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The Canada School Journal.

VOL. VIII. TORONTO, JANUARY, 1883. No. 67.

The Canada School Journal

IS PUBLISHED THE FIRST OF EACH MONTH AT

11 WELLINGTON ST. WEST, TORONTO, ONT., CAN.

Subscription $1.00 per year, payable in advance.

Address—W. J. GAGE & CO., Toronto.

THE BIBLE IN SCHOOLS.

Two letters, amongst many contributed to the daily journals on this subject and now lying before us, seem worthy of more than a passing notice. One is by Mr. Laing, the other by Mr. McMullen, both of them members of the deputation which waited on the Premier, and both of them active promoters from the first of the agitation. We shall not waste space in discussing with Mr. McMullen whether the members of the deputation are all agreed as to the status they would accord to the Bible in Schools. If they are, then Mr. Laing's statement is correct, and he has indicated clearly how far he is willing to go. In order that we may do him no injustice we give his own words, premising that the italics are ours:—

> We do not ask for any change in the law. The tenth clause of the School Act provides for giving such religious instruction as parents desire to be given subject to regulations. Now, if the "whole community," or nearly so, as the JOURNAL admits is the case, desires the use of the Bible in giving religious instruction, the law, without any change, provides for the use of the Bible. Hitherto the regulations have been recommendatory; in other words, it has been left to Boards of Trustees to use the Bible or not to do so. The promoters of this movement are of opinion that under these regulations the Bible is not to any great extent used as the book *for teaching morals*; in fact that in the great majority of schools Bible morality is not taught. They believe that the chief reason is that Christian morality is by the present regulations treated as a secondary matter; and that as arithmetic, grammar, literature are made paramount and obligatory, parents, trustees, and teachers in many cases are satisfied when these things which are required by regulations are done, and are thus careless regarding Bible instruction. We ask for a change in the regulation, so far as to make the reading of Scripture as much a part of ordinary school work as arithmetic or grammar, and to give moral and religious education as high a place as intellectual. *We have authorized class-books; we wish the Bible made such, and the reading of it (under clause 9th of Act) as much a part of the pupil's training as reading the third or fourth book.* This change of regulation can be made without any "risk of a change in the principle of the law" or any departure from what the law permits to be done now.

If this extract correctly embodies the conjoint view taken by the deputation then it is quite clear that what the members wanted was to have the Bible placed in the hands of the pupils as an ordinary class book, and to have the teachers required by law to explain and illustrate its text as they would that of any other text-book. This of necessity implies that the teachers must themselves make the Bible a subject of study and that they must be examined as to their acquaintance with its contents. To set men to teach what they do not know is absurd, and the Education Department cannot reasonably be expected to overlook this difficulty. We commend to all who are interested in this discussion, and especially to the clergymen of the various religious denominations, Mr. Laing's clear statement of what he wants, and Mr. McMullen's explicit admission that Mr. Laing speaks on this point the views of the deputation of which Mr. McMullen himself was chairman. It is a great thing in any discussion to get the ground cleared, and now that all parties to the controversy know what the originators of it want they can govern themselves accordingly.

We confess our inability to understand what Mr. Laing means when he says he does not want any change in the law, unless it be that he does not want any in the text of the School Act. We have been accustomed to regard the departmental regulations as a part of the school law, and quite as essentially so as the Act itself, under the authority of which they are prescribed. The deputation asked for a change in the law as it affects the status of the Bible in schools, and for a very important change. On this point we need not enlarge, for we discussed it fully in our last month's article, to which Mr. Laing's letter is intended to be a reply. We content ourselves just now, in this connection with a brief reference to his comments on one of the reasons urged against making the regulation respecting the use of the Bible mandatory instead of recommendatory. We pointed out that if the use of the Bible were made compulsory a penalty would have to be exacted for non-compliance by teachers, and that such a penalty could not be exacted. Mr. Laing admits that a penal clause would be a dead letter but denies the necessity for it. How then would any change in the wording of the regulations promote the use of the Bible in schools? A teacher finds in the regulations a command to use the Bible unless a majority of the ratepayers in the section say it shall not be used. For some reason he does not see fit to use it, and at once his course is called in question. Steps are taken to ascertain whether a majority are opposed to or in favor of its use. If the majority endorse the teacher then the Bible is kept out. If the majority go against him then nothing is gained that could not have been gained under the law as it stands, for the majority in any section can introduce the Bible now into the schools. If the proposed change is to be made in the law, therefore, it must be enforced by a penalty if anything is to be accomplished, and then Mr. Laing admits that a penalty for non-compliance could not be exacted.

This is only stating in another form the conclusion at which we arrived last month—that the law in its present form is practically sufficient for the accomplishment of all that the deputation asked for, and that this fact, coupled with the other important fact that the present regulation on the subject is the result of a sensible compromise adopted a generation ago, is a good reason for leaving the law unchanged.

We may, we hope, repeat our statement that more could be done than is done under the present regulation were the clergy to exert themselves a little more in their own localities. We do not think it is reasonable to expect them to take part in the actual work of religious instruction in the public schools, but it is not unreasonable to ask those who want the Bible introduced to try first what they can accomplish by educating public opinion in their own neighborhoods. They can, as visitors under the law, advise the teachers, address the ratepayers, and visit the schools. In their own pastoral capacity they can do even more. If they will unitedly do all they can, the coming year will see an increase in the number of schools in which the Bible is used and probably also a decided change in a direction pleasing to Mr. Laing in the manner of using it. To this we have no objection—but the reverse—provided only that the change is brought without endangering the harmony so characteristic at present of the working of the school system.

A MENTOR IN CULTURE.

We give the following editorial remarks in the November number of the *Educational Monthly* the benefit of the additional publicity afforded by our own columns :—

"The recent craze for native editions of English classics, and the facilities given for their introduction and use in the schools of the Province, have much to answer for. Many of these Canadian texts (and we are not specially referring to Mr. Millar's work) do industry credit at the expense of honesty. In not a few instances, everything is put under tribute but their editor's brains. They are compilations, the sources of which are seldom acknowledged, and the piecing together is sometimes fearful and wonderful work. It would, of course, be unfair to expect much from men who have served no apprenticeship to letters, who have had limited education, or possess little originality of mind, and who have indifferent libraries to assist them in their labor. For these and other drawbacks we are most ready to make allowance. But when the literature of a country is shaping itself, and when education is unduly forcing the mental activities, it is well to be jealous of any attempt to foist poor or watered work upon the community, and to see to it that those who take to authorcraft have aptitude for their task and will not leave their conscience behind in undertaking it."

This is one of the most refreshing examples of impertinence that have ever come under our notice. Who is it that presumes to speak in this style of the Canadian editors of English classics? A man who has himself failed at everything he undertook, whether of a business or a literary character; who failed as a bookseller, and failed even more signally as a bookmaker; who edited one magazine to death, and is now engaged in performing the same kind office for another; who cannot make the slightest pretension to the possession of even a fair education; and who is as empty of culture as he is void of common sense and common prudence. Th the man who sneers at some of our most prominent and successful high school masters as literary pirates, as compiling their books without any exercise o intelligence, as having "served no apprenticeship to letters, as having had a "limited education," and as possessing "little originality of mind." In view of these defects, which may be credited to the niggardliness of nature, and of this other, which may be credited to the parsimony of school-boards—that the Canadian editors "have indifferent libraries to assist them in their labour"—his critical mightiness is willing to overlook a great deal, "to make all allowance," but hereafter the would-be editor must see to it that he is supplied not merely with a library, but with brains, and a conscience.

As if to leave his purpose to insult the teaching profession beyond the possibility of doubt, he carefully includes others besides Mr. Millar, the editor of the most popular edition of "Marmion." His insolent aspersions cover men like Mr. Seath, the author of one of the very best and most useful school editions of part of the "Paradise Lost"; Mr. Williams, and Mr. Armstrong. They affect also by implication men like Mr. Tytler, Mr. Wetherell, Mr. Henderson, Mr Dunn, and others who, though they are only Canadians, have presumed to bring out school editions of French and Latin classics. These men are all well educated—they could not otherwise have attained their present high positions—and they have little to boast of if their acquaintance with "letters" does not go beyond that acquired by a tradesman whose veneer of culture has been acquired by perusing the books on his shelves when he ought to have been attending to business.

On the main question we have only to say, that of most of the English texts there are editions by English scholars available, and that the preference for Canadian editions is not without reason Some of the English editors, whose reputation for scholarship stands highest, bring out books very unsuitable for school purposes, and there is no reason why a Canadian editor, with fair scholarship, good judgment, and good taste, should not produce a better edition than any previous one, seeing that he has an opportunity to avail himself of the labors of others. It is a petty slander to say that there is no originality displayed in the preparation of these texts. The man who uses such language has a very erroneous idea of the nature of an editor's duties. One English editor is a philologist, and in preparing his notes gives them a philological cast. Another dwells most persistently on points of grammar. Another affects the rhetorical element; and others are fond of historical, mythological, or purely literary treatment. It is often possible to prepare, from a mass of such material, a better school edition than any one of them is by itself; and every scholar knows that the preparation of such a work requires the exercise, not merely of brains, but of critical insight and literary skill, tempered by actual tutorial experience. The Canadian editions of English, Latin, and French texts are creditable to this country, instead of the reverse, and the Canadian teacher may safely take it for granted that hereafter one or other of the editions prepared by his fellow-teachers here will be found more useful, as a rule, than any imported one.

EDUCATION IN THE UNITED STATES.

The report of the United States Commissioner of Education for 1880 is before us. It is a most elaborate volume, comprising a complete record of the year specified, and a brief survey of the preceding decade. The aim of this costly and carefully compiled publication is to elucidate the bearing of education on national progress and prosperity.

The principles of classification adopted are such as are deemed best adapted to throw light upon both the quantity and the quality of the school work performed in the country. A comparative study of the educational statistics contained in this volume and the census tables of illiteracy makes it clear beyond dispute, that illiteracy is in universe ratio to the condition of the public schools; "where they are most numerous and flourishing, illiteracy is at the minimum, and until the reverse is true, no argument, criticism or opposition will prevail against them." As might be expected the qualifications and enumeration of teachers differ widely in the several states of the union. Average salaries for male teachers are represented as varying from $25.24 per month in South Carolina to $101.47 per month in Nevada; for female teachers from $17.44 per month in Vermont to $77 in Nevada. In reference to the matter of teachers' salaries, the report contains an extract from General McLellan's report to the Legislature of New Jersey, in which it is urged that the law should fix a minimum salary for every grade of teachers, and provide for a state school-tax each year sufficient to produce the required sum. It is claimed that such a system, however rigid and mechanical in appearance, would not injuriously affect local liberality in supplementing the sum fixed by statute.

The salaries paid the teacher of city schools present more attractive figures. The principal of the City Normal School, New York, receives a salary of $6000, the principals of the high schools, Boston, each $3780.

The condition of normal schools through the union is treated in the report with admirable fulness and perspicuity. There are eighty-four normal schools supported by state appropriations, twenty-one by city appropriations, and one receiving county aid. The largest appropriation to a single institution was $95,000 in 1880 to the City Normal College, New York. But four other schools received more than $20,000 each, and eight states extend $25,000 and upward annually upon their normal schools.

The summaries of school income, expenditure, funded endowments are lucidly discussed in connection with the strong demand put forth for national aid to education. The Southern States, as a rule, are without permanent school funds of any considerable magnitude, and it is claimed that it would be but an act of justice to place these, by a grade national measure of relief, on an equality with the Northern and Western States, whose schools-funds have resulted from large national land grants.

We cannot follow the commissioner in his detailed consideration of subjects and methods of instruction. Kindergartens chiefly prevail, they have increased from 43 in 1873 to 232 in 1880. They include 524 teachers and 8871 pupils.

Industrial education in public schools is limited to sewing in the girls' grammar schools of Boston, and industrial and free-hand drawing as required by the laws of Massachusetts, New York, Vermont, and a few cities of other states.

The combination of work shops and schools has not proved successful, though the commissioner thinks that, with the example of France illustrating the problem, the attempt will be renewed, perhaps more successfully. We cannot close this brief reference without endorsing the opinion expressed by commissioner Eaton, that the National Bureau of Education, of which he is chief, sustains relations to the general educational interests of the country of the greatest importance.

THE MUNRO EXHIBITIONS AND BURSARIES.

Thirty-six students are now attending lectures in Dalhousie College, Halifax, as holders of either exhibitions or bursaries established for the benefit of that institution through the munificence of Mr. George Munro, the well-known New York publisher. In a few years the natural development of the system will increase this number to *sixty*, the apparent design being to distribute *five* exhibitions and *ten* bursaries among the members of each of the four undergraduate classes. Already the two lower classes are enjoying the benefit of this generous provision, and will continue to do so until the completion of their respective courses. A new quadrennial series is also announced to begin with the class which will matriculate in 1883. As exhibitions and bursaries represent respectively $200 and $150 per annum, Mr. Munro's benefactions to Dalhousie in this particular department of aid, bid fair to soon reach the annual value of $10,000. The results of this large-hearted attempt to stimulate higher education cannot but be awaited with interest.

THE ONTARIO ASSOCIATION.

