXERCISE III.

A MISUNDERSTANDING.

Two travellers were robbed in a wood, and were tied to trees and so left by the robbers. One of them in despair, exclaimed :—

"Oh, I am undone !"

"Are you?" said the other joyfully; "then I wish you would — me."

TRUTH AND FICTION.

HOW TWO MEN MADE FIFTY RUN.

(Some of the words to be inserted :—Servants, Arabs, friends, travellers, adventures, surprise.)

A — relating his — to some —, told them that he and his — once — fifty wild — run. His — stared in —; but he told — there was — wonderful in it after all.

"For," said he, "we —, and they — after us."

HINTS.

Let the pupils read the first anecdote. See if any hands come up, or if any other signs appear showing that the joke is understood. If all is dull and dead ask, "How many see a word that is a misprint?" Have the word changed to *exclaimed*. "How many can complete the word before it? How many can put the proper word in the blank?" Finally try to get from the brightest pupils what the man meant by exclaiming, "I am undone!" and what the other man thought he meant or pretended to.

Let the class go right at the next anecdote, fitting in the words as they go along. See if they will be thoughtful enough to discover that an *s* should be dropped from one of the names which are to be inserted.

EXERCISE VI.

(After the pupils have the answer, let the application of each line) be explained.

1. 'Tis black and brown, 'tis blue and grey,  
'Tis changeful as an April day;  
And yet, no matter what they say,  
'Tis not without attraction.  
It has a language all its own,  
Though mortal never heard its tone;  
It tells the sufferer's moan,  
It tells of satisfaction.
2. Inclosed within a narrow cell,  
It moves on hinge invisible,  
Securely kept, and guarded well  
From all approaching danger.  
It often speaks, yet never talks;

It freely runs, but never walks;  
And every passing thing remarks—  
In fact, is quite a ranger.

3. It swims, and yet arms has it none;  
And dances out of very fun  
Without a leg to stand upon,  
Or foot to follow after.  
It has a brother—twin, they say—  
And when cross-purposes they play,  
They look the very oddest way;  
To some they're cause for laughter.

4. As shining crystal it is bright,  
'Tis dark or dull as winter night,  
Its very nature, too, is light,  
For all were dark without it.  
It forms the poet's constant theme,  
It haunts the lover in his dream,  
And really paramount would seem,  
So much is said about it.

HINTS.

Let this be read aloud in class as an ordinary reading lesson. It is to be hoped that the answer will dawn upon the pupils as they approach the end. If it does not, say, "We'll read it through again. Now reflect upon every line, and upon every new thought as you go along, and see if you do find what is referred to." As they read, you repeat slowly the salient lines in order to have them make a due impression. When the pupils begin to think they "see it," hold them in check. Train them to restrain their ardor; to wait until the evidence accumulates and makes the answer perfectly plain. The tendency of children is to yield to the first impulse. This is a good opportunity to teach them how a sensible person would wait before announcing his answer and test it by many, if not all, the lines. The answer is THE EYE. The application of some of the lines is quite ingenious.

THE KINDERGARTEN

Conversational Lecture by Miss Blow, of St. Louis, Mo.

A short time ago the Public School Board of Toronto acting in conjunction with the Minister of Education, sent Mr. Roden, school trustee, and Mr. J. L. Hughes, city inspector, to St. Louis, Mo., to inquire particularly into the working of the Kindergarten system in that city, with a view to its adoption in Toronto, if approved. The report of the delegates (published in our columns) was so favorable that it was determined to invite one of the leading instructors of St. Louis to lay before the educational authorities and the teachers some of the features of the system, and thus ascertain whether it would be advisable, or not, to introduce it. An invitation was given to Miss Blow who has been mainly instrumental in establishing the kindergarten in St. Louis, and for the past fourteen years has been an active organizer of the system in that city, where it has reached the acme of success.

On the 27th ult. a crowded audience assembled in the public hall, normal school buildings, to hear Miss Blow's exposition of the aim, object, and principle of the kindergarten. This talented lady was accompanied by Mrs. Hubbard, another teacher of the system in St. Louis. The school board was largely represented, and in the absence of the Hon. the Minister of Education, the chairman of that body, Mr. Galley, presided over the meeting, and briefly introduced the lecturer. Miss Blow, in an easy conversational style, explained the views of Froebel and Pestalozzi in laying the foundation of the system. Froebel's aim was to help people by making them help themselves, and he availed himself of all the best knowledge he could get. He went to Pestalozzi and saw his method, but found that it lacked definiteness, and he felt that if

education was not based on scientific principles it would do no good. To carry out this plan he devoted his whole life, the leading features of which were graphically described by Miss Blow. When the system was first introduced in St. Louis, the people approved of it but said it was impracticable in the public schools, but they did not know that all that was required was good average capacity and special training. The movement was commenced and carried on, one school after another being opened, until at the present time there are 6,000 pupils and 300 teachers in the kindergartens of that city. The system has grown in the hearts of the people. The great object of the method is to develop the powers of thinking, feeling, and acting which are inherent in children and which, if not developed in a right direction, are liable to be turned into a wrong course, to the detriment of society. Acting on this principle the children are taught in the pleasantest, and most judicious manner possible the construction of various articles bearing on the several trades, and in this respect Froebel's idea is carried out, namely, that the practice of the muscles of the fingers at a very early age is essential to that delicacy of manipulation which is required in the finest branches of art. There is also a more refining—a spiritual—idea which pervades every branch of study in this interesting labor, which is that the child is taught by a process of induction to trace the hand of the Creator in all the works brought under his notice. This is done by leading his mind through a series of relationships from the material, such as wood, trees, growth, sun and so forth, to the immaterial—God, heaven, eternity. The most powerful aid the system possesses is music and singing. Children are extremely fond of singing, and the kindergarten songs are all arranged with a view to the exercise of the muscles, or the faculties of the mind so that by their aid every power and force is brought into action. Most of the work in the schools is carried on with singing and appropriate gesture, and both teachers and pupils become quite infatuated with the work; school is a pleasure and the best of instruction is imparted in the most refining and Christianizing manner. To learn all about a thing the plan was to make a representation of it, and it was surprising to see the handiwork of some of the little ones; and according as they advanced in age the work and songs were made more suitable and progressive.

At the conclusion of the highly interesting and instructive address the speaker was enthusiastically applauded.

Mrs. Hubbard then sang some of the kindergarten songs, with and without gesture to contrast the effect, and after a little instruction all the audience, together with a class of lady teachers, were singing songs and performing the expressive motions, with much merriment and satisfaction.

In reply to a question from Inspector Hughes, as to the influence of Kindergarten teaching on the lower classes and on sceptics, Miss Blow replied in elegant language to the effect that the nature of the teaching was such as to ennoble the mind and thus to lift up the child in the social scale; while its influence in pointing to the works of the Almighty, in all the daily occupations of the school, developed the idea of an omnipotent ruling Power—the God of nature.

On the motion of Dr. G. Wright, seconded by Mr. Roden, a hearty vote of thanks was conveyed to Miss Blow and Mrs. Hubbard.

During the song exercises Mrs. Riches played the accompaniments.

After the meeting separated, the members of the School Board who attended at the lecture held an informal meeting to consider what steps might be taken to establish a kindergarten in connection with the public schools of Toronto.

## Notes and News.

### ONTARIO.

There are 32 teachers in training in Lanark County model school. Teachers in music and drawing are to be employed for the schools of St. Thomas.

On dit that the head mastership of Streetsville high school will soon be vacant.

Many teachers desire to see the quarterly examinations in schools abolished, and half-yearly ones—in spring and autumn—substituted.

The Middlesex teachers have clubbed together to get copies of "Richardson's Temperance Lessons" for themselves, at a reduced rate.

We regret to hear that Mr. J. R. Miller, the hardworking and energetic inspector of schools, West Huron, is suffering from bad health. We hope to hear of his complete recovery before long.

Kingston collegiate institute, having been successful in its appeals, takes credit for having passed a higher per centage in the intermediate (17 out of 23) than any other high school or collegiate institute in Ontario.

Mr. Andrus, principal of Orono public schools has been re-engaged at an increased salary. Miss Reid is to succeed Miss Newsome.

In an important town in the County of Huron, a teacher holding a second class certificate was advertised for lately at the lavish salary of \$250 a year! Comment is needless.

Mr. H. L. Slack, late of Perth, has been appointed an assistant teacher in the Arnprior high school.

A majority of the recent matriculants in Trinity college have received their training at the collegiate institutes and high schools in consequence of the fact that the college council had arranged the curriculum to harmonize with the work done in the high schools.

Messrs. Wilson and Mayberry, assistant teachers, Stratford high school, have been re-engaged at the same salaries, \$900 each; and Mr. McLaughlin, English master, at \$750 per annum. The Board have decided to solicit applications for the head mastership at a salary of \$1,200 per annum.

A move in the right direction has been made by the St. Thomas Board of Education. They have increased the salaries of their public school teachers. Mr. Maxwell's has been raised \$100 per annum, and all the female teachers are to receive \$25 a year increase from the commencement of the new year.

At the late convention of the Kingston Teachers' Association it was resolved to procure two educational magazines for each school in connection with the association. One of these papers is to be the CANADA SCHOOL JOURNAL. It was also resolved to petition the Board of public school trustees to provide a standard dictionary as part of the furniture of each public school.

Oakville high school, under the head mastership of N. J. Wellwood, B.A., is reported in a flourishing condition. An addition of two rooms, at an outlay of about \$8,000, has been made to the school buildings, the plans for the same having been designed by Mr. R. Little, the county inspector, and it is remarked that for capacity, comfort and convenience these rooms are not surpassed by anything of the sort in this province.

S. Phillips, B. A., has tendered his resignation as head master of Elora high school, as he has been appointed principal of the new collegiate institute at Portage la Prairie, Manitoba. Mr. Phillips has distinguished himself as a very successful teacher both in Whitby, where he was highly respected, and in Elora which he is about to leave. We are much pleased to hear of his promotion and wish him every success in his new field of labor.

At the North Perth teachers' association meeting recently, a resolution was passed to the effect, "that in the opinion of this association it is not advisable to make any change in the school law with a view to the introduction of the Bible as a text-book." An amendment recommending the making of the reading of the Bible compulsory, unless where objected to by the trustees, was put and lost by a small majority. A resolution was also passed approving of the "uniform promotion examinations." The opinion was that they were of great value to the schools.

The Kingston public schools are crowded and additional accommodation has been demanded. The recommendation of the local school Board to this end has been vetoed by the finance committee of the City Council. Indignation and wrath thereat is the prevalent feeling in the "lime-stone city." Dr. Fee, chairman of the Kingston School Board, having publicly opposed the requisition to the City Council for \$8,000, was asked by a vote of 6 to 3, to resign his chairmanship. The question arises, who is now responsible for any evils that may result from overcrowding in the schools?

The first session of the Normal Schools has only just been changed by authority of the Minister from September to February. This does not satisfy the Middlesex Teachers' Association. It recommends: 1, that the second Normal School term for the professional training of second-class certificates begin in August and end in December; 2, that attendance at the Normal School on the part of first-class candidates be optional in the case of those who have attended one term at said school and have taught three years; 3, that candidates for non-professional first-class certificates be permitted to appeal, as in the second-class and intermediate examinations.

The first thing that came before the London School Board at a late meeting was a motion to forbid all corporal punishment. A letter was read from the Association of Teachers in the service of the School Board for London, who urged the Board "to modify the rules in the code of regulations bearing on the internal discipline of the schools, seeing that the rules imply a want of confidence in the teachers, that, since their introduction by the Board, the insubordination of London youth has rather increased than decreased; that the authority of the staff is gradually being undermined; that by them encouragement is given by lawless parents; and that, through their direct and indirect operation, much good that otherwise could be done is not done."

At the late convention of Lanark County Teachers' Association, the president F. L. Michell, B.A., county inspector, condemned in befitting terms the "pernicious habit" of some teachers in underbidding one another in applications for schools. We have inadvertently on this matter several times in the columns of the JOURNAL as tending to the degradation of the profession, and we hope teachers will, by some well-defined plan of action, take steps to put an end to a habit which is doing much injury to both in individuals and the professional at large. It is bad enough when the "lowest tender" will oust stability, but when this lowest tender is undercut, the position is wretched indeed—especially for the unfortunate pupils of schools where such a practice is carried on. In the noble army of teachers "sappers and miners" are not needed.

The next high school entrance examination will be held on the 20th and 21st December, commencing at 9 a.m. each day. Intending candidates must send to the inspector notice of their intention to write not later than the 15th of December. The subject of examination are as follows:—Spelling—Fourth reader, to page 264, and spelling-book dictation. Arithmetic—Notation, fractions, proportion, and interest. Grammar—Forms and definitions, analysis and parsing. Composition—Changes of sentence construction, narration, letter-writing. Geography—Canada, Ontario, America, Europe, Asia, and Africa. Linear drawing—(in June 1883, and thereafter) from Walter Smith's primary manual. History—leading facts of English history. Reading—Pp. 1-264 of the Fourth Reader, but especially the sixteen lessons commencing on page— . The marks, tests, and per centages are the same as last July, but candidates must obtain half of the marks for analysis, including parsing.