We direct the attention of our readers to the outline, in another column of the programme for the next Ontario Teachers' Association. The subjects are all important and we have no doubt that when the names are announced it will be found that each is the right man in the right place. We also republish for the information of the teachers generally the following paragraph from a circular sent out by the secretary of the Provincial association, Mr. R. W. Doan of this city. Speaking of the minutes of the annual convention he says:—

"The circulation of the Minutes among teachers will no only be the means of informing them of the views of the General Convention on the debated questions of the day, but it will also afford them an opportunity of assisting the Provincial Association by reducing the annual loss attendant on printing and circulating the Minutes. These are supplied at ten cents per copy. On all orders for thirty copies and upwards, a reduction of twenty-five per cent. is made on the above rate. In some of the County Associations a copy is given to each member who has paid his fees for the curren year."

THE "MARMION" QUESTION

The sensible concession made to the Roman Catholic and other students who disliked certain passages in Scott's "Marmion" has completely quieted the storm which prevailed a few weeks ago The subject was scarcely ever referred to in the opening debate of the Ontario Legislature; the Minister of Education was never called on for a defence of his action; and the leader of the Opposition distinctly affirmed the right of any member of any religious denomination to protest against what he regards as a moral defect in any prescribed text-book.

The substitution of the "Traveller" for "Marmion" has been popular with the high school masters and pupils, many of whom have taken up the former, even after spending a good deal of time on the latter. Nor is the reason far to seek: "Marmion" belongs to a class of poems which are pleasant enough to read, but are not valuable for purposes of study. It was, on grounds altogether apart from morality, a bad choice, and the teachers and students who prefer the "Traveller" may be regarded as quietly protesting against it. The amount of time that can be devoted to the reading of English in a high school is necessarily limited, and therefore the work to be read should not be extensive. It should, however, be somewhat difficult, so as to compel a really critical reading if it is to be thoroughly mastered. Let a class once master such a piece as Wordsworth's "Ode on the Intimations of Immortality," and they will have acquired a literary treasure of unspeakably greater value than volumes of such diluted romance as the contents of "Marmion."

TREATISES ON EDUCATION.

Teachers' Associations are frequently at a loss when they come to select works on pedagogy for professional libraries. For the information of our readers we republish, from the New England *Journal of Education*, the following list of English works, any of which can be procured by associations through the local book trade:—

1.	Joseph Payne's Lectures on the Science and Art of Education	$2.00
2.	Fitch's Lectures on Teaching	1.75
3.	Latham on the Action of Examinations	3.50
4.	Currie's Common School Education	2.50
5.	Currie's Early and Infant Education	1.50
6.	Walker's Handy Book of Object-Lessons	1.75
7.	Lawrie's Training of Teachers	2.50
8.	Gill's Systems of Education	1.00
9.	Gill's School Management	1.20
10.	Gill's Art of Teaching Young Minds How to Think	80
11.	Quick's Educational Reforms	1.50
12.	Fearon's School Inspection	75
13.	Blackison, The Teacher	75
14.	Mullinger's Schools of Charles the Great	3.00
15.	Arnold's Higher Schools and Univs. of Germany	2.00
16.	Combe's Education: Its Principles and Practice (edited by Jolly)	5.00
17.	Robinson's Manual of Methods for Primary Schools	1.25
18.	Calderwood's On Teaching; its End and Means	70
19.	Bain's Education as a Science	1.75
20.	Spencer's Education,—Intellectual, Moral and Physical	1.25
21.	Thwing's Education and School	1.75
22.	Maclaren's System of Physical Education	1.75
23.	Locke's Thoughts Concerning Education; Notes by Quick	80
24.	Ascham's Schoolmaster	50

PROFESSIONAL TRAINING.

The authorities of Queen's College, Kingston, are protesting against the departmental regulation which requires all university graduates and undergraduates to undergo a professional training before engaging in the work of high school teaching. So far as their protest is based on the disadvantage incidentally inflicted on Queen's, as compared with Toronto University, it is worthy of the most earnest attention. All collegiate institutions must be kept in this Province on the same footing as nearly as possible, and if any such regulation discriminates in favor of one at the expense of others it should be amended. But on the main question the protest from Queen's is wrong. A university training is not for the teacher's calling a sufficient preparation. There is much inferior teaching in our high schools, and its existence is due very largely to the presence in them of untrained teachers. Many who have good natural ability learn rapidly by experience, but by the time they have become efficient they have tided over the financial difficulties in the way of their own progress, and enter other professions. It is sometimes said that the regulation will make it difficult to obtain assistants. What of that? The supply will soon equal the demand, and if the temporary scarcity should happen to have a permanent effect in raising salaries, no harm would come of it to the profession.

President Arthur, in his late annual message to congress, has the following remarks on educational topics:—

"No survey of our material condition can fail to suggest inquiries as to the moral and intellectual progress of the people. The census discloses an alarming state of illiteracy in certain portions of the country where the provision for schools is grossly inadequate. It is a momentous question for the discussion of Congress, whether immediate and substantial aid should not be extended by the general government, supplementing the efforts of private beneficence and of state and territorial legislation in behalf of education."

"Alaska is still without any form of civil government. If means were provided for the education of its people, and for the protection of their lives and property, the immense resources of the region would invite permanent settlement, and open new fields for industry and enterprise."

The revenue of the United States has for some time enormously exceeded its expenditure. There is difficulty in the way of reducing taxation, as any decrease in customs duties lessens the amount of protection afforded to home manufactures. Last session congress voted several millions of dollars for local public works, not at all of a necessary character, the object being to diminish the surplus and postpone the necessity of reduced taxation. It is just possible that a similar motive may lead this session to some such expenditure on education as the President suggests.

—The "Smellfungus" of the *Monthly*—as he has accepted the title gracefully, it would be a pity to deprive him of it—thinks he has found some errors in "Gage's Practical Speller." The fact that he does not produce them is ample evidence that he cannot do so, and the challenge of the publishers, therefore, remains unanswered.

Mathematical Department.

ELEMENTARY ALGEBRA.

1. Sum $\frac{a+b}{(b-c)(c-a)} + \frac{b+c}{(c-a)(a-b)} + \frac{c+a}{(a-b)(b-c)}$.

N.B.—Numerator of sum $= (a^2-b^2) + (a^2-c^2) + (c^2-a^2) = 0$, $\therefore$ sum $= 0$.

2. Sum $\frac{bcd}{(a-b)(a-c)(a-d)} + \frac{cda}{(b-c)(b-d)(b-a)} + \frac{dab}{(c-d)(c-a)(c-b)} + \frac{abc}{(d-a)(d-b)(d-c)}$

Numerator of sum $=$
$$bcd(b-c)(b-d)(c-d) - cda(c-a)(c-d) - dab(a-b)(b-d)(d-a) + abc(a-b)(b-c)(c-a).$$

Now this numerator is symmetrical with respect to a, b, c, and d. Also, when $a-b=0$, *i.e.*, when $a=b$ this numerator $=0$; Hence $(a-b)$ is a factor of the numerator; and by symmetry, $b-c$, $b-d$, $c-a$, $c-d$, and $d-a$ are factors, $\therefore$ $(a-b)(b-c)(b-d)(c-a)(c-d)(d-a)$ is a factor. Thus the common denominator of the sum will cancel out, and the numerical factor of the numerator will be the value of the sum when reduced. To find this numerical quantity: put $a=0$, $b=1$, $c=2$, $d=3$ in the numerator of the sum and we have

$$(6)(-1)(-2)(-1) - 0 - 0 + 0 = N(-1)(-1)(-2)(2)(-1)(8)$$
or, $-12 = 12N$; *i.e.*, $N = -1$ the required sum.

3. Evaluate $\frac{1}{ab-ax} - \frac{1}{bx-ab} + \frac{x}{(x-a)(bc-cx)}$

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

Write x first in every term thus

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

Since $x(ab+ac+bc) = 2bc$

or $x\left(\frac{1}{a} + \frac{1}{b} + \frac{1}{c}\right) = 2$, from the given relation.

4. Evaluate $\frac{1}{x-3a} + \frac{1}{x-3b} + \frac{1}{x+3c}$, when $\frac{1}{a} + \frac{1}{b} = \frac{1}{c}$, and $x = 2(a+b-c)$. Restore symmetry by writing $-c$ for c throughout the three expressions. Then numerator of sum

$= (x-3b)(x-3c) + (x-3a)(x-3c) + (x-3a)(x-3b)$
$= 3\{x^2 - 2(a+b+c)x + 3(ab+ac+bc)\}$. Now each of the first two terms $=0$, since $x = 2(a+b+c)$, and therefore $x^2 = 2(a+b+c)x$. Also the third term $=0$, since $\frac{1}{a} + \frac{1}{b} + \frac{1}{c} = 0$, and $\therefore$ $ab+bc+ca=0$

Hence the whole expression $= 0$.

5. If $\frac{1}{a} + \frac{1}{b} + \frac{1}{c} = \frac{1}{a+b+c}$ show that $a^2 = b^2 = c^2$

$$\frac{a+b}{ab} = \frac{1}{a} + \frac{1}{b} = \frac{1}{a+b+c} - \frac{1}{c} = \frac{a+b}{c(a+b+c)} = (a+b)\left(\frac{1}{ac} + \frac{1}{bc} + \frac{1}{c^2}\right)$$

from the given relation.

$$\therefore (a+b)\left\{\frac{1}{ab} - \frac{1}{ac} - \frac{1}{bc} - \frac{1}{c^2}\right\} = 0.$$

Wherefore, we must have either $a+b=0$,

or $\frac{1}{ab} - \frac{1}{ac} - \frac{1}{bc} - \frac{1}{c^2} = 0$, and this latter will not be altered by interchanging a, b, and c.

$$\therefore \frac{1}{a^2} = \frac{1}{b^2} = \frac{1}{c^2} \text{ or } a^2 = b^2 = c^2$$

Or, we may factor thus

$$\frac{1}{a}\left(\frac{1}{b} - \frac{1}{c}\right) - \frac{1}{c}\left(\frac{1}{b} - \frac{1}{c}\right) = 0$$

i.e., $\left(\frac{1}{a} - \frac{1}{c}\right)\left(\frac{1}{b} - \frac{1}{c}\right) = 0$

$\therefore$ we must have either $\frac{1}{a} - \frac{1}{c} = 0$, *i.e.*, $a=c$, or $\frac{1}{b} - \frac{1}{c} = 0$, *i.e.*, $b=c$

$\therefore$ $a^2 = b^2 = c^2$ as before.

6. If $\frac{ad-bc}{a-b-c+d} = \frac{ac-bd}{a-b+c-d}$, and a is not $=b$, nor $c=d$ prove that $a+b=c+d$, and that each fraction $=\frac{1}{4}(a+b+c+d)$.

We have $\frac{ac-bd}{ad-bc} = \frac{a-b+(c-d)}{a-b-(c-d)}$. Adding and subtracting 1

$$\frac{ac-bd+ad-bc}{ac-bd-ad+bc} = \frac{a-b}{c-d};$$
or, $$\frac{(a-b)(c+d)}{(c-d)(a+b)} = \frac{a-b}{c-d}$$

And $a+b$ must be $= c+d$,
i.e., $a-c = d-b = x$ say, $\therefore$ $a = c+x$, $d = b+x$
and $a-b-c+d = 2x$

$$\therefore \text{1st fraction} = \frac{(c+x)(b+x)-bc}{2x} = \frac{b+c+x}{2} = \frac{a+b}{2} = \frac{a+b+c+d}{4}.$$

7. If $x = \frac{1}{\sqrt{b}+\sqrt{c}-\sqrt{a}}$; $y = \frac{1}{\sqrt{c}+\sqrt{a}-\sqrt{b}}$;
$z = \frac{1}{\sqrt{a}+\sqrt{b}-\sqrt{c}}$; and $u = \frac{1}{\sqrt{a}+\sqrt{b}+\sqrt{c}}$ show that

$$\frac{(y+z-x+u)(z+x-y+u)(x+y-x+u)}{(x+y+z-u)^3} = \frac{(b+c-a)(c+a-b)(a+b-c)}{8abc}$$

Take the first factor of numerator on the left, we have identically,

$$y+z-x+u = y+z-(x-u)$$
$$= yz\left(\frac{1}{z}+\frac{1}{y}\right) - xu\left(\frac{1}{u}-\frac{1}{x}\right), \text{ and from given}$$

relations, this $= 2\sqrt{a}(yz-xu)$,
$$= 2\sqrt{a}\left(\frac{1}{xu} - \frac{1}{yz}\right)yzxu,$$
$$= 2\sqrt{a}(b+c-a)2xyzu.$$

Wherefore by symmetry the second factor, (with $-y$ instead of $-x$) is
$$= 2\sqrt{b}(c+a-b)2xyzu, \text{ and the third}$$
$$= 2\sqrt{b}(a+b-c)2xyzu;$$

Hence numerator $= 64\sqrt{abc}.x^3y^3z^3u^3(b+c-a)(c+a-b)(a+b-c)$

Similiarly in the denominator we have identically

$$(x+y)+(z-u) = xy\left(\frac{1}{y}+\frac{1}{x}\right) + zu\left(\frac{1}{u}-\frac{1}{z}\right)$$
$$= 2\sqrt{c}(xy+zu) \text{ from given relations,}$$
$$= 2\sqrt{c}\left(\frac{1}{zu}+\frac{1}{xy}\right)xyzu$$
$$= 2\sqrt{c}.4\sqrt{ab}.xyzu = 8xyzu\sqrt{abc}.$$
$$\therefore (x+y+z-u)^3 =$$
$$= 64\sqrt{abc}.x^3y^3z^3u^3.8abc$$

$$\therefore \text{given fraction on the left} = \frac{(b+c-a)(c+a-b)(a+b-c)}{8abc}.$$

8. Show that $x^{m+n}+y^{m+n} > x^m y^n + x^n y^m$. If it be $>$, then
$x^{m+n} - x^m y^n + y^{m+n} - x^n y^m > 0$
i.e., $x^n(x^m-y^m) - y^n(x^m-y^m) > 0$
or $(x^n-y^n)(x^m-y^m) > 0$. Now if $x>y$ both factors are positive, and if $x<y$ both factors are negative, so in any case this product is >0, unless $x=y$.