Mr. A. F. Butler, the energetic and efficient county school inspector for Elgin county, in his report to the County Council last month, stated that out of the 130 teachers under his superintendence there are 70 second-class. Concerning the absence of first-class certificates he noticed that the salaries paid to teachers in the rural sections were altogether out of proportion to the expense of obtaining such certificates and only one per cent. of the teachers of the province reach this standard. The report goes on to say that during the last two or three years the increase in the cost of acquiring all professional certificates, has been far in excess of the increase in salaries of teachers; indeed one of the greatest obstacles in the way of educational progress is the unwillingness of many school trustees to recognize this fact, that knowledge must find remuneration or seek it outside of the teacher's ranks. He says: "I will here venture the opinion that the present method of granting certificates is open to objection in its want of adaptation to the wants of the primary department in our graded schools, and in the great hardships it entails upon female teachers who have special talents for instructing primary classes and who desire to devote themselves for some years to this work. As it is, much labor and hundreds of dollars must be spent after a third class certificate is expired, in order to obtain a second certificate or a right to teach permanently, and this expense is mainly for a kind of knowledge very different from that required in the instruction of young children. The remedy for this would be a class of certificates, the requirements for which might be an extensive knowledge of object teaching, kindergarten work, elocution, mental arithmetic, science of common things, laws of health and life and especially natural aptness and fitness for the very important work of managing young children. These requirements should of course be possessed in addition to the common English branches, and the salary of such teachers should be as high as any paid in the public schools. In conclusion Mr. Butler referred to the usefulness of the County Teachers' Institute, and the active and hearty co-operation therein by Collegiate Institute, High Schools and County teachers. Also as to the County Model School, predicting great benefits from the three months session in increasing the thoroughness of the candidates and a more extended knowledge of the art of teaching."

"Any teacher is good enough for the primary classes." This idea is fast becoming obsolete and it will not be long until it is buried in oblivion. There is little art in teaching mature minds, but teaching "the young at a how to shoot" is a difficult as well as a "delightful task," and requires natural ability and professional skill. This is the opinion of J. C. McCabe, M.A., principal of the Ottawa Normal School who suggests that it might be well in schools to have teachers promoted downward. He thought the salaries ought to increase in inverse ratio with the classes, and for the lower class they ought to have teachers of the highest mental attainments.

The difficulty of dealing successfully with the current question of the Bible in schools has received a practical illustration at Orillia. The head master of the high school there, writing to his board, says:—"Complaints have been made that the school is not opened with prayer. As the school is mixed and of different denominations, I think it better to omit the opening with prayer than to introduce a denominational (Protestant) religious exercise, which might be offensive to some of the pupils or their parents. The same course is pursued in some other high schools; Barrie and St. Catharines are examples." The board, in considering this report, censured the high school master for discontinuing the prayers in the school without their sanction, and passed a resolution that they be restored. The chairman, in putting the motion, said "that in some sections—in Mara for instance—the Catholics predominated, and those schools were not opened and closed with prayer. No prayers were prescribed in any schools where Catholics were in the majority, unless they were purely separate schools."

#### FATHER STAFFORD—SKETCH OF HIS CAREER.

The Rev. Michael Stafford, whose death took place recently at Lindsay, was born in Perth, Ontario. He received his classical education at St. Theresa College, near Montreal, and subsequently studied theology at Regiopolis College, Kingston. In 1856 Father Stafford was ordained priest by the late Bishop Phelan, of Kingston, and his first appointment after his ordination was to the professorship of classics in his alma mater. His connection with Regiopolis College in this capacity continued for four years, at the end of which period he was appointed the mission at Wolfe Island. It was at this period of his lifetime that the deceased commenced to take an active part in the Temperance movement, and the cause of the higher education of the masses. Mainly through his active instrumentality a district that was previously notorious for inebriety became entirely changed, and men whose condition was considered hopeless through addiction to drink, became models of sobriety and correct living. He established temperance societies in his charge and in other sections also, and his facile pen and eloquent tongue were always ready to be engaged in the cause of temperance. In behalf of the educational interests of his parish he built a large local school, which under his management and fostering care, proved a great success, and is still in a flourishing condition. Father Stafford remained three years at Wolfe Island, but brief as was the period of his stay he left his trace in the ameliorated moral, social, and mental condition of a grateful people, who deeply regretted his withdrawal from their midst. In 1863 he was transferred to Lindsay by Bishop Horan, and now entered upon an enlarged field of usefulness. In Lindsay his labors in the cause of temperance and education were not relaxed, but rather increased; and his devotion, earnestness, and eloquence in the cause of the social and moral elevation of the people were rewarded by unexampled success. He secured the erection of a large school house, and it was entirely through his efforts that one of the largest and most magnificent convents in Ontario, costing \$60,000, was erected at Lindsay for the Ladies of Loreto. He erected a superb residence in which he abode at the time of his death. The house was surrounded by beautifully kept grounds, in which the superior taste of the deceased was evident from its profusion of choice flowers, beautiful shade and ornamental as well as fruit trees, and his keen delight in his charming surroundings was not only the appreciation of a mind sensitively alive to the beautiful, but of an aesthetic taste which had been cultivated by study and rendered artistic by associations. The deceased ecclesiastic was simple and unostentatious in his tastes, distinguished for his charity and benevolence in all his relations in life, and in his regard for other denominations no man could be less swayed by prejudice or influenced by passion. For all religious divergences from the Church to which he belonged he entertained the largest charity and good will, and invariably viewed religious

quarrels and disputes with the greatest aversion. Father Stafford was greatly beloved by all who were favored by with acquaintance, irrespective of difference of belief, and doubtless his sudden death in the midst of a career of usefulness, and while yet in full possession of his mental and physical powers, will be universally regretted. To his own church the loss will be irreparable, and the cause of temperance and education has in his death lost a friend whose fluent, impressive speech and ready pen were wielded so often and so successfully in their service.

#### S. PERCY DAVIS, M.A.

Intelligence of the untimely death of the late Mr. S. P. Davis reached us as we were going to press with a previous number of the SCHOOL JOURNAL. The following biographical facts, which we were unable then to obtain, will have a sad interest for his many friends:

He was born November 20th, 1850, near Oshawa, where his parents, who were natives of Somerset, England, resided for a few years. When he was five years old the family purchased a farm at East Zorra, Oxford Co. where they still reside. Percy, who was the oldest son, spent his youthful days, as most of the farmers' sons do, actively employed in the farm during the summer and attending school in the winter. At the age of 17 he turned his attention more particularly to study, and attended the Woodstock high school for a year, walking a distance of four miles each way every day he attended. The head master G. Strauchon, M.A., certified of him at that time, "By untiring diligence and excellent abilities, he succeeded in placing himself in all his classes at the head of all his competitors." In January 1869 he went to the normal school, Toronto, where he was "a distinguished student of excellent ability, and had great aptitude for teaching." While in attendance there he won the highest praise from Mr. T. Kirkland, M.A., and Mr. J. L. Hughes, for his ability, aptitude for teaching, and gentlemanly deportment. During the years 1870 and 1871 Mr. Davis taught in the Fair Mount school, Cavan, Durham Co., and in 1871 he obtained a first-class A Provincial certificate without attending another term at the normal school. From Fair Mount he went to Whitby high school, where, under his loved and respected friend, the late S. Arthur Marling, M.A., he taught for a year and a half, and passed his matriculation examination in Toronto university, attaining a high place in the honor lists in classics, English history and French, and winning a scholarship for "general proficiency." His subsequent university career is thus testified to by W. D. Pearman, M.A., classical Tutor and Dean of Residence: "In his first year he gained the prizes in English and chemistry, and was placed in the first class in honors in Greek and Latin, chemistry, English and natural history, and in the second class in French, and again obtained a scholarship for 'general proficiency.' Since then he has gained the college prizes and the university scholarships in the natural sciences for the 2nd and 3rd years with the gold medal at the late examination for the degree of B.A." Of his conduct during these years Mr. Pearman says: "I have no hesitation in saying that it has been such as has reflected credit, not only on himself but upon the university to which he belongs." Dr. Daniel Wilson bore testimony to the high abilities displayed by Mr. Davis, and he left college carrying with him the best wishes of all with whom he had come in contact. Of the Literary Society's was an active member and a most useful officer, devoting himself with characteristic earnestness to the task of making it as beneficial as possible to himself and his fellow-students.

In September 1877, Mr. Davis was appointed classical and science master in Stratford high school, and shortly afterwards, married Miss Matilda Meharry of Fair Mount, Cavan, a lady whose estimable qualities have made for her many cordial friends and sincere sympathizers. He left Stratford for the position of House Master in Pickering college, carrying with him the esteem of the community, and deeply regretted by his pupils whose hearts he won by his noble example and kind, courteous manner. He succeeded J. E. Bryant, M.A., as principal of Pickering college, which position he filled with his usual ability and to the utmost satisfaction of the board of governors; and to the day of his premature decease he was adding to a circle of friends, who respected him for his scholarly accomplishments and loved him for his genial disposition.

With this record of his educational career we might appropriately be content, but we cannot help noticing those personal and christian qualities for which he was eminently distinguished. He united himself to the Methodist body at the age of 17. His parents intended him for the church and he was often solicited by clergy-

men to take holy orders, but he felt that it was not his vocation, and chose a profession for which his short but brilliant career showed that he was naturally and specially adapted. "I would not undertake any duty I could not faithfully and efficiently perform," were his words on one occasion, and it seems that this maxim was a guiding rule of his life, for in the several positions he held success attended every effort, though it, of course, entailed many weary hours and sleepless nights of study. He has passed to his rest, but it will be long before he is forgotten by those who enjoyed the pleasure of his friendship or listened to his guiding voice in the intricate paths of knowledge.

#### MANITOBA.

The Council of St. John's College has adopted plans for the erection of the new building for students in Arts and Theology. As a result of the advertisement for plans, nine sets were sent in some of them being very fine. Those submitted by Messrs. Barber, Kilpatrick and Barber were awarded the first prize, the second prize being given to those of Stewart Brothers. The plans include a very handsome residence for the Dean of the College attached to the main building. The wing and residence will be built next summer and will cost about \$47,000. \$22,000 has been subscribed. The Dean of Rupert's Land is now in England collecting for the College Building Fund.

The Rev. A. L. Parker, M. A., the new Fellow of St. John's College is doing excellent work. He has taken the lead in the formation of a Literary Society, which gives promise of being exceedingly useful.

The annual commemoration service was held on Nov. 1st in St. John's Cathedral, the clergy present being the metropolitan of Rupert's Land, Chancellor and Warden, Canon Omeara, M. A., Dean of the College: Archdeacon Pinkham, B. A.; Canon Matheson, B. D., Deputy Head Master of the College School; Rev. A. L. Parker, M. A., fellow of the College, and the Rev. H. F. Leslie, B. A., one of the Masters of the College School. The Metropolitan preached a very able and interesting sermon from Hebrews XII, 1 and 2, in the course of which the history and prospects of the College were fully dwelt upon. At the close of the service an adjournment was made to the school room where the prizes won at the Midsummer examinations by the students of the College and the pupils of the College school were distributed.

The Literary Society of Manitoba College is in a flourishing condition. Arrangements have recently been made for the following course of Lectures under the Auspices of the Society, in aid of the Library and Reading Room:—

Rev. Prof Bruce M A L L B - In Knox Hall, Nov. 17. Subject—"Rome as we saw it in 1852," with oxy-calium light illustrations.  
 Rev. J. B. Silcox—In Selkirk Hall, Dec. 8. Subject—"Grip and Grit"  
 Alex McArthur, Esq - In Knox Hall Jan. 12. Subject—"English Biography."  
 Rev. D. M. Gordon, B D - In Selkirk Hall Feb 10. Subject—"Livingstone."  
 Rev. C. B. Pitblado—In Knox Hall, March 10. Subject—"Thomas Chalmers."

Archdeacon Pinkham, Superintendent of Education, has been sub-examiner, to conduct the civil service examinations in Manitoba. The examinations commenced on 7th November and closed on the 11th. There were nineteen candidates.

The Rev Professor Hart, M A , B. D., of Manitoba College, has returned from his trip to the eastern Provinces, and has resumed his duties after his well-earned rest.

Mr J H Stewart, late inspector of the Protestant public schools of the city of Winnipeg, has been appointed a member of the Board of Education for the Province.

Six additional teachers have recently been added to the staff of teachers for the Protestant public schools of the city of Winnipeg and as many more will be required within six months. The total number of pupils enrolled for the month of October was 1258, several new rooms have since been opened and the rest of the school accommodation provided this summer will soon be ready for use.

E. L. Byington, M.A., Principal of the Normal school, and Mr. J Fawcett, B.A., who is in charge of the Collegiate Department of the Winnipeg schools, are both doing well.

The city teachers have lately memorialized the Board of School Trustees for an increase of salary. At a recent meeting when the matter came up for consideration, Mr. Linton, Chairman of the School Management Committee said the Board was likely to lose the services of some of the best teachers unless the salaries were re-adjusted. The School Management Committee was asked to report at the next meeting.