9. Show that $x^{2n}+1 > x^{2n-2r}$. If it be, transpose and we have
$x^{2n} - x^{2n-2r} - x^{2r} + 1 > 0$,
i.e., $(x^{2n-2r}-1)(x^{2r}-1) > 0$. Now when $x>1$ both factors are $+$ve and when $x<1$ both factors are $-$ve, so that their product is $+$ve in every case, unless $x=1$.

From this example we may deduce

(*a*) $x^2 + \frac{1}{x^2} > x^{n-2r} + \frac{1}{x^{n-2r}}$.

(*b*) Put $r = \frac{1}{2}$ and $x^n + \frac{1}{x^n} > x^{n-1} + \frac{1}{x^{n-1}}$,

i.e., as n increases the value of $x^n + \frac{1}{x^n}$ increases.

Examples $x^2 + \frac{1}{x^2} > x + \frac{1}{x}$; $x^r + \frac{1}{x^r} > x^2 + \frac{1}{x^2}$

$$x^n + \frac{1}{x^n} > x + \frac{1}{x} \text{ &c., &c.}$$

10. Show that $(x+y+z)^m < 3^{m-1}(x^m+y^m+z^m)$
$(x-y-z)^2$ is necessarily $+$ve, *i.e.*, >0
i.e., $x^2+y^2+z^2-2xy-2yz-2zx > 0$, or
$-x^2-y^2-z^2+2xy+2yz+2zx < 0$

$i.e.,\ x^2+y^2+z^2+2xy+2yz+2zx<3(x^2+y^2+z^2)$
or $(x+y+z)^2<3(x^2+y^2+z^2)$

Assume
$(x+y+z)^m<3^{m-1}(x^m+y^m+z^m)$
Now $(x+y+z)=(x+y+z)$. Multiply these
and $(x+y+z)^{m+1}<3^{m-1}(x^{m+1}+y^{m+1}+z^{m+1}+x^my+y^mx+x^mz+z^mx+y^mz+z^my)$

But, by No. 8 of this paper
$x^my+y^mx<x^{m+1}+y^{m+1}$, &c.
$\therefore\ x^my+y^mx+x^mz+z^mx+\&c.<2(x^{m+1}+y^{m+1}+z^{m+1})$
$\therefore\ (x+y+z)^{m+1}<3^m(x^{m+1}+y^{m+1}+z^{m+1})$

That is, if the law holds good for m it also holds good for $m+1$, but we have shown that it does hold good for 2, therefore for 3, &c., and .. generally.

11. Find the value of $(a+b-2c)^3+(a+c-2b)^3+(b+c-2a)^3$.

Observe the symmetry. Note that $6a^3-6ab$ is part of the result, therefore by symmetry $6(a^3+b^3+c^3-ab-bc-ca)$ is the whole result, for the perfect squares contain only quantities like the type terms a^2 and ab.

12. Simplify $(a+b+c+d)^5-(b+c+d)^5-(a+c+d)^5-(a+b+d)^5-(a+b+c)^5+(b+c)^5+(a+c)^5+(a+b)^5+(a+d)^5+(b+d)^5+(c+d)^5-(a^5+b^5+c^5+d^5)$. The expression is symmetrical with regard to a, b, c, and d.

If $a=0$, expression becomes
$(b+c+d)^5-(b+c+d)^5-(c+d)^5-(b+d)^5-(b+c)^5+(b+c)^5+c^5+b^5+d^5+(b+d)^5+(c+d)^5-(b^5+c^5+d^5)=0$

Hence a is a factor, $i.e.$, $abcd$ is a factor. Now there must be another symmetrical factor of *one* dimension to make up the *five* dimensions required, and $a+b+c+d$ is the only such factor possible. Therefore expression $=Nabcd\ (a+b+c+d)$. Find N by putting a, b, c, d = any quantities except 0, which would make N vanish and thus prevent us from finding its numerical value; $a=-1$, $b=-2$, $c=1$, $d=2$ will be convenient values. $\therefore N=60$, and given expression $=60abcd\ (a+b+c+d)$. Let the reader apply to this example the method used in number 11. See May number of this Journal for 1882, page 103.

13. Simplify $(y-z)^6+(z-x^6)+(x-y)^6-3(y-z)^2(z-x)^2(x-y)^2-2(x^3+y^3+z^3-xy-yz-zx)^3$

Put $a=(y-z)^2$; $b=(z-x)^2$; $c=(x-y)^2$; and therefore $\sqrt{a}+\sqrt{b}+\sqrt{c}=(y-z)+(z-x)+(x-y)=0$ (A)
and $a+b+c=(y-z)^2+(z-x)^2+(x-y)^2=2(x^2+y^2+z^2-xy-yz-zx)$ (B)
Substituting a, b, and c, and $a+b+c$ in the given expression we have at once

Expression $=a^3+b^3+c^3-2abc-\frac{1}{4}(a+b+c)^3$. Factor out $a+b+c$
$=(a+b+c)\{a^2+b^2+c^2-ab-bc-ca-\frac{1}{4}(a+b+c)^2\}$
$=(a+b+c)\{a^2+b^2+c^2-ab-bc-ca-\frac{1}{4}(a^2+b^2+c^2+2ab+2bc+2ca)\}$
$=(a+b+c)\{\frac{3}{4}(a^2+b^2+c^2)-\frac{3}{4}(ab+bc+ca)\}$
$=\frac{3}{4}(a+b+c)\{(a^2+b^2+c^2)-2(ab+bc+ca)\}=0$; for the 2nd factor $=0$ from (A) thus,
$\sqrt{a}+\sqrt{b}+\sqrt{c}=0$ squaring and transposing $a+b+c=-2(ab+bc+ca)$

squaring again and factoring the last member we have
$a^2+b^2+c^2+2(ab+bc+ca)=4(ab+bc+ca)+8\sqrt{abc}\ (\sqrt{a}+\sqrt{b}+\sqrt{c})$,
$i.e.,\ =4(ab+bc+ca)+0$;
transposing $(a^2+b^2+c^2)-2(ab+bc+ca)=0$. Therefore the given expression is $=0$.

ARITHMETICAL PROBLEMS.

1. The amount of $100 for 125 years at 3% compound interest is invested in 3% stock at 95. Given $1{\cdot}03^{125}=4{\cdot}383906$; find the annual income, correct to four decimal places.

Ans. $127.0708.

2. A man signs a promissory note for $1045 due in two years, and immediately invests in 3% stock a certain sum, and the next year an equal sum, the dividends in each case to be invested in the same stock which remains steadily at 73. At the end of the time the accumulated investments just meet the note. Neglecting brokerage, find the sum invested each time.

Ans. 491\frac{45}{89}$.

3. Pure gold is worth $20·62½ per ounce; 18lbs. of gold and silver mixture is worth $3473·25, but if the silver were gold and the gold silver the mixture would be worth $1278 75. Find the weight of the silver in the mixture, and its value.

Ans. 51oz. at $1 97½ cents per oz. $=$70.12½.

4. In a meadow of 20 acres the grass grows uniformly, and 133 oxen in 13 days can consume it, or 28 oxen can eat up 5 acres of it in 16 days; how many oxen could eat up 4 acres of it in 14 days?

COLENSO'S SOLUTION. 133 oxen to 20 acres is 26⅔ oxen to 4 acres.
28 " 5 " 22⅔ " 4 "
$\therefore$ 22·4 oxen : 26·6 oxen :: 13 days : $15\frac{7}{19}$ days.
i.e., 3 days' growth eaten by 22·4 oxen in $\frac{9}{19}$ day.
$\therefore\ \frac{9}{19}$ days : 16 :: 3 days' growth : 85⅓ days' growth.
i.e., original grass $=85\frac{1}{3}-16=69\frac{1}{3}$ days' growth.
$\therefore\ (16+69\frac{1}{3})$: $(14+69\frac{1}{3})$ :: 22·4 : 25.
Ans. 25 oxen.

5. The premium of gold at Paris is 7½ per mille, which at the English mint price of £3 17s. 10½d. per ounce for standard gold, gives exchange 25 35¾; and the actual rate of exchange at Paris on London is 25·33½, show that gold is about ·088 per cent. dearer in Paris than in London.

CAMBRIDGE, ENG. —PREVIOUS EXAMINATION.

ARITHMETIC.

1. At the recent Cambridge election plumpers, *i.e.*, single votes, were given 23 for Fowler, 81 for Marten, 6 for Shield, and 3 for Smollett: split votes, *i.e.*, one each for candidates, were given 64 to Fowler and Marten, 2281 to Fowler and Shield, 18 to Fowler and Somollett, 33 to Marten and Shield, 1875 to Marten and Smollett, and 6 to Shield and Smollett. How many votes did each candidate receive? and how many voted?

Ans. Fowler 2386, Shield 2326, Marten 2003, Smollett 1902. Number of votes 43040.

2. Show that $9\times10\times11+12\times13\times14+3\times11\times14\times23=23\times24\times25$.

3. Simplify $\frac{\frac{1}{5}-\frac{1}{9}+\frac{1}{13}-\frac{1}{15}}{\frac{1}{4}-\frac{1}{8}+\frac{1}{12}-\frac{1}{16}}$. Ans. $\frac{4}{51}$.

4. Express as decimals $\frac{2}{11}$ and $\frac{7}{40}$, and subtract one decimal from the other. Also show that one is greater and the other less than the quantity
$$\frac{1}{2\times3}+\frac{5}{2\times3\times4\times5}+\frac{1}{2\times3\times4\times5\times6\times7}.$$
Ans. $\cdot1\dot{8}-\cdot175=\cdot00681$.

5. Divide (*i*) 7·0175 by 17·5, and (*ii*) 17·5 by 7·0175 correct to two places of decimals.

Ans. (*i*) ·401; (*ii*) 2·49.

6. Find the cost of a piece of building land containing 2 rods 17 poles at £345 17s. 6d. per acre.

Ans. £209 13s 8d.

7. If a bankrupt pays 12s. 10d. in the £, how much will a creditor receive to whom he owes £754 10s.?

Ans. £484 2s. 9d.

8. If of every £1000 spent on university buildings St. John's College had to pay £169, for how much of the £4014 8s. 4d. spent upon the literary schools would the College be liable?

Ans. £678 8s. 8d.

9. There was a new moon on June 7th at 9.55 p.m., and the next will be on July 7th at 1.21 p.m. Also the sixth from now will be on Dec. 2nd at 2.56 a.m. What is the interval between the two first mentioned, and how much will it exceed the average of the next five?

Ans. 29 days, 15 hours, 26 minutes; 3 hours, 7 minutes.

10. A railway passenger counts the telegraph posts on the line, as he passes them, If they are 58 yards apart, and the train is going 48 miles per hour, how many will he pass per minute?

Ans. 24. The number passed in two minutes gives approximately the rate in miles per hour.

11. Which would yield the greater return for an investment, Midland stock at 138¼, or Great Northern stock at 125½, the former paying 5⅝ per cent., and the latter 5⅓ per cent.?

Ans. The latter.

MECHANICS.

1. Enunciate the triangle of forces and its converse.

Forces of 3lbs., 5lbs., and 6lbs. act upon a particle; can they be so placed as to keep it in equilibrium?

2. Assuming the parallelogram of forces, prove that if P, Q, R be any three forces which, acting on a particle, keep it in equilibrium, and α, β, γ denote the angles between Q and R, R and P, P Q respectively, then
$$\frac{P}{\sin\alpha}=\frac{Q}{\sin\beta}=\frac{R}{\sin\gamma}.$$

Three forces keep a particle in equilibrium; one acts towards the East, another towards the North-west, and the third towards the South; if the magnitude of the first force be 3lbs., find the magnitudes of the other two.

3. Resolve a force of 7lbs. into two others, one making an angle of 30° with it, and the other an angle of 60°.

4. Find the magnitude and position of the resultant of two parallel forces acting in the same direction.

Parallel forces of 4lbs. and 9lbs. act in opposite directions at points A and B distant 15 inches apart. How far from the middle point of AB does their resultant cut AB produced?

5. State (without proof) the position of the centre of gravity of a triangle, and show that it coincides with that of three equal particles placed at the angular points of the triangle.

Having given the position of the centre of a body, and also that of a given point of it, show how to deduce the position of the centre of gravity of the remaining part.

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 by the fulcrum.

The longer arm of a lever is 9 inches in length: if the lever be in equilibrium when weights of 3lbs. and 4lbs. are suspended from its arms, find the length of the other arm.

7. In the system of pullies in which each pulley hangs on a separate string attached to the beam, find the relation between the power and the weight when the system is in equilibrium, neglecting the weights of the pullies.