## NOVA SCOTIA.

The second annual meeting of the teachers' association for the counties of Antigonish and Guysboro (district No 4) was held at Antigonish on the 12th and 13th of October. A large number of members were in attendance. Through the kindness of the Faculty of St. Francis Xavier's college, the fine mathematical hall of that institution was placed at the disposal of the association. The zealous inspector of schools, R. McDonald Esq., presided at the various sessions. Dr. Allison, superintendent of education, was also in attendance through nearly all the proceedings. After organization and the transaction of necessary routine business, the regular proceedings opened with a paper on "Irregular Attendance" by Mr. Williams. The arguments of the essay, which was studied with great clearness, was in favor of compulsory attendance as the only effective remedy for the evil under discussion. Mr. Williams' views were sustained by Mr. D. M. Chisholm and controverted by Messrs McIsaac, Cameron and McEachen. At a subsequent stage of the proceedings a resolution was passed by a majority of thirteen, disapproving of the compulsory principle. (At the previous annual meeting of the association a resolution to the contrary effect was carried by a majority of four.) The next paper was a highly practical one on "Reading" by Miss M. C. Thompson. The views enumerated led to the suggestions and commendatory remarks from Messrs McIsaac, Cameron, Williams Wall, O'Brien, McGillivray, and McEachen. Then came a very thoughtful and elaborate essay on "Education" by Mr. McIsaac. Various theories of popular instruction, conflicting views as to the true relation of the state to education, the scope of parental responsibility and effort, and kindred questions were discussed at length. The superintendent of education while not disposed to view all things just as Mr. McIsaac did, accorded the latter high praise for its literary merit. The exercises of the second day began with a paper by Mr. Cameron on "Teaching—what can be done to make it a profession?" This paper attracted the earnest attention of the association by reason both of its merit and theme. The tendency of lower salaries to impair the efficiency of the schools, and to make a true profession of teaching, was strongly dwelt upon. Messrs Burke, McIsaac, McGillivray and others discussed several of the points raised by the essayist. Mr. A. J. McEachen followed with a brief criticism on the course of study in common schools. He emphasized possible dangers connected with compulsory programmes. He agreed, however, that the provisions of the course were in themselves excellent, and if simply recommended to teachers much good might result from their use. The superintendent of education was obliged at this point of the proceedings to take leave of the association. In reply to a vote of thanks, he briefly addressed the teachers present. The Antigonish *Aurora* gives the following report of his remarks. — He was glad to meet the teachers of this district, and to hear them express their views frankly and fearlessly, even when opposed to his own. The more he saw of the teachers of the province, the more hopeful he became of its future. The services of teachers, he knew, were not sufficiently appreciated. A comparison of the work done in academies and colleges (where progress is not impeded by irregular attendance and lack of apparatus) with that done in our common schools should not make the common school teacher depreciate his calling. We should not apply to our educational system tests which are not applied to other systems. As it would be wrong to assert that christianity is a failure because moral evil exists, so it would be folly to depreciate our common schools because some ignorance still exists. No person who compares our present educational status with what it was a quarter of a century ago can deny that much progress has been made. He reviewed the papers and discussions to which he had listened, and complimented the members of the association on their ability, frankness and moderate tone. He spoke at some length regarding "The course of Studies," and explained that it was not contemplated to make its adoption compulsory. As some course of studies was essential to every school, the council of public instruction thought they were aiding every teacher in his work by furnishing him with a course which it would be his own interest to adopt as far as the circumstances under which he worked would permit. The remaining exercises consisted of papers on "Grammar" and "Qualifications of Teachers." The former by Mr. W. F. Kiely was an admirable statement of the logical method of teaching the principles of language. The latter by Miss Jane Thompson dealt with a different subject in an equally thoughtful and suggestive manner. Interesting discussions followed the reading of both. The election of officers for the ensuing year was then proceeded with. The following appointments were unanimously

made:—Vice-president, Mr. McIsaac; sec.-treas., Mr. W. F. Kiely; executive committee, Messrs. Williams, Burke, Cameron, McLean, O'Brine, Keating, Miss Dawson and Miss Thompson. Before adjournment the association passed a hearty vote of thanks to inspector McDonald for the skill and warmth with which he had guided the business of the association.

The convocation of Dalhousie college formally opening the current winter session was held on the 31st of October in the legislative assembly room. A large and brilliant audience was in attendance, including the Lieutenant-Governor, the Mayor, Sir Wm. Young, Judge Johnston, the inspector of education, U. S. Fielding, M. P. P., J. W. Langley, M. P. P., many of the city clergy, Rev. D. Bennett of St. John, N. B., and several prominent merchants and lawyers. After a few opening remarks from Rev. Principal Ross in which he alluded to the founding of a professorship in English literature by Geo. Munro, Esq., and the appointment of J. C. Schurman to the chair thus created. Professor McDonald as secretary of the senate read the following list of winners of exhibitions and bursaries:—

(1.) Senior exhibitions. Tenable for two years (third and fourth years of college course), worth \$200 per annum. 1. J. P. McLeod. 2. Daniel Murray. 3. H. S. Adams.

4. Frank Jones. 5. Unawarded. The five exhibitions, each worth \$200 per annum for two years, to be awarded to the five highest candidates in competition (open to all competitors) were won as follows:— 1.—E. McKay, Mt. Dalhousie, (Pict. Acad.) 2.—C. N. Cahan, Yarmouth. 3.—John Calder, Cape Breton. (Pict. Acad.) 4.—N. F. McKay, W. River, (Pict. Acad.) 5. A. Robinson, Sussex, N. B. (Pict. Acad.)

The Bursaries, each worth \$150 per annum for two years, were won in the various districts as follows:—

Dist. I. Halifax, Yarmouth, Pictou, Colchester.—1.—E. M. McDonald, Pictou Academy. 2.—Dugald Stewart, Halifax, Pictou Academy. 3.—A. W. Lewis, Truro, Normal School. 4.—D. H. McKenzie, Scotsburn, Pictou Academy.

Dist. II.—Remaining 10 counties of Nova Scotia proper:—1. S. M. Morton, Liverpool Academy. 2.—Robie L. Reid, Kentville, Pictou Academy.

Dist. III.—Cape Breton counties, not awarded. Dist. IV.—Prince Edward Island:—1.—A. Nicholson, Prince of Wales Col. 2.—V. F. Coffin, do.

Dist. V.—New Brunswick.—1.—A. W. Macrae, St. John N. B.

The inaugural address was delivered by Dr. Schurman, Munro, professor of English literature. Subject, "The Shakesperian type of manhood." The address was characterized by subtle discrimination of thought and careful analysis of character. Though cast in a scholarly mould, it was sufficiently popular to engage and retain the close attention of the large audience present. In response to an invitation from principal Ross, Rev. Dr. Bennett of St. John, N. B., offered some words of wise counsel to the students and spoke in appreciative terms of Dr. Schurman's address.

The annual session of the provincial normal school was formally opened with appropriate exercises on the 8th of November. One hundred and seven students were in attendance. The opening address was delivered by Dr. J. B. Hall, this subject was "the Moral Element in Education," which was treated with great appropriateness of thought and felicity of diction. Several brief addresses followed. A fine audience was present.