If there are three moveable pullies, the lowest of which weighs 5lbs., the middle one 4lbs., and the highest 3lbs., and the weight is 7lbs., find the power.

8. Describe the Danish steelyard, and explain what is meant by graduating it.

AB is a Roman steelyard 12 feet long; its centre of gravity is 11 inches from A, and the fulcrum 8 inches from A. If the weight of steelyard be 4lbs. and that of the moveable weight 3lbs., find how many inches from B the graduation marked 15lbs. will be.

9. A particle of given weight W is in equilibrium upon an inclined plane whose inclination to the horizon is α, under the action of a horizontal force: find this force and also the pressure on the plane.

A particle weighing $8\sqrt{3}$ lbs. is in equilibrium upon an inclined plane under the action of a force of 12lbs. acting parallel to the plane: find the inclination of the plane and the pressure upon it.

RESULTS.

1. Yes. 2. $3\sqrt{2}$ lbs.; 3lbs. 3. $\frac{1}{2}\sqrt{3}$; $\frac{1}{2}$. 4. $19\frac{1}{2}$ inches. 6. $6\frac{3}{4}$ inches. 7. 4lbs. 8. 100. 9. 60°; $4\sqrt{3}$ lbs.

TRIGONOMETRY.

1. Give the trigonometrical definition of an angle.

What angle does the minute hand of a clock describe between 12 o'clock and 20 minutes to four?

2. Define the sine of an angle, and trace the change in the value of the sine as the angle increases from 90° to 270°.

3. Express the cosine and the tangent of an angle in terms of the sine. The angle A is greater than 90° but less than 180°, and $\sin A = \frac{1}{3}$; find $\cos A$.

4. Find $\sin 60°$ and $\tan 135°$.

5. Prove geometrically $\sin(A - B) = \sin A \cos B - \cos A \sin B$, A and B being both positive angles less than 90°. Show that

$$(i)\ \tan(A+B) = \frac{\tan A + \tan B}{1 - \tan A \tan B};$$

$$(ii)\ \sin 2A = \frac{2 \tan A}{1 + \tan^2 A}.$$

6. Show that, if $A+B+C=180°$,

$$\sin 2A + \sin 2B + \sin 2C = 4 \sin A \sin B \sin C.$$

7. Find an expression for all the values of θ for which $\cos\theta + \cos 2\theta = 0$.

8. Show that in a triangle the sides are proportional to the sines of the opposite angles. If in a triangle $a \cos A = b \cos B$, the triangle will be either isosceles or right-angled.

9. If two sides of a triangle be given, and the angle opposite to the shorter side; show how to find the other side and the other angles. Example. The sides are 1 foot and $\sqrt{3}$ respectively, and the angle opposite to the shorter side is 30°.

RESULTS.

1. $-1320°$. 3. $-\frac{3}{5}\sqrt{2}$. 7. $(2m+1)\frac{\pi}{2}$. 9. 1ft., 120° and 30° or 2ft., 60° and 90°.

Special Articles.

THE GOSPEL OF RELAXATION.

Many readers of the SCHOOL JOURNAL have some acquaintance with the works of the well-known English philosopher, Mr. Herbert Spencer. Those who are fortunate enough to have studied his educational theories will be pleased to have in a somewhat permanent form the following remarks, which are part of a speech delivered at a farewell entertainment given to him on the eve of his departure from New York. After some general remarks Mr. Spencer continued:—

And now that I have thanked you, sincerely though too briefly, I am going to find fault with you. Already, in some remarks drawn from me respecting American affairs and American character, I have passed criticisms, which have been accepted far more good-naturedly than I could reasonably have expected; and it seems strange that I should now again propose to trangress. However, the fault I have to comment upon is one which most will scarcely regard as a fault. It seems to me that in one respect Americans have diverged too widely from savages. I do not mean to say that they are in general unduly civilized. Throughout large parts of the population, even in long settled regions, there is no excess of those virtues needed for the maintenance of social harmony. Especially out in the West, men's dealings do not yet betray too much of the "sweetness and light" which we are told distinguish the cultured man from the barbarian. Nevertheless, there is a sense in which my assertion is true. You know that the primitive man lacks power of application. Spurred by hunger, by danger, by revenge, he can exert himself energetically for a time; but his energy is spasmodic. Monotonous daily toil is impossible to him. It is otherwise with the more developed man. The stern discipline of social life has gradually increased the aptitude for persistent industry, until among us, and still more among you, work has become with many a passion. This contrast of nature has another aspect. The savage thinks only of present satisfactions, and leaves future satisfactions uncared for. Contrariwise, the American, eagerly pursuing a future good, almost ignores what good the passing day offers him; and, when the future good is gained, he neglects that while striving for some still remoter good.

What I have seen and heard during my stay among you has forced on me the belief that this slow change from habitual inertness to persistent activity has reached an extreme from which there must begin a counter change—a reaction. Everywhere I have been struck with the number of faces which told in strong lines of the burdens that had to be borne. I have been struck, too with the large proportion of grey-haired men, and inquiries have brought out the fact that with you the hair commonly begins to turn some ten years earlierthan with us. Moreover, in every circle I have met men who had themselves suffered from nervous collapse due to stress of business, or named friends who had either killed themselves by overwork, or had been permanently incapacitated, or had wasted long periods in endeavours to recover health. I do but echo the opinion of all observant persons I have spoken to, that immense injury is being done by this high-pressure life—the physique is being undermined. The subtle thinker and poet whom you have lately had to mourn, Emerson, says, in his essay on the gentleman, that the first requisite is that he shall be a good animal. The requisite is a general one—it extends to the man, to the father, to the citizen. We hear a great deal about "the vile body;" and many are encouraged by the phrase to transgress the laws of health. But nature quietly suppresses those who treat thus disrespectfully one of her highest products, and leaves the world to be peopled by the descendants of those who are not foolish.

Beyond these immediate mischiefs there are remoter mischiefs. Exclusive devotion to work has the result that amusements cease to please; and, when relaxation becomes imperative, life becomes dreary from lack of its sole interest—the interest in business. The remark current in England, that when the American travels, his aim is to do the greatest amount of sight-seeing in the shortest time, I find current here also. It is recognized that the satisfaction of getting on devours nearly all other satisfactions. When recently at Niagara, which gave us a whole week's pleasure, I learned from the landlord of the hotel that most Americans come one day and go away the next. Old Froissart, who said of the English of his day that "they take their pleasures sadly after their fashion," would doubtless, if he lived now, say of the Americans that they take their pleasures hurriedly after their fashion. In large measures with us, and still more with you, there is not that abandonment to the moment which is requisite for full enjoyment; and this abandonment is prevented by the ever-present sense of multitudinous responsibilities. So that, beyond the serious physical mischief caused by overwork, there is the further mischief that it destroys what there would otherwise be in the leisure part of life.

Nor do the evils end here. There is the injury to posterity. Damaged constitutions reappear in children, and entail on them far more of

ill than great fortunes yield them of good. When life has been duly rationalized by science, it will be seen that among a man's duties care of the body is imperative, not only out of regard for personal welfare, but also out of regard for descendants. His constitution will be considered as an entailed estate, which he ought to pass on uninjured, if not improved, to those who follow; and it will be held that millions bequeathed by him will not compensate for feeble health and decreased ability to enjoy life Once more, there is the injury to fellow citizens, taking the shape of undue disregard of competitors. I hear that a great trader among you deliberately endeavoured to crush out every one whose business competed with his own; and manifestly the man who, making himself a slave to accumulation, absorbs an inordinate share of the trade or profession he is engaged in, makes life harder for all others engaged in it, and excludes from it many who might otherwise gain competencies. Thus, besides the egoistic motive, there are two altruistic motives which should deter from this excess in work.

The truth is, there needs a revised ideal of life. Look back through the past, or look abroad through the present, and we find that the ideal of life is variable, and depends on social conditions. Every one knows that to be a successful warrior was the highest aim among all ancient peoples of note, as it is still among many barbarous peoples. When we remember that in the Norseman's heaven the time was to be passed in daily battles, with magical healing of wounds, we see how deeply rooted may become the conception that fighting is man's proper business, and that industry is fit only for slaves and people of low degree. That is to say, when the chronic struggles of races necessitate perpetual wars, there is involved an idea of life adapted to the requirements. We have changed all that in modern civilized societies, especially in England, and still more in America. With the decline of militant activity, and the growth of industrial activity, the occupations once disgraceful have become honorable. The duty to work has taken the place of the duty to fight; and in the one case, as in the other, the ideal of life has become so well established that scarcely any dream of questioning it. Practically, business has been substituted for war as the purpose of existence.

Is this modern ideal to survive throughout the future? I think not. While all other things undergo continuous change, it is impossible that ideals should remain fixed The ancient ideal was appropriate to the ages of conquest by man over man, and of the spread of the strongest races. The modern ideal is appropriate to ages in which conquest of the earth and subjection of the powers of nature to human use is the predominant need. But hereafter when both these ends have in the main been achieved, the ideal former will probably differ considerably from the present one May we not foresee the nature of the difference. I think we may. Some twenty years ago a good friend of mine and a good friend of yours, too, though you never saw him, John Stuart Mill, delivered at St. Andrews an inaugural address on the occasion of his appointment to the Lord Rectorship. It contained much to be admired, as did all he wrote. There ran through it, however, the tacit assumption that life is for learning and working. I felt at the time that I should have liked to take up the opposite thesis. I should have liked to contend that life is not for learning, nor is life for working, but learning and working are for life. The primary use of knowledge is for such guidance of conduct, under all circumstances, as shall make living complete. All other uses of knowledge are secondary. It scarcely needs saying that the primary use of work is that of supplying the materials and aids to living completely, and that any other uses of work are secondary. But in men's conceptions the secondary has in great measure usurped the place of the primary. The apostle of culture as it is commonly conceived, Mr. Matthew Arnold makes little or no reference to the fact that the first use of knowledge is the right ordering of all actions; and Mr. Carlyle, who is a good exponent of current ideas about work, insists on its virtues for quite other reasons than that it achieves sustentation. We may trace everywhere in human affairs a tendency to transform the means into the end. All see that the miser does this when, making the accumulation of money his sole satisfaction, he forgets that money is of value only to purchase satisfactions. But it is less commonly seen that the like is true of the work by which the money is accumulated—that industry, too, bodily or mental, is but a means, and that it is as irrational to pursue it to the exclusion of that complete living it subserves, as it is for the miser to accumulate money and make no use of it. Hereafter, when this age of active material progress has yielded mankind its benefits, there will, I think, come a better adjustment of labor and enjoyment. Among reasons for thinking this, there is the reason that the process of evolution throughout the organic world at large brings an increasing surplus of energies that are not absorbed in fulfilling material needs, and points to a still larger surplus for humanity of the future. And there are other reasons, which I must pass over. In brief, I may say that we have had somewhat too much of "the gospel of work." It is time to preach the gospel of relaxation.

This is a very unconventional after-dinner speech. Especially it will be thought strange that in returning thanks I should deliver something very much like a homily. But I have thought I could not better convey my thanks than by the expression of a sympathy which issues in a fear. If, as I gather, this intemperance in work affects more especially the Anglo-American part of the population—if there results an undermining of the physique, not only in adults, but also in the young, who, as I learn from your daily journals, are also being injured by overwork—if the ultimate consequence should be a dwindling away of those among you who are the inheritors of free institutions and best adapted to them; then there will come a further difficulty in the working of that great future which lies before the American nation. To my anxiety on this account you must ascribe the unusual character of my remarks.

MORALITY IN OUR SCHOOLS AND HOW TO TEACH IT.

The following is an abridgement of an address delivered on this subject to the Oxford teachers' association by the Rev. John McEwen. After distinguishing between what he called the "upper" and "lower" planes of educational effort—the former belonging to high schools and universities, and the latter to all grades below these—and defining, in a general way, the relation of morality to religion, the lecturer proceeds:—

Having emphasised the supremacy of morals—and the potency of the teacher—we come to the second part of our subject:—"How is this work to be carried on?" In this investigation we have defined to ourselves what we mean by morals in schools, namely:—"A religious atmosphere in which reverence for God and loyalty to our duty as teachers, fill the nature and hallow the work." We must now outline the methods, or ways in which the work is to be carried on. We give this outline in the order of nature and its education, and without any exposition, which would require another hour:—

1. The self restraint of the body.
2. Obedience to constituted authority, and submission to righteous rule.
3. A healthy fear of loss and degradation.
4. Sincerity of purpose, expressed in mental and moral honesty.
5. Purity of moral tone and conduct, expressed spontaneously in pure English, and direct words and phrasing.
6. Love of truthfulness, devotion to simple ways, and admiration of noble lives.
7. The Teacher must be an embodiment of what he aims to enforce in school morals.

In this outline, with interpretation lying in the order and between the lines, with ever varying degrees of attainment and shades of manifestation we regard it as thoroughly practical in school life, and constituting the lower, or earthly plane, of the sweetest morals and of lofty character. These pathways of moral life in school have conditions that must be looked after, else our highest aims, and our purest force, may be baulked in their results.

The physical condition of teaching morals. The conditions we are about to enumerate belong to teaching as a work; but we regard them as specially emphasised in the moral aspects of that work.

1. Ventilation, pure air, pure morals.
2. Cleanliness, of person, copies, books, rooms, &c., made clean by clean speech and objects.
3. General ease, and comfort to the body.
4. Constant occupation.