## TEACHING BY LAUGHTER.

Most persons regard laughter, and the perception of the ridiculous, as pleasant companions, with whom we can be merry round the fire on winter nights, but few are they who rank these among the world's great reformers, and who not only learn to laugh, but also laugh to learn. The man who laughs wisely can instruct us; the fountains of this man's sympathies are easily moved, his mind is not only readily awakened by the ludicrous, but the influence of kindness and the impulses of love also readily stir his spirit; in a word, he is deeply sympathetic with all the tones and utterances of nature. And thus it is that error is best confronted by a good-humoured face and smiling countenance. Angry sarcasms, biting, rankling words of venom, can effect but little for the world; on the contrary, quiet innuendo and cheerful laughter have done, and will do much. We would have all who wish to be teachers of their fellows, to make men laugh in love not in terror; to fix their eyes on the bright ovals and orderly ways of nature, not on the sharp angles and crude crotchets of conventional men. For, although few men are capable of expressing the ludicrous or uttering the sharp periods of brilliant wit, who is insensible to the ludicrous when presented? The ludicrous to the eye or to the mind, the unwonted circumstance in strange association? How fond we all are of the anecdote bringing to light some incongruity of character, some eccentricity of habit or manners! We enjoy those biographies which abound with such things. This is the region of mental and moral incongruities. All incongruity is ridiculous, but it is in these that the ludicrous becomes artistic and humane, thus it is that the ludicrous pierces the sophisms of books and the sophisms of life, for our mental and moral incongruities are to be sought for there, sometimes incongruity has been employed to demolish an argument, sometimes to exhibit a character. — *Leisure Hour.*

## Teachers' Associations.

The publishers of the JOURNAL will be obliged to Inspectors and Secretaries of Teachers' Associations if they will send for publication programmes of meetings to be held, and brief accounts of meetings held.

PRINCE EDWARD Co.—The semi-annual convention of the teachers of Prince Edward Co. held Oct. 27th and 28th, 1882, was called to order by the president and opened by prayer. The minutes of last session read and adopted. Copies of the "New Regulations" being distributed among the teachers, some practical hints were given by the inspector, G. D. Platt, B.A., as to the working of the same. The subject of music was next introduced by H. M. Faul, who illustrated his method on the blackboard, in a clear and satisfactory manner. The subject of "Advanced Arithmetic" was next brought forward by S. E. Mastin, who dwelt chiefly upon the contracted method of multiplication of numbers. Dr. McLellan, being introduced to the convention, took up the subject "Good questioning and bad." A short discussion next followed on our present series of school readers, which was introduced by W. J. Osborne. The feeling of the convention being unanimous in condemning the books. Dr. McLellan next took up the subject of "Elementary Language Lessons," giving some very useful and practical hints as to the teaching of the same. In the evening the Dr. delivered a lecture in the town hall on the subject "Ten Years Educational Progress" to a crowded house, which was highly instructive. At the close a vote of thanks was tendered the Dr. moved by Rev. Mr. Gorman seconded by Rev. Mr. Coulthard. The second day's proceedings were opened by Dr. McLellan who introduced the subject "Moral Culture in Schools" in which the Dr. expressed himself as believing that the teachers' profession was second to none, and in their hands were placed the great moral training of the rising generation. He believed they would do all in their power to raise the standard. The subject of "Physical Education" was next discussed by R. W. Murray giving a chapter from his own diary "how he had lost his health, how regained." He believed it to be as much the duty of the teacher to look after the pupils physical health as his intellectual attainments. Dr. McLellan next introduced the subject "Memory as affected by Cram," noticing only a few of the thoughts in connection with the subject. Primary ideas:—Time and place, cause and effect, similarity and control, association of ideas. Secondary ideas:—Vivacity of expression (the teacher should be vivacious), repetition, the state of bodily power, the power of concentration. The election of officers was proceeded with immediately after the opening of the afternoon session, which resulted as follows: President, R. W. Murray; 1st vice, J. Kenney; 2nd vice, Miss Fanny Gillespie; secretary, R. B. Mastin; treasurer, G. D. Platt, B.A.; executive committee, R. Dobson, B.A., W. Benson, F. Goodman, Miss Hicks, Miss J. Gillespie. Dr. McLellan next presented the subject "The Teacher and his Work." R. Dobson, B.A. next gave a short discourse on the theory of reading. A vote of thanks was moved by R. Dobson, seconded by J. Kenney, and presented to Dr. McLellan for his able and instructive addresses during the convention. After the adoption of the following resolution the convention was brought to a close:—*Resolved*:—We the teachers of the county of Prince Edward, desire to place on record our deep sense of the loss sustained to the cause of education, in the death of the Rev. Dr. Ryerson, who for nearly half a century guided the educational affairs of this province, and to whose wise conception and great administrative ability we owe our present excellent, comprehensive, and unequalled system of national education.—R. B. MASTIN, Sec.

NORFOLK Co.—The above association met at the model school, Simcoe on Friday and Saturday Nov. 3rd and 4th. In the absence of the president the Rev. Geo. Grant, B.A., occupied the chair. Mr. S. C. Woodworth opened the programme with a comprehensive discourse on arithmetic for junior classes. G. W. Ross, Esq., M.P., followed in an eloquent appeal on behalf of school routine. This subject he handled in a masterly manner making a fitting prelude for the teachers' minds before engaging their attention with more theoretical subjects. "Make it easy to do right and hard to do wrong," (Gladstone), should be the maxim of all teachers. In the afternoon grammar as an intellectual attraction for young minds was treated of in an essay by Mr. J. G. House. If all intelligent people would listen to Mr. Ross in his clear elucidation of the so often met with impediments to good reading, each one would be convinced that attention to the dictates of common sense would render good reading universal. Mr. Stickney entertained his hearers with a sketch of instruction as imparted by ocular demonstration to the deaf and dumb. Mr. W. W. Pegg followed with a sketch of work done in an institution for deaf mutes at Chatanqua. The evening session was a time for deep reflection when the subjects, of moral influence in our schools and the intellectual forces, were brought up. The Rev. A. E. Russ, M.A. prefaced Mr. Ross, strongly advocating a further extension of moral influence in Canadian schools; this gentleman also urged that university education be opened to women. Mr. Ross treated his subject under the three fold division of discrimination, retentiveness,

constructiveness, and closed his remarks with a vivid picture of the influence for good or for evil that the teacher has on his scholars. *Second Day.* Dr. Wadsworth in his usual happy strain invited the teachers present to give their opinion regarding the scheme just began by the association, of uniform promotion examination which in the course of his labours as inspector he had found to be generally satisfactory, and a spirited discussion ensued with regard to the benefits derived from the time best fitted for holding, and questions set in, the papers. Mr. Ross then followed with his technically called "Dialogue for Teachers" and five of the royal commands were given with their individual application. Mr. Ross then withdrew carrying away with him the best wishes and highest appreciation of his services so happily rendered during his short visit. Intellectual work of the highest order now formed the next part of the programme, this intricate work was intrusted to W. W. Rutherford, Esq., B.A. of Port Rowan, whose mathematical skill was exhibited in a high degree on this occasion; taking algebra in its over varied peculiarities for the space of an hour the gentleman kept his promiscuous hearers in a state of the utmost attention. The proceedings closed in the afternoon after discussions on the pros and cons of corporal punishment were pretty thoroughly ventilated. The following were declared officers of the association:—Messrs. Wadsworth, Grant, Woodworth, Pegg, Smith and E. H. Carpenter, (Sec.)

NORTH YORK.—This association held its regular half-yearly meeting at the Newmarket model school, on Friday and Saturday, Oct. 13th and 14th. After routine, Miss Jessie Birnie illustrated her "Method of Teaching Second Class Pupils to read Poetry." No criticism. Mr. Geo. Rose next introduced his subject of "Teaching Simple Rules of Arithmetic by using the Calculator." Friendly criticism followed freely by Messrs. Brodie, McMahn, Moore, Bannic, and the president. The principle point of discussion was, whether it was proper for the teacher to repeat the answer given by the pupil. Finally, with slight opposition, a motion was put and carried condemning the practice. "How to obtain regular attendance at school," was next taken up by Mr. Jewitt. Discussion by the president (Mr. Forthingham), Messrs. Kannie, Terry, McMahn and Rose. At the afternoon session, Mr. W. A. J. Martin took up analysis and parsing, V. Book, "Richard's Despair," Act III, Scene 2, taking the convention as a class. The committee on uniform promotion examinations then reported. On motion, the report was taken up clause by clause and adopted. J. E. Dickson, B.A., of the Newmarket high school, then brought forward his subject, viz: "The use of Globes in the School room." Mr. Dickson very profitably occupied the time until five o'clock. On Friday evening, Thos. Kirkland, M.A., of the Toronto model school, delivered a very interesting and instructive lecture, entitled: "Succession of life upon the Earth," illustrated with the stereopticon. As the lecture lasted until ten o'clock, no further entertainment was provided. On Saturday morning Mr. Forthingham, inspector of the northern division, took up the subject of "Drawing," after which Prof. Kirkland introduced the subject of "Combustion." It was decided that the only periodical provided by the association for 1883 be the CANADA SCHOOL JOURNAL. In arranging the programme for next session, a new feature was introduced, viz: The appointment of critics for each subject.

NORTHUMBERLAND.—Held in the collegiate institute buildings, Cobourg, on Thursday and Friday, 5th and 6th, October. The exercises were opened punctually at 10 a.m. the president, Mr. G. Dowler in the chair. The association proceeded at once to discuss whether it would be in the interest of the teaching profession in this county, to continue the present system of semi-annual meetings, or to substitute therefore yearly meetings and monthly (or quarterly) township conventions. The question was finally laid over for future consideration. The "New P.S. Programme" was severely criticized by Mr. D. Robertson whose essay on the subject elicited frequent applause. He was requested to allow his essay to be published. School hygiene was discussed in a thoroughly practical manner by Mr. H. M. Hicks, B.A., of Colborne. Mr. Geo. Kirk next illustrated, in a very interesting manner, his method of presenting "Fourth Class Arithmetic." Mr. John McColl then addressed the association on "Dull pupils, etc." In the evening J. L. Hughes, I.P.S., Toronto, delivered an admirable lecture on the "Kindergarten." *Friday.* "Literature for third and fourth Classes" was introduced by Mr. D. E. Stephenson. W. S. Ellis, B.Sc., next gave numerous valuable "Short methods" in arithmetic. An excellent paper on "History" by R. Ferguson, B.A., was, in the absence of that gentleman, read by Mr. Odium, B.A. A vote of thanks was tendered each and Mr. Ferguson was requested to allow his essay to be published. The sum of \$30 was voted to aid the teachers in procuring the Toronto educational journals at reduced cost. The following were elected officers for the ensuing year:—W. S. Ellis, B.A., B.Sc., president; H. M. Hicks, B.A., vice-president; D. E. Stephenson, sec-treasurer; committee of management, Messrs. McHenry, M.A., Dowler, Ash, Robertson, and Scarlett, I.P.S. In accordance with a notice of motion given by Mr. J. V. Black at the previous meeting in Brighton it was *Resolved*:—That any person convicted of supplanting another teacher, or of aiding, abetting, or in any way countenancing the same, shall be declared in-



eligible for membership in this association. The following notice of motion was given by Mr. Geo. Kirk, H.M., model school, Cobourg:—I hereby give notice that I will, at the next annual meeting, move the reconsideration of the resolution passed at the last meeting of the association, recommending the authorization and adoption of Gage's New Series of Readers. "Mood" in English grammar was very ably treated by Mr. D. C. McHenry, M.A., principal of the coll. institute, Cobourg. As Mr. McHenry is a gentleman of advanced ideas and high literary attainments, his rendering of this subject was listened to with deep interest. He was requested to allow his address to be published in the *Educational*. One of the most interesting features of the programme was a discussion on "The Relation of Trustees to the Progress of Schools," introduced by Mr. Andrew Black, chairman of the Cobourg high school board. The speaker believed that financial embarrassments was a serious injury to the prosperity of any school. Teachers should be well paid and paid promptly. He thought they should be paid at least quarterly—half-yearly was not often enough. Mr. C. C. Field, chairman of the P. S. Board, Cobourg, supported Mr. Black's views. He thought the visiting of schools an important duty of trustees. They should secure the best teachers available for the work required, pay them well, and retain them, as frequent change of teachers was extremely injurious to the prosperity of our schools. The Rev. H. Pedley favored the association with an eloquent address on "The Teacher's true aim."