The deadly germs of morality are flooded and hatched in idleness.

The Social condition of teaching Morals:—

1. Order—as voluntarily given as possible.
2. Organized co-operation between the Teacher, and a wise selection of the best portions of the school.
3. Adaptation to the stage of life, or grade of study and as far as possible to individual life.
4. Surroundings that are harmonious with the average social condition of the scholars.
5. Well organized plays, games, recreations that are antidotes to idleness, or riot.

These we conceive to be to moral life on its lower plane, what atmosphere is to physical life—conditions without which the life cannot be held together. The physical conditions give tone to the social conditions, and the social conditions give embodiment to the moral life. At this stage of our paper we wish to say, that we are not pleading for a place on the time table, for morals in the lower

plane of school life, but that the elements we have enumerated should pervade the time table, and be the animating and elevating, and cleansing spirit of its execution. In other words morals should be co-ordinated

1. With the mechanical department of education—reading, writing drawing &c.
2. With all instructional subjects—or all the "fact lore," of school life.
3. With disciplinal subjects—arithmetic, mathematics.
4. With educational subjects—grammar, language, composition.

Why? How? Conduct, aim, motive, purpose must enter into them all; and though the subjects may be colorless as to moral tone; the pupil and the work may not, perhaps cannot be thus neutral; and the teacher, if himself co-ordinated morally to his high calling, will be able to attain that for which we plead. By stimulating the pupil to the best possible attainment in the mechanical department; eagerly treasuring the best in fact lore, strengthened and sustained by the absolutely certain results, from the absolutely true powers and processes in all disciplinal subjects, elevated by the measures of growing clearness in language, and thought, and thinking. Thus the golden thread of truthfulness, honour, fairness in means and methods, duty, courage, fidelity would become inwoven in the texture and fibre of school life, and morals, like healthy perspiration, would suffuse the entire body.

There still remains to be mentioned as a means of teaching morals in our schools the text books in readers. These largely furnish the material to be employed in teaching morals—further, these make up the literature of school life. Literature is the outcome of the moral and intellectual life of a nation—it has gems of thought and beauty—the colour of the conception and the beauty of the expression can nestle nowhere so securely as in the school boy's memory; and often in days of darkness and loneliness, these shine out as stars of comfort and guidance—goodly thoughts and well chosen words that have cadence to the ear, music to the heart, and that gladden the imagination with a sweet delight—the gems often and unconsciously become the ideals of future life, and under new conditions and circumstances, arise in new and more elevating forms. Biography, the soul of history, furnishes examples of men, who though dead, are yet speaking; of patriotism, of moral heroism, self-sacrifice, purity, nobleness of moral influence. The literature of the world embodies the purest catholicity of creed in morals; and this kind of right reading ensures the right thinking, and in turn this secures the right kind of conduct. "As the man, or the child thinketh, so he is," and this constitutes the citadal of moral life. After a careful examination of our recognized school readers, at different periods of time, and after comparing them with competitors for attention, we are compelled from the view point of this paper, to to the conclusion, that considering the supreme importance of morals in school work, and on the lower plane of that work, and remembering that here, the direction of life is largely given—the switch point in fact is here—it were difficult to compile a class of readers more neutral, more colourless in moral tone, than those now in use. In fact lore in the physical sciences, and other departments of knowledge, reveals the purpose of the compilers, the controlling purpose, and the selections with distinctive moral aims, are incidental, and are not of such a character as to co-ordinate, and dominate the purpose of the books; they neither nerve the teacher nor inspire the scholar. To demand a reader made up of selections from the biography, history, poetry, and the laws set forth in that book, *par excellence* called The Book, is simply to honour the survival of the fittest: the analysis of expression, figures, references to nature, God, and duty, say of the Book of Job, the highest poetry of the sublimity of nature, orsections of the Psalms, the deepest and the truest lyricis of human experience, would for the teacher and taught, examiners and examined, do more for moral tone than Scott and Goldsmith seven times purified; and the hesitancy to follow in this line, and to make such a reader obligatory with other books, can arise only from the forgetfulness of a stern fact, that thirty years ago, when the foundations of our system of Public Education were laid, in a period of prolonged, and bitter controversy, what is now assumed to be an infallible and unchangeable principle, was simply a compromise to unite all the grades of religious opinion—and it failed in that. Separate schools were conceeded after the compromise was made, but we have continued to work by it. It is not an open question—that this Book dominates the literary work of modern life with its moral power. And what we wish to appear in national, life must be taught in our shcools.

HABITS OF STUDY.*

In gatherings of this description, when members of an influential profession meet to consider subjects bearing intimately upon their modes of work, and to discuss interests peculiar to themselves, it soon becomes difficult to select subjects that have not been worn thread-bare. While the three R's, arithmetic, writing, and reading have justly had the greatest attention given to them, they have become rather monotonous, and in common with some other branches, as history and geography, will never have, in my opinion, their best methods of instruction illustrated in the most efficient manner, until some master of the subject, and still more master of the art of successfully teaching it, can in our presence with his own pupils impress that art upon our minds by sight as well as hearing, by deeds as well as words.

Besides that knowledge and practical experience necessary to handle classes satisfactorily in the ordinary subjects as set forth in the "Official Programme of studies for the schools of Ontario," there are so many other matters that challenge the attention and demand the thorough acquaintance of anyone who may wish to attain to my ideal of a teacher, which in government—as the teacher stands in *loco parentis*, in the parents stead—is the happy union of self-control, justice, firmness, and affection, in teaching proper; the display of plainness, thoroughness, and sympathy in the mental troubles of his little learners; in scholarship, the possession of a culture at once broad and deep; in manners, the grace and attractiveness of a true lady or gentleman. The last division of my ideal is not the least important, as school life comprises the half of a child's concious existence from 6 to 16, and as the period of childhood is above all the other periods of life that of inititation. The pen or voice of some village Chesterfield may, and that ere long, open our eyes to the benefits that accrue to society from the graces and refinements unconsciously gained in the school-room by men and women, who as children came from homes where graces and refinements were never known. The first and second divisions, government and instruction, appear in part upon the Institute's mental bill of fare, I shall try to present a few thoughts upon the third division, scholarship, or more correctly the way to attain it, and the way to keep it when it has been attained. "Man," it has been tritely said, "is a bundle of habits," and since a considerable portion of a teacher's time is, or should be, spent in study, it is eminently important that he acquire correct mental and physical habits in pursuing his studies. I shall mention some habits, the possession of which to my mind seems necessary to any person who aims at becoming a successful student teacher.

The habit of economizing time: 'Time is money' in a student's business as well as a merchant's. The teacher with his Saturdays

*Read by the late S. P. Davis, M.A., at the Perth Co. Teachers' Association in Stratford, November, 1878; and also at the Durham Co. Association, Port Hope, last spring

long evenings and mornings—without mentioning his vacations—is the fortunate possessor of an abundance of this prime requisite of success. Many a bright lad on his feet from 7 in the morning till 10 at night in many a shop in our cities and towns would leap for joy at the thought of possessing one-sixth of the work-days of the year to devote to the improvement of his mind and to revel among his beloved books—now torn from his hand by a cruel necessity. "How shall I best economize that treasure," for one hour of which our proudest Queen once offered her kingdom, but offered in vain, should be the daily question of every student Time is lost by commencing studies that are never completed. The man who begins to build, but for some reason or other cannot finish, has been the object of centuries of derision. Never give up anything you have begun in your work, if it be right until completed Do not, to save time, rob your couch of the hours of needful rest, for the late sitter burns the candle of life at both ends; but while you do not trench upon that amount of sleep which is imperatively demanded by nature for the recuperation of the exhausted powers of mind and body, at the same time be careful that you do not shorten your days by lengthening your nights. I think—and experience and observation will bear me out—that the man who is never out of bed after 10 or in it after 6, will perform the most of any kind of labor that can be done in a day between those hours, and with the least amount of physical weariness. Keeping these hours, what time do we find at a teacher's disposal? From 4 to 5.30 for a bracing walk or a pleasant drive, with half an hour to look at school exercises, an hour to spend over "the cup that cheers but not inebriates," and to join merrily in the social chat and pleasantries of his lodging. Then from 7 to 10 every evening, and from 6 to 7.45 every morning gives 3¾ hours daily, exclusive of Saturdays, to devote to our books, those silent faithful friends that "give new views to life and teach us how to live," to roam with Homer by the fair flowing rivers in the land of Troy, to live with Milton and his sinless pair in Eden's bowers, to sail with Washington Irving and his Columbus towards the home of the setting sun, to hear again the lofty eloquence of Burke and the thunderings of Chatham; those silent, faithful friends of whom Cicero says, "they nourish youth and delight old age, add graces to success and afford a refuge and solace in reverses and griefs, delight us at home and do not hinder us in our business, are with us in the night watches, and go with us on our journeys and to our holiday retreats." Then husband your time. That man who can make two blades of grass grow where but one grew before is said to be a public benefactor, and I do not hesitate to say that he who could shew you a means of increasing the time at your command for private improvement, would prove a great benefactor to you. It is not necessary to fly from your books in order to rest your mind, for variety of studies will, if you acquire the habit, relieve and refresh the mind quite as well as entire cessation from study. So English, book-keeping, or science may interchange with mathematics, and result in saving time and avoiding mental fatigue.

The habit of Perseverance.—After you have laid down a good working plan of study, do not change often. "There is no royal road to learning," and a good deal of toilsome plodding is ahead of any teacher who would travel far on this same road to learning. He will need to back up all his mental and physical powers with a strong reserve of this "stick-at-it-iveness" in order to climb the Examination Hills which industrious Public Overseers have cast up in the way. "The indescribable virtue of standing in a spot," *nescia virtus stare loco*, was the quality, to the possession of which a Latin writer ascribed the marvellous successes of Julius Cæsar. Whatever he determined to do was done; when he planted his foot upon a place it was never with-drawn until his purposes were accomplished, and the result was that never before did the Roman eagles have a flight so bold or far. I saw a man try four times in succession to pass the final university examination for a degree in Arts. He taught his rural school every summer and winter, and his regular appearance every spring was a tradition among the undergraduates before I ever met him. At the fourth trial he succeeded. Repeated failures had not conquered his indomitable will. Hundreds would have abandoned the trial in despair, his persevering efforts in the end laid the garlands of victory at his feet. Some may think this perseverance, this devotion to study, can only be attained by sacrifices too great for them to make. Yes! there may have to be a little less sleep, a little less slumber, a little less folding of the hands to sleep, less time for arraying themselves in broad cloth and fine linen, still less for rounds of pleasure and the Saturday's ornamentation of the side-walk. Sacrifices, indeed of the greatest magnitude, but entailing small harm upon any young man who makes them.

Thoroughness. It has been said that passing through a course of study is like conquering a country. If you completely master everything you meet you will advance with confidence, but if you leave here and there a garrison unsubdued, you will soon have a force hanging on your rear that will inflict upon you endless vexation and trouble. I find that the cultivation of the faculty of observation is a valuable aid to thoroughness. Observation is a primary essential in obtaining a practical knowledge of the sciences, and I have tested its worth in improving some of my pupils' acquaintance with orthography. Steadily look at a word for a moment and the chances are its form will be indelibly impressed upon the mind. In turning up a word in a dictionary, always note its spelling, pronunciation, derivation and meaning in the passages cited. In Mathematics never be satisfied with "nearly right" for an answer. Accuracy and thoroughness are the only foundations upon which a solid, useful super-structure of learning can be reared.

The practice of writing any passage one may desire to memorize will be found a valuable help to the attainment of accuracy. Any mistake is recorded in black and white, and strikes one's attention in a way that is impossible in verbal repetition, while the advantage of comparison with the original is also obtained.

Reviewing.—After accuracy, application and economy of time have largely stored our minds with the treasures of knowledge, it behooves us to devise some means of preventing their loss. There are a few men who have memories so retentive that they retain their reading for a life-time, but with common mortals unless its acquaintance be renewed, the lapse of a few months will cause the details of a subject to grow dim, a year or two destroy its divisions, a decade blot out its last faint outlines from the tablets of the mind. If our means of bread-winning did not admit of any result different from this, the discipline received by our minds while acquiring the knowledge so soon forgotten, would still place us immeasurably above those of our fellow-toilers who had lacked our advantages. For in solving the problems constantly arising in some of the many phases of life, an untrained mind can no more equal one disciplined by study and strengthened by employment, than can the hand of the coal heaver vie with the skill that directs the lancet, or speeds the rifle bullet on its unerring flight.

But there is no excuse for any student losing his knowledge. One half-hour a day of the time mentioned before, spent in reviewing will keep of all the rust spots of forgetfulness that can possibly form. Many boast off trying to forget the attainments exacted by their teachers, as soon as they have served their purposes. I do not envy, and never desire to imitate, them. Without review the student pursues his way in a fog. Any one can travel in a fog—but with no degree of certainty or comfort, because that part of the road over which he has passed is hidden from his sight, and he can-

not discern his way-marks. This habit of reviewing will bring us to meet again our favorite passages—meetings which will have all the interest and pleasures of the rare interviews of old and trusty friends. One of England's finest critics has said that when men become old they find most pleasure in revisiting the scenes of their child-hood, so in their reading they pass by the multifarious volumes they have persued in their prime, and return to the Shakespeare and Horace of their boyhood hours, thus proving they can pluck the sweetest flowers in the gardens they know the best.

Attention.—Perhaps there is no mental habit so difficult to attain, and so hard to keep as that of attention. You shall see students ostensibly engaged at some study, whose imaginations have taken the wings of the morning—and the future lawyer or divine will be electrifying audiences by his eloquence, the young warrior bounding first into the deadly breach, charging at the head of his regiment amid "the pomp and circumstance of war," ardent disciples of Isaac Walton will be revelling in the prospect of cloudy May mornings and baskets of lusty trout, while intelligent young ladies demurely endeavouring to satisfy the unknown value represented by "x," have this moment concluded with supreme contentment that "that Miss. Jenkins looked perfectly horrid last Sun day," and that "Demorest's new style of hat is just lovely." The pleasures of imagination are sweet, but are only to be cautiously indulged in, for the world we live in is a world of realities, and not the fairy-land of dreamers, as its rude knocks often inform them. The mind is a restless rover and can only be tamed by a firm determination to keep it fixed upon the hard, dry task. This attention will come more readily to-morrow than to-day, and depend upon it you will never become distinguished in any way unless you can centre your entire being upon the work you may have in hand. A wiser man than I has said, 'there is a time for all things,' work as well as play. When you work, do it with all your might. Check promptly any desires for rambling away from the subject you may have in hand, and if from some cause or other, you cannot fix your mind attentively upon it—shut the book—for your time is wasted over it. Sydney Smith says of Coleridge that they were once engaged in conversation in the streets of London, with Coleridge in his favorite position—one hand grasping a button on his friend's coat—who as the poet dived into some abstruse subject, drew his knife, slipped off the button, walked around the square, and upon returning found the Author of the "Ancient Mariner" button in hand, busy conversing as if nothing had happened. Such abstraction is rare and perhaps undesireable, but is rather to be chosen than the rambling habits so common.

How to read a book:—I would commend to your consideration Bacon's "Essay on Studies" as an authority on this point. Here what he says, "Read not to contradict or confute; nor to believe or take for granted: nor to find talk and discourse; but to weigh and consider. Some books are to be tasted, and others to be swallowed, and some few to be digested; that is, some books are to be read only in parts, others to be read not curiously; and some few to be read wholly with vigilance and attention." Always look at and taste your mental fish before beginning to eat in earnest. Glance at the title page, note the publisher's name, scan the preface to see what sort of bow the writer makes to you. Take up a chapter and if you find it weak or common-place, throw the book aside. Mark those passages that arrest your attention by their depth of thought or elegance of diction, in order to facilitate future reference. Keep a note book or *lucus rerum* arranged according to fancy, and in it note references to illustrations, matters of history, geography and customs.

Physical Habits:—It is not my intention to enlarge upon this important part of my subject, for, fully concurring with Lord Lytton, "that life is too short for long speeches," I do not desire to wear out your patience with a long essay. It has always seemed to me somewhat strange to hear the student's calling termed an unhealthy one. Arduous I admit it is, demanding indeed a sound mind in a sound body, for its successful pursuit; but if a five years' experience will warrant the statement, I must aver, and that most strongly, that I do not believe the calling of teaching is of itself unhealthy. Even if we have to take an extra class or two out of hours—and the demands of our educational supervisors require that of most of us,—our work is concluded in seven hours. All the day long surrounded by ranks of merry little folks in their freshness, innocence, and beauty, coming nearest of animate things to the flowers with which the earth is decked to woo us to love it; every day meeting those "shining morning faces," and the fault is not theirs if they do not "shine" with intelligence the whole day through; it would seem to me the teacher may, if he choose, drink daily from the fountain of perpetual youth. Control your tempers and ventilate your rooms, and you will never find sickness there. In your study preserve eye-sight by sitting side-ways, or with your back to the window, by never reading during twilight, and by using a shade for your lamp. Sit erect at your desks and thereby avoid contraction of the chest, drooping of the shoulders, and curvature of the spine. An erect and well developed figure is a goodly possession, which, if the principles of physiology and hygiene are understood and practised, there is nothing in study to rob us of. Spring and summer months invite the student to the cricket-field and long rambles, and he may combine pleasure and profit if he take up the study of the plants and woodland flowers he may there meet with. In the stormy winter days when roads are impassable from snow or mud—the latter not an uncommon commodity in Ontario—the time honored saw-horse will repay its driver with a sharpened appetite and strengthened muscles. A pair of dumb-bells, or, better still, indian clubs, should be in every student's room; the latter when light are specially adapted to the use of ladies and admit of a wonderful variety of motion. Indeed I see no valid reason why our claims to the brown hands and bronzed cheeks of sturdy health are not as good as those of any calling except that of the sea, or of the tiller of the soil.

Patience:—Many an interruption must be expected during our study hours; it will not do to lose one's temper over them. Of all the virtues that of patience is perhaps the one most wanting among men generally, and among dwellers in the New World particularly. Our politicians are years in the public eye before they would dare to make a second speech in the British Commons. Our merchants look for their fortunes at every January stock-taking; our girls and boys are young ladies and gentlemen before in the old country they could appear among the home guests at an evening party. All this impatience to advance may, and does too often, communicate itself to our studies, and leads us to pass from book to book and from study to study without giving to each that closeness and amount of attention, that breadth and depth of research which alone can make a man a thorough and accomplished scholar.

It may not be out of place to ask in conclusion, whether the results that follow such application as I have here marked out, will sufficiently reward the student teacher. Leaving out of consideration the material advantages of largely increased salaries and improved situations, I may say in these days of official restraint and plentiful inspection, when promotion examinations, entrance examinations—intermediate examinations, professional examinations, and non-professional examinations are so numerous, that one would not be far astray in naming the time in which we live the "age of examinations," there is an amount of respect, self-command, and a sense of comfort, unknown before, when you can meet your examiner or inspector with the knowledge that your certificate or degree is as high as his own; and if your progress in the art of teaching—by which I mean what is comprised in ease and thoroughness in imparting instruction, tact and firmness in government, ability in organization, and a deep insight into child-nature—if your progress in this art of teaching has kept pace with your advancement in literature and science—as it will have done, if you are wise and desire to to become respected and eminent in your profession—then in mental training, organization, and deportment, few pupils will be found to equal, and none to surpass your own.

Epitome is good privately for himselfe that doth worke it, but ill commonlie for all other that use other men's labor therein: a sillie poor kind of studie, not unlike to the doing of those poor folke, which neyther till, nor sowe, nor reap themselves, but gleane by stealth, upon other men's ground. Such have empty barns for deare years.—*Ascham.*

THE PROBLEM OF TEACHING TO READ.

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

(Continued from last month.)

But perhaps the words which we received from the Norman-French settlers—words, several thousands of which we still have, like *palace, peer, parliament*, and others—will be of better and more regular formation, and will help the child with kindly experiences. Perhaps the symbols in them will be always true to the sounds ; and the sounds to the symbols. Not so. The case is nearly as bad in the Norman-French words as in English. The two malformations exist there in quite as pronounced a fashion, though not in quantity so large. Thus we have the first malformation—the case of the fixity of the symbol, and the fluctuation and uncertainty of the sound :

T ou rist = oo
P ou ltry = o
C ou nty = ou
C ou ntry = ŭ

And we have also the second malformation, where the one sound is rendered to the eye in several various forms—where the sound is fixed, and the symbol fluctuates.—Thus we have :

Iss ue
V iew
B eau ty
N ui sance
N ew
} = u

And

P eo ple
Rec ei ve
Rel ie f
Fat i gue
Est ee m
} = ē

Now an alphabet which spells a long *ē* with an *eo*, or an *ie*, or an *ei*, or an *i* ; or which spells a long *ū* with an *ue*, or an *iew*, or an *eau*, is not one which is of very great value for the learner. It is an alphabet which is true to its past ; but the gold lace and the cord and the tags and the broad flaps and the other ancient decorations of the coat only serve to make its inadequacy to the use of the child all the more marked and ridiculous.

What, now, of the LATIN NOTATION ? It is quite regular ; as is plain from the following :

D	ate			Con	sume
R	ate			Pre	sume
St	ate	Sound and Symbol always in Complete Accord		Re	sume
In	fer			Sub	vert
Re	fer			In	vert
Con	fer			Con	vert

But, though it is so perfectly regular, unfortunately for its use to us as teachers, its vocabulary relates to a set of conceptions which do not exist in the mind of a child What child learning to read knows or understands the words *resume, invert*, or *refer?* The Latin words in our language are terms more or less abstract ; they are the algebraical marks for totals of experience which the child has never had ; they form ideas or marks for a multitude of data not one of which has ever been placed in the child's daily life or experience. Our Latin notation must, therefore, for our present purpose, be left out of the count.

Now the two double and doubly fallacious notations of English and Norman-French are mixed up in ordinary speech and narrative ; and the child is set to learn this mixture. He has to work it into his mind by some process which it is very difficult for us to ascertain or to value. What is his actual experience, as he goes through this process ? The following is the

EXPERIENCE OF HIS EYE :

1. B oat
2. T oe
3. Y eo man
4. S ou l
5. S ow
6. S ew
7. N ote
8. B eau
9. H au tboy
10. Owe
11. Fl oo r
12. Oh !
13. O !

} = ō

1. W ise
2. B uys
3. P ies
4. Eyes
5. S ize
6. G uize
7. S ighs

} = i + s.

Here he sees a long *ō* written down in thirteen different ways. Amongst this confusion, he meets with such signs as *w* in *owe* or *gh* in *sigh*, which represent a vanished guttural. He sees a long ī with an *s* printed in seven different ways ; and yet the sound he renders it by is always the same.

Under these circumstances, the scholar's confidence in what he sees is shaken ; he cannot believe his eyes.

On the other hand, the following is the

EXPERIENCE OF HIS EAR :

1. S ea m
2. St ea k
3. Ea rth
4. H ea rth
5. Br ea d
6. Y ea

} One Symbol equal to Six Sounds.

1. Conc ei ve
2. H ei ght
3. V ei n
4. H ei fer

} One Symbol equal to Four Sounds.

The child is told six different ways of sounding one mark. He cannot believe his ears.

But the eyes and ears of the child are the only channels for his knowledge—the only avenues to learning ; and, if these are blocked up, it is difficult for knowledge to get into his mind.

The eye is trifled with, and a multitude of confusing appearances presented to it ; and so the attention and memory of the child are weakened from the very outset.

The ear is not kept faith with ; the child has to give different sounds to the same symbol ; what sound to give is always a question with him ; and so his judgment is puzzled.

There is no firm footing in the symbol—that is susceptible of the most various interpretations ; there is no reliance on the sound—that varies even with the same symbol, or remains the same with the most contradictory-looking symbols. The child the cannot trust to his senses ; these are outraged and disappointed in every way. The teacher must, therefore, train the child's *mind* ; he must look to every quarter of the intellectual horizon for what help he can get. He must also train or arrange the *mind of the language*, that is, he must so engineer it as to provide a gentle gradient for the children to walk up.

What the child has to do is not merely to make himself acquainted with 26 symbols of a fixed and permanent value, but with a very large number of self-contradictory habits of a people who were never allowed by circumstances to reach a harmonious develop-

ment, so far as the lettering of their words was concerned. He sees contradictions all around; he sees

CONTRADICTIONS of ENGLISH with NORMAN-FRENCH marking, of NORMAN-FRENCH with LATIN marking, of LATIN with ENGLISH marking, and of all with themselves and with each other.

In the two chief notations there are

CONTRADICTIONS OF

SOUND, EAR	with	SYMBOL, EYE
SYMBOL, EYE	with	SOUND, EAR.

The philological explanation of all this is, as has been said, that the English language is a vast conglomerate or pud ling-stone made up of several distinct and different home-dialects, as well as of Norman-French and Latin elements. It consequently possesses all, or parts of all, the notations of all these dialects and languages. And the error perpetually made in our primary schools is that the child is taught all these systems at the same time—as if they were all of one class, without the slightest sense that he is asked to do something that would be extremely difficult for a grown up man. He has to learn to recognise with promptitude and immediateness from two to five different systems of notation, mixed with fragments from others!

(To be continued.)

BURNS AND LONGFELLOW.

The following characteristic tribute to the peasant-poet of Scotland is from the pen of the greatest poet America has yet produced—the late H. W. Longfellow. It was first published a short time ago in the Edinburgh *Scotsman*:—

I see amid the fields of Ayr
A ploughman, who in foul or fair
Sings at his task,
So clear, we know not if it is
The laverock's song we hear or his,
Nor care to ask.

For him the ploughing of those fields
A more ethereal harvest yields
Than sheaves of grain;
Songs flush with purple bloom the rye.
The plover's call, the curlew's cry
Sing in his brain.

Touched by his hand, the wayside weed
Becomes a flower; the lowliest reed
Beside the stream
Is clothed with beauty; gorse and grass
And heather where his footsteps pass
The brighter seem.

He sings of love whose flame illumes
The darkness of lone cottage rooms;
He feels the force,
The treacherous undertone and stress
Of wayward passions, and no less
The keen remorse.

At moments wrestling with his fate,
His voice is harsh, but not with hate;
The brushwood hung
Above the tavern door lets fall
Its bitter leaf, its drop of gall
Upon his tongue.

But still the burden of his song
Is love of right, disdain of wrong;
Its master chords
Are Manhood, Freedom, Brotherhood;
Its discords, but an interlude
Between the words.

And then to die so young, and leave
Unfinished what he might achieve!
Yet better sure
Is this than wandering up and down,
An old man in a country town,
Infirm and poor.

For now he haunts his native land
As an immortal youth; his hand
Guides every plow;
He sits beside each ingle nook;
His voice is in each rushing brook,
Each rustling bough.

His presence haunts this room to-night—
A form of mingled mist and light—
From that far coast.
Welcome beneath this roof of mine,
Welcome! this vacant chair is thine,
Dear guest and ghost?

Promotion Examinations.

The attendance at the public schools being irregular, it is not easy to determine the average time a pupil requires to pass from one class to another. Industry and intelligence are also factors that must be taken into consideration. Generally speaking, there are only a few stupid children in any school; the teacher, who worries over these and tries to make them keep pace with their more industrious and intelligent class-mates, makes a mistake and does a great injustice to all his pupils. It is well to arrange school work so that the moderately clever pupil can easily overtake the lessons given for preparation. By this plan, the brilliant—always the exception—will have hardly enough. Still they need not be idle, as the teacher can without loss of time assign something out of the usual course of study for their improvement, for which they need not be marked on the class-register.

Admitting that the attendance is fair and that the pupils are of average ability, experience justifies the statement that two years is the maximum time that a pupil should occupy in passing from one class to the next higher. Let us put this into a practical shape and see what it means: A child starts to school when its seventh year is completed; at nine he is through the first class; at eleven, through the second; at thirteen, through the third; at fifteen he is through the fourth, or has passed the entrance to a high school. This rate of progress leaves three years in which to prepare for matriculation or a teacher's certificate before the eighteenth year is completed. On paper such a result appears satisfactory, and, if practically carried out, there are few parents who could justly complain.

But it is not uncommon to find pupils promoted simply to avoid the dissatisfaction arising from parents and guardians on account of their being "too long," as they say, "in one book." Yielding to this pressure works irreparable mischief to both teacher and pupil: to the former, by pointing out a method by which he may appear to be doing his duty when he is not; to the latter, by an introduction to work for which he is not prepared. Of course, when the highest class is reached, this must stop. A conscientious teacher who succeeds one guilty of such a practice, finds seas of trouble in store for him, in fact, it may take him years to gain the reputation of his less deserving predecessor. It it is hardly necessary to urge that classification by merit is a necessity, and, that the industrious teacher can, with a little skill, overtake the work and have parents under-

stand the importance of thorough preparation before proceeding to the next class. Every teacher may reasonably be expected—unless the circumstances are exceptional—to advance to the next class all the pupils of his school in two years.

Any lesson well given presupposes three conditions: a thorough knowledge of the mental state of the pupils, a complete grasp of the substance of what is to be taught, and a good method of teaching or presenting it to the class. Short of this, progress must necessarily be slow and precarious, but if these conditions are daily fulfilled, the teacher will from a short experience learn what he can accomplish in a week or a month, and be able to set his examination questions at the beginning as easily as at the close of either period. Most teachers question orally while giving a lesson, to test whether or not a communciation is being effected, and to guide them in the rate at which they should proceed. But it would be a mistake to rely on this test alone. While it does for the lesson under consideration, it takes no direct notice of what has been previously taught, hence the importance of regular examinations to ascertain the retentive power of the pupils and the effectiveness of the teaching.

A month's work, seems by general consent, to afford a field large enough for an examination. On this the majority of the questions should be based, the rest being from work done before the commencement of the month in question. It is thus seen how naturally a division of the programme suggests itself, but it must not be inferred that the same division would do for all schools; for this to be possible, teachers and pupils would require to be almost alike and we know they are not. Every teacher must make his own division. An interchange of questions among teachers is highly desirable, and frequently takes place where there is a healthy interest taken in the schools. The monthly questions should cover the whole ground, and be of such a character that an average pupil could almost answer the whole paper. It would be well for every pupil to have a copy of the questions, either written by himself from the dictation of the teacher or prepared by the teacher. Ample time is necessary in order that justice may be done to slow pupils; better give too much time for answering than too little. The results should be carefully read by the teacher and all the mistakes noted and fully discussed for the benefit of the class that made them. In fact it is a good exercise to have the same questions, after discussion, given for a home or a desk exercise. "Working the old questions" is a motto of much importance, which cannot be discarded without injury to the school. When all the answers are read, the results should be tabulated and placed in a conspicuous part of the school. If reports are sent to parents, the marks obtained in each subject are an essential part of them. Teachers generally keep copies of monthly questions; these indicate the extent of the month's teaching and should never be thrown aside as useless. From them may be gained the clue to a division of the programme into parts sufficient to occupy definite periods of time.

QUESTIONS FOR PROMOTION.

BRAMPTON PROMOTION EXAMINATION.

DECEMBER, 1882.

READING.

CLASS I. TO II.

Page 58—"Henry Bell's mamma————run away and leave them." Value—100.

II. TO III.

1. Page 223—"Poor Whittington————for Dick's benefit."
2. Page 106—"A rose's brief————Would I had lov'd him more." Value—50.

III. TO IV.

Page 256—"Fine Ear" to bottom of page.
Value—50.

WRITING.

CLASS I. TO II.

Page 70—The last stanza of "A Child's Verse."
Value—50.

II. TO III.

Page 66—"My day or night————Although a poor blind boy.
Value—50.

III. TO IV.

Page 113—The first three stanzas of "The Mouse's Petition."
Value—30.

SPELLING AND DICTATION.

CLASS I. TO II.

(Three marks off for each error.)

1. "Jack's hat flew off, and all his friends tease him."
"Where to climb the fence."
"Fred Hughes found a grey-bird's nest in the beech tree."
"All must hate a lying tongue."
"Great God to Thee I bend my knee."
"They saw him sprawl on the ice."
"Two dogs went to drive off the bull."
"If Keep could break loose, he would seize any one.
"Nor dare abuse the things which God has written here."
"Mr. Carp cut the pear into two halves."

2. Squirrel, ceiling, guide, whelm, yield, deign, good-bye, rogues sleigh, thieves.
Values:—1, 70; 2, 30. Total—100.

CLASS II. TO III.

(Four marks off for each error.)

1. "Regardless of the passers-by."
"The hosier agreed to challenge the Indian."
"Matronly cows were offended at the unusual salute."
"Major Fitz-warren addressed the loyal company."
"Dangers were incurred through ignorance in steering."
"The pilot's pistol alarmed the roguish elfin."
"Jenny Wren danced daintily and sang prettily."
"To desolate and mar in a moment's reckless folly."
"Matilda's meddlesome tricks did mighty mischief."
"Darwin's dog, Argus, moaned dreadfully."

2. Demurred, complaisance, descendants, wriggle, caressing fatigue, prophecy, guidance, courtesyed, ingenious."
Value:—1, 70; 2, 30. Total—100.

CLASS III. TO IV.

(Four marks off for each error.)

1. "Will you pare my pear?"
"Gazed with inexpressible pleasure."
"I see vultures, harpies, and ravens."
"Dissipated part of the mist."
"Mirza," said he "I have heard thee in thy soliloquies."
"East, for one-and-sixpence, purchased a leather paper case."
"His cherub-boy he kissed."
"Unintelligible to a foreigner."
"Tied inextricably together."
"Scene of a tragedy of more recent occurrence."

2. Pumpkin-pies, personable, ignominious, tragical, reprieved, cutlass, calibre, missiles, halliards, superciliously, coffee, digestion, shrouds, nauseous, sovereignties, epitaph, prebendary, respite, wheresoe'er, apparel.
Value:—1, 40; 2, 60. Total—100.

ARITHMETIC.

CLASS I. TO II.

(Full work—slates.)

1. Write in words 1090, 2703, 4260, 7009, 10140; write in figures nine hundred and ten; two thousand and twenty-six; six thousand seven hundred and one; and write in Roman Numerals 987, 1682.
2. Find the difference between 48692327986 and 50784301673.
3. 768—415+16821—2746—256+2756—327.
4. John and James played marbles; when they began, John had 55, and James 45; the first game John lost 5, the second he lost 7, the third he lost 8, the fourth he won 4, the fifth he won 2, the sixth he lost 4. How many marbles had each when they quit playing?
5. Write down "9 times" of the multiplication table.
6. A lady bought 4 hats at $6 each; 7 pairs of boots at $5 a pair; 2 pairs of gloves at $2 a pair; how much did all cost?
7. A man bought a house for $4900, a farm for $8560. He sold both for $16740; how much did he gain?
8. A boy bought 4 lead pencils at 5 cents each; one pair of skates at 175 cents; a book at 50 cents; a slate for 15 cents. He gave the store-keeper $4; how much change should he get?
9. 98673+10370634+97+964732+98+84944849+9.
10. From 7630005 take 3270006.

Values:—10 each. Total—100.

CLASS II. TO III.

(Full work—paper.)

1. Define Abstract Number, Concrete Number, Subtrahend, Dividend, Product.
2. Write in figures:—One thousand, one hundred and one; fourteen thousand and fifteen; eight hundred and nine. Write in Roman Numerals:—999, 1010, 8748, thirty-five. Write in words:—25700, 7070, 11911, and 10061.
3. Multiply 784365 by 38706 and divide the product by nineteen thousand, three hundred and fifty-three.
4. What number must be subtracted from 3050 to get a remainder exactly divisible by 55?
5. How many lbs. are there in a barrel of beef? a barrel of flour? a bushel of oats? a bushel of wheat? a bushel of Indian Corn?
6. For how much must I sell 50 barrels of pork per lb., which cost me $8 per barrel, so as to gain $100 on the whole?
7. Divide $50 between Willie and Tom, giving Willie $3 as often as Tom gets $2.
8. Find the value of $24\times32\times36\times144\div(8\times108\times64)$.
9. What change should I get out of a $10 bill, after paying for 8 lbs. rice at 6 cents per lb.; 4 lbs. currants at 8 cents per lb.; 5 lbs. sugar at 11 cents per lb.; and 6 lbs. tea at 65 cents per lb.?
10. I sold one half of a farm for $3525 at $75 an acre. Find the number of acres in the farm.

Values:—10 each. Total—100.

CLASS III. TO IV.

1. Define Unit, Number, Factor, Prime Number, and Composite Number; and give an example of each.
2. Define Reduction.—Reduce
   (a) 3296879 inches to miles.
   (b) 3 thousands, 2 tens, to units.
3. 109 ac. 3 ro. 13 per. is divided among 4 boys and 3 girls, so that each boy gets twice as much as each girl. Find how much do all the boys together get.
4. Find the least number that can be divided by 6, 9, 12, 15 and 21 respectively, with a remainder equal to their highest common factor.
5. How much is $\frac{55}{160}$ of an acre? Give answer in roods and perches.
6. How much carpet 2 ft. 6 in. wide will it take to cover the floor of a room 27 ft. 10 in. long and 8 yards wide?
7. Write down the tables of linear and square measure, and show how the number of square yards in a square pole may be deduced from the number of yards in a linear pole.
8. Find the sum, difference, product, and quotient of $3\frac{7}{8}$ and $2\frac{1}{2}$.
9. Divide 33772 lbs. 10 oz. 18 dwt. 15 grs. by 5463.
10. A clerk earns 50\frac{1}{2}$ per month. He paid 19\frac{3}{4}$ for board, 8\frac{7}{8}$ for washing, 16\frac{5}{8}$ for other expenses; how much does he save per month?

Values:—10 each. Total—100.

GEOGRAPHY.

CLASS II. TO III.

1. Define shore, volcano, cape, island, peninsula, swamp, isthmus, lake, and mouth and source of a river.
2. Name one river emptying into each of the following bodies of water:—Arctic Ocean; Atlantic Ocean; Pacific Ocean; Hudson Bay; and Gulf of Mexico.
3. What direction are the following from Brampton:—Toronto, Milton, Malton, Streetsville, and Forks-of-the-Credit.
4. Name 3 mountain ranges, 8 capes, 6 islands, 4 peninsulas, and 8 lakes in North America.
5. What railroads pass through the county of Peel; mention one town or village on each.
6. Explain your reasons for beliving that the earth is round.

Values:—1, 10; 2, 5; 3, 5; 4, 10; 5, 10; 6, 10. Total—50.

CLASS III. TO IV.

1. Define Estuary, Inlet, Comet, Isthmus, Latitude.
2. What and where are May, Chesapeake, Horn, Galt, Belleville, Montreal, Brandon, Canso, Chatham, Emerson, Nepigon.
3. On what bodies of water are the following respectively situated:—Winnipeg, Kingston, Owen Sound, Quebec, Goderich, Belleville, Rio de Janeiro, Lima, Barrie, Brantford?
4. Where are the following products found in Ontario:—Salt, Copper, Silver, Petroleum, Timber?
5. Name two towns on each of the following railways:—Grand Trunk; Credit Valley; Northern; Canada Southern; Toronto, Grey, and Bruce.
6. Name the principal lakes and rivers draining into the St. Lawrence.
7. Name and locate the principal bays and gulfs of the Maritime Provinces and Ontario.

Values:—1, 5; 2, 11; 3, 10; 4, 8; 5, 10; 6, 10; 7, 21. Total—75.

LITERATURE.

CLASS II. TO III.

Open Second Reader at page 30, and write answers to the following:—

1. Who was the mother of Joseph and Benjamin?
2. What is meant by "jealous?" Why were Joseph's brothers jealous of him?
3. What is the difference between "herd" and "heard?"
4. What are "Shepherds?" "Merchants?"
5. What was the name of the king of Egypt at this time?
6. Give meanings of—"famine," "stories," "sacks," "hostage," "flocks," "wealth."
7. Tell anything else you know about the life of Joseph.

Value:—1, 6; 2, 6; 3, 6; 4, 6; 5, 5; 6, 12; 7, 9. Total—50.

CLASS III. TO IV.

Third Book opened at page 256—"Beth Gelert."

1. Give the meanings of "brach," "peerless," "chaos," "portal seat," "gouts of gore," "frantic," "The blood-stained cover rent," "suppliant," "rue," "sculpture," "heir," "hilt."
2. Who were "Beth Gelert," "Llewellyn?" Why is Gelert called "The flower of all his race?" In what way did he resemble a "lamb?" a "lion?" Where is "Snowdon?"
3. Tell why the sorrow described in this lesson was so great. What does "horn" mean in this lesson?
4. Write from memory five stanzas of "The Wreck of the Hesperus."

Values:—1, 20; 2, 15; 3, 5; 4, 10. Total—50.

GRAMMAR.

CLASS III. TO IV.

1. Divide into noun part and verb part:—
   (a) Six of the Toronto men were there.
   (b) Willie, do you know your lesson?
   (c) The papers in the safe and desk were scattered about.
   (d) Come at once to see me.
2. Compose sentences containing respectively:—An abstract noun, a pronominal adjective, a phrase, a noun in apposition, a relative pronoun.
3. Parse—"The mother gave in tears and pain the flower she loved best."
4. Define Antecedent, Voice, Abstract Noun, Collective Noun.

5. Decline—Man, lady, poet. Write the poss. plural of money, chimney, axis, brooch, salmon; the feminines of lord, boy, duke, Sir, hero, Czar, nephew; and the objective case of who and he.

6. Correct the following, giving reason:—

(*a*) She sings nice.

(*b*) Will I divide the apples between the three boys?

(*c*) The teacher asked my sisters and I if the horse trotted good.

(*d*) Sir Garnet Wolsley will be the thirteenth commander whom Her Majesty will have made peers.

7. Write out the inflection of present tense subjunctive of the verb "to gain."

Values:—1, 16; 2, 10; 3, 24; 4, 10; 5, 21; 6, 15; 7, 6. Total—102

COMPOSITION.

CLASS III. TO IV.

1. Write six sentences on:—"What boys and girls should be."

2. Write sentences containing the following words properly used: ring, wring, grown, groan, style, stile, course, coarse, browse, brows,

3. Exemplify, in sentences, each of the parts of speech.

Values:—1, 18; 2, 24; 3, 8. Total 50.

CANADIAN HISTORY.

CLASS III. TO IV.

1. What two colonies were founded in the Northern part of the New World? Mention the persons connected with their discovery and colonization.

2. Mention the circumstances connected with the following dates:—1497, 1713, 1763, 1837, 1774.

3. Name the tribes of Indians which Cartier formed in America; describe the territory held by each.

4. Write a short account of:—Champlain, Montcalm, U. E. Loyalists.

5. What is a "Bill?" An "Act of Parliament?" When is Parliament said to be "Adjourned?" "Prorogued?" "Dissolved?"

Values:—1, 12; 2, 10; 3, 8; 4, 10, 5, 10. Total—50.

EAST MIDDLESEX PROMOTION EXAMINATION.

NOVEMBER, 1882.

SPELLING.

CLASS II. TO III.

Value, 87 marks; for every error in spelling, 3 off; in capitals and apostrophes, 2 off; in punctuation, 1 off. Dictate the punctuation marks.

1. "And where may you be going so early?" he asked.

2. "Oh, I m going to grandma's," said Red Riding-Hood; for she thought there was no harm in being civil.

3. That with the world, myself, and Thee,
I, ere I sleep, at peace may be.

4. The sheep's "Bleat! bleat!" came over the road.

5. Who taught the busy bee to fly?

6. Bertha ran to the sewing-room for her mother's scissors.

7. Then she tied a thread round her dolly's waist.

8. Faust ceased howling, and redoubled his efforts to keep himself afloat.

9. "What are you going to do at Mrs. McKay's?" inquired several impatient members of the party.

10. This is the deliberate opinion of a gray-headed old man.

11. The kite was carried up on the breeze as lightly as a feather.

12. My dear children, I wish to teach you the value of perseverance.

CLASS III. TO IV.

Mark as for 2nd to 3rd Class.

1. Peter Bernard, never put off until to-morrow what you can do to-day.

2. A treasure surpassing Australian ore.

3. And never let thine heart be shut against the wretch's cries.
For here forlorn and sad I sit within the wiry grate.

4. He merely straightened himself up for a moment, and then busily proceeded with his occupation.

5. Then off we hie to search the balm in its odorous cell.

6. "Why so severe?" the cub replies;
"Our senate always held me wise."

7. The effects are very different from those of a blow from a tiger's talons.

8. The young pedestrian was trudging on steadily.

9. Sly Reynard surveyed them with gluttonous eyes,
And made, spite of morals, a pullet his prize.

10. When the colony of Pennsylvania was pressed for provisions during a time of scarcity, the Indians came to its assistance.

11. Poor Diggs took a good deal of notice of East and Tom.

12. Hurrah! hurrah for Canada,
Her woods and valleys green.

[The Dictation at the last H. S. E. Ex. was: Fourth Reader, page 159, lines 9 to 14; page 213, last stanza; and the following selected words: precipice, buttress, seized, seditions, consummate, prodigious, trophies, sanguinary, miscellaneous, allegiance, volunteering, scurrilous. Eleven errors cancelled the total value (22)]

COMPOSITION.

CLASS II. TO III.

Write a composition about yourself. Tell your name, how old you are, and how long you have been attending school. Write at least three complete sentences; make a period at the end of each sentence. Value—20.

CLASS III. TO IV.

1. Give the reason for each of the nine capitals in the two following sentences:—

Forgive me, Lord, for Thy dear Son,
The ill that I this day have done.

The farmer was heard to say, "We must depend on ourselves, John."

2. Write a sentence using an interrogation mark, another using an apostrophe and a period, and a third using a comma and a period.

3. Suppose there is going to be a public examination at your school. Write an invitation to attend it to a young friend residing in another school section. About six lines.

4. Write a short composition on "Good Manners." Tell why we should try to cultivate and practise good manners. Describe how we should address our elders, parents, teachers, etc. Describe good manners in the play-ground, at the table, and in church.

In examining consider (1) originality; (2) correctness of statement; (3) completeness of sentences, (4) general arrangement; (5) absence of verbal repetition; (6) punctuation and capitals; (7) spelling; (8) syntax; (9) penmanship; (10) general neatness.

Values:—1, 18; 2, 9; 3, 25; 4, 30. Total—82.

ARITHMETIC.

CLASS II. TO III.

1. Write in words 102,030; 5,600; 1,000,004. Write in figures three numbers: 10 thousand, 9 hundred and ten, 3 millions, 701 thousand and 12; ninety thousand, 8 hundred and twenty-five.

2. Add (*Six marks each.*)

(*a*)	and	(*b*)
2976385697		5079;
8385896754		6839;
9999999999		28:
875368281		48689737:
7891234567		269;
3456789123		87468;
8763867168		25839856.

3. Subtract 78,987 from 500,000; then, 78,987 from the remainder, and keep on subtracting 78,987 in like manner until you have exactly 105,065 left.

4. Multiply 29003805 by 620080 and divide the product by 3.

5. How often is 197 contained in 12 millions?

6. Divide 201,011 by 132 using the factors 11 and 12 by short division, and prove your answer by multiplying without factors.

7. (*a*) What number is greater by 43 than 17 times nineteen? (*b*) What number is less by 19 than 43 times seventeen?

8. (*a*) How much can 9 boys earn in 13 days at 65 cents a day? (*b*) Tom had one hundred and ten marbles; he lent 14 to W and 17 to R; then he bought 27 from H and gave twelve for a lead pencil; R paid him back all but 9, and he lost 5. How many had he when he went home?

9. Mary sold 25 dozen eggs at 19 cents a dozen, and 17 lbs. of butter at 25 cents a lb. She bought 36 yards of calico at 14 cents a yard. How much money had she left?

Value 12 marks each. Count 100 a full paper.

CLASS III. TO IV.

1. Take the sum of all the odd numbers *between* 8,768 and 8,790 from the sum of all the even numbers between 15,623 and 15,611, divide the difference by 315 using factors two of which are 5 and 7.

2. (*a*) In 17 tons, 11 cwt., and 48 oz., how many lbs.?
(*b*) In 2,520 yds., 0 ft., 0 in., how many miles?

3. (*a*) In 7,879,654 weeks, how many days? how many hours?
(*b*) In 8 gallons, 96 quarts 64 pints, how many gallons?

4. (*a*) How many square yards would be left after 2 sq. ft., 6 sq. in., is cut off 761 sq. rods?
(*b*) How many cubic feet of cord-wood (4 ft. long) are left of a cord after a pile 4 ft. high, and 2 ft. 6 in. wide is burned?

5. Make the bill of the following transaction: Mrs Alden bought of Messrs. Cayton & Co.

5 lbs. 4 oz. lard @ 12 cts. per lb.
3 pks. of potatoes @ 45 cts. per bushel.
1 quart of vinegar @ 60 cts. per gallon.
3 ducks @ 50 cts. per pair.
16 herrings @ 25 cts. per dozen.

6. The blocks of land in London Township are one and one-half miles long, and seven furlongs wide. How many steps of 2 ft. 6 in. would a person have to take in walking around one block?

7. The old Winchester bushel of wheat weighs about 60 lbs. and contains 2,150 cubic inches. How many such bushels in a bin of clean wheat 4 ft. wide, 5 ft. high and 10 ft. long? The Imperial bushel contains 2,218 cubic inches.

8. A man has a hall 25½ ft. long to cover with oil-cloth. 12 feet in length of the hall is 9 feet wide and the rest is 6 feet wide. He has one offer at 10c. per square foot and another at 87½c. per square yard. How much cheaper is the second offer?

9. (*a*) A boy has to divide two millions by 136, 157, 210, 343, and 504, using factors. There is one particular factor that is in every one of them. What is it? Put the work of finding the factor on the paper. (*b*) Find the smallest exact dividend of the first three divisors, (136, 157, and 210).

10. Find the sum of $7\frac{1}{2}$, $\frac{2}{3}$ of $\frac{27}{8}$, $\frac{1}{6}$, $\frac{5}{18}$, $2\frac{1}{5}$ of $\frac{17}{22}$, $289\frac{1}{10}$.

Value, 12 *marks each.*

GEOGRAPHY.

CLASS III. TO IV.

1. What name is given to the people of this country? What is the name of their language? What (in one word) is their religion?

2. Name four important products (exports) of this country.

3. What is a boundary line? Give an example of a mountain range that separates two countries, and of a river that separates countries.

4. Bound the township, town, or village in which you live.

5. What is an imaginary line? Give the names of the three imaginary lines. What part of the boundary of this Dominion is an imaginary line?

6. Define: Isthmus, basin or valley of a river, sea, falls, tides, eruption of a volcano, equator, earth's axis, latitude.

7. In what direction from the school is London City, Toronto, Sarnia, Ottawa, and Winnipeg? Name a railroad that runs through each.

8. Draw a map, marking the counties of Ontario on the River St. Clair, Lake St. Clair, and River Detroit.

9. Draw a map of about twenty miles of any railroad in this county, marking township and stations.

10. What and where are: Niagara, Saskatchewan, Vancouver, Fundy, Florida, New Orleans, Chili, Old London, and Blanc?

Values:—1, 6; 2, 6; 3, 6; 4, 6; 5, 6; 6, 18; 7, 10; 8, 12; 9, 6; 10, 18. Total—94.

GRAMMAR.

CLASS III. TO IV.

1. Analyze as fully as you can:

Francis, a farmer's son, took care of his father's cows in the forest.
Each of them had a bell tied round her neck.
One day a man passing through the forest said to Francis, "What a beautiful bell!"
Is the master at home?
Come in quickly my worthy fellow! my good fellow! Five pounds was offered to whoever found a bag containing £100.
I'll give it to you for the £5.
Now, here is Francis.
What have you to say.

(*Four marks each for full analysis, three for correctly dividing into subject and predicate.*)

2. Parse: Poor Francis went home, his eyes swollen with crying, "Ah!" said he,"

3. Quick, quickness, quickly. Write three simple sentences containing each of these words. Tell what part of speech each is and state the reason.

4. Select a suitable adjective and give its degrees of comparison. Select a pronoun and give both numbers of its three cases. In the example give the names of degrees, cases etc.

5. Correct and state reason:

They do not attend school very regular.
We have went through reduction twice.
I like going to school pretty good.
Him and I is in the same class.
May we carry the ladys basket?
Six months interest is due.
Which is best—my writing or his?
"Where are you going," says I to him
I laid down, I was so tired.

(*One mark each for correction; three for reason.*)

6. Which is right to say?

"I will teach you better," or "I will learn you better."
"When will we see you again?" or "When shall we see you again?"
"The jury was locked up," or "The jury were locked up."
"Give me the lend of your pen," or "Give me the loan of your pen."

7. Correct:

lord lorne, governor general of the dominion of canada.

Total 140 *marks. Count* 120 *a full paper.*

Values:—1, 36; 