LANARK CO.—Meeting was held in the Perth coll. institute on the 3rd and 4th ult. It is only justice to say that the more than ordinary success of the meeting was owing to the presence of Dr. McLellan, who is a host in himself, which he fully demonstrated by kindly giving no less than four lectures, three before the association, and one in the town hall. During the sessions of the association, the president, Mr. Michell, I.P.S., occupied the chair; Mr. H. S. Robertson acted as secretary, and Mr. T. O. Steele as reporter for the press. After the routine business had been disposed of, the president gave an able and spirited address on matters connected with the association. He presented suggestions from a paper read by Mr. Ross, M.P., before the Ontario teachers' association at the last meeting, on "How to make Teachers' Associations useful." He regretted the small salaries paid to teachers, generally, but thought the teachers themselves were very much to blame in the matter, by practising the pernicious habit of underbidding each other, and by not manifesting a sufficient interest in their work. He impressed upon the teachers the fact, that if they only did their duty faithfully, they would eventually reap the reward. Mr. James read an excellent and practical paper on "Teaching Geography." Mr. T. O. Steele suggested that the Minister of Education be requested to insist upon all future editions of school geographies containing full pronouncing vocabularies of proper names, which suggestion was embodied in a resolution and adopted by the association. Mr. Michell followed by giving a thorough lesson on "How to teach elementary Arithmetic." He spoke of the necessity of understanding the science as the art of arithmetic, and illustrated the best methods of teaching and explaining notation, numeration, and simple rules to young children so that they could tell the *whys* and *wherefores* of the various operations. The next subject taken up was a "Model Lesson on English Literature," by T. O. Steele, principal of the Perth model school, given to a class of his pupils. Mr. Erratt also gave a "Model Lesson" on the "Introduction of the parts of speech," which commended itself for its clearness and appropriateness. Mr. McCarter read a brief but comprehensive paper on "The Teacher's Voice." He gave illustrations of a noisy and a quiet teacher, and said that the difference between an orderly and a disorderly school arose chiefly from the difference in the use of the teacher's tongue. Dr. McLellan gave a lecture on "The Art of Questioning." On Friday evening Dr. McLellan gave a public lecture in the town hall on "Teachers and parents in relation to the School." The Mayor occupied the chair, and the hall was well filled with an appreciative audience. The entertainment was enlivened by instrumental and vocal music by the Misses Walker, McLellan and Steadman, whose performances elicited well merited applause. The first paper on Saturday was by Mr. Burwash on the manner of introducing a study to a class, and gave his method of introducing the subjects of reading, geography, French and natural science. The paper was an excellent one and elicited much profitable discussion. The next paper by Mr. McGregor entitled "The Model Teacher," was carefully and ably written. Mr. Rothwell having kindly given up his paper "Solution of Equations" that Dr. McLellan might give a lecture on "Algebraic Symmetry," the Dr. took the floor, and delighted the association with a lucid exemplification of the subject of "Symmetry" and its application to factoring. Mr. N. Robertson gave an excellent paper in "Punctuation," illustrated by numerous examples of the proper and improper uses of the comma and semicolon. The last subject dealt with was, "Reading in public schools and how to improve it," by Dr. McLellan. He considered the word and phonic systems combined the best in the first stages of learning to read. Reading lessons are too often only used as a means of acquiring knowledge, and not properly as an exercise in reading. The association indeed owes the Dr. a debt of gratitude which can best be repaid by the teachers carrying into practice the noble precepts which he inculcated.

## REVIEWS.

THE LONGFELLOW CALENDAR FOR 1883.—This Calendar has many features which commend it to special popular favor. It has a portrait, which is pronounced excellent by those who knew Mr. Longfellow most intimately. On one side of the medallion containing it is a view of Mr. Longfellow's Cambridge Home, and on the other the Belfry of Bruges. Below, on the right, is a picture of Evangeline standing on her father's vine-clad porch; on the left, a picture of Priscilla in the snow carrying food to the poor. A band of golden daisies, with panels bearing the names of Mr. Longfellow's most famous works, incloses the whole. The selections from Mr. Longfellow's writings for each day of the year are carefully chosen, and form a series of passages of great beauty and excellence. The Calendar is printed in twenty colors, so blended and distributed as to produce a very rich and tasteful effect. The multitude of Mr. Longfellow's readers will value this Calendar as a daily reminder of one whom they prize so highly, and of whom this is so beautiful a souvenir. The price is one dollar, and it is published by *Houghton, Mifflin & Co., Boston.*

A PRACTICAL INTRODUCTION TO LATIN PROSE COMPOSITION by THOMAS KERCHEVER ARNOLD, M.A.; edited and revised by GEORGE GRANVILLE BRADLEY, M.A., *London, Rivingtons, 1881.* The fame of Mr. Bradley as one of the most eminent of the rising classical scholars of England has already become familiar to Canadian classical teachers. He was formerly master of Marlborough College, Oxford, and now fills the position of Master of University College, in the same venerable and famous home of classical learning. He has for years been the most popular teacher of Latin prose in England, and he has embodied in what he modestly called a revised edition of Arnold's well-known book, the results at once of ripe scholarship and of long tutorial experience. The great defect of Arnold's book was want of continuity in the exercises and of variety in the applications of the idiomatic construction. These defects have been removed in the present edition, the exercises for which have been largely re-written. The order of topics has been changed and Mr. Bradley's remarks on this aspect of the work are highly suggestive as to the best methods for teachers of Latin to pursue. They are calculated to raise doubts in the mind as to whether the diluted and synthetical "first Latin books" now in vogue are as effective for imparting an intelligent idea of the language as the old-fashioned plan of putting the beginner at once at the work of translating easy text. As Mr. Bradley himself says (p. 41) speaking of the vocabularies prefixed to the various exercises: "The learner cannot be on his guard too soon to lay aside, as far as possible, the use of vocabularies and similar aids, and trust to his own knowledge as gained from reading Latin." The new grammatical introduction will add greatly to the value of the book as will also the general vocabulary and indexes at the end. It is needless to say that in point of typography it is characterized by the general excellence which characterizes all Rivingtons' books.

## MAGAZINES.

In the December number of THE ATLANTIC MONTHLY two serial stories: "Two on a Tower," by Thomas Hardy; and "The House of a Merchant Prince," by William Henry Bishop, come to an end. The author of the former is an Englishman, and of the latter an American; the former has a tragic dénouement, in the latter the lovers wed and live happily ever after. The plot of "Two on a Tower" is highly improbable, as far as the external circumstances in which it is clothed are concerned; but, in its essence, it is thoroughly real. The consequence to Lady Constantine of disregarding Shakespeare's advice: "Let still the woman take an elder than herself," are worked out with great fidelity to nature, and the sad scene at the close is treated with sound judgment. "The House of a Merchant Prince" may be briefly characterized as a capital society novel. Very interesting from many points of view is "The Ancestral Footstep," an unfinished but concluded tale found among the papers of Nathaniel Hawthorne, and now edited by George Parsons Lathrop, his son-in-law, the first part of which is published in this number. The plot seems to have been in its main features fully decided upon, and many of the scenes are elaborated. Other parts are at all stages of advancement: in fact the fragment exhibits a novel in course of construction. The usual *mélange* of interesting and valuable articles fills out the number.

Harper's YOUNG PEOPLE for the four weeks of November contains the usual number of good things in the shape of both letter press and illustrations. The fine, old story of "The Mulatto of Murillo" is one which can be read scores of times and always with keener appreciation. "Waiting," picture and verses, is a gem of the purest water. The picture of "Moses among the bulrushes" is in the best style of Harper's art, which is second to no other.

The most striking article in the NORTH AMERICAN REVIEW for November is a symposium on the conditions of success in the histrionic art, contributed to by such theatrical stars as Lawrence Barrett, Joseph Jefferson, John McCulloch, Madame Modjeska, and Maggie Mitchell. It is curious but not surprising to note the unanimity with which they insist independently on hard study as the principal condition after the possession of the requisite talent. Readers of Macready's "Reminiscences" will remember that he constantly believed his great success on the stage to be due to his persistent study and not in any important sense to his ability; genius he did not lay any claim to. It is quite possible that Macready may have had more genius than many who believe they have it in abundance, but the lesson of his life is the same as that of *Revue* Symposium—that without hard labor success cannot be hoped for with any amount of ability in any sphere, and that with it the toiler frequently accomplishes the most astonishing results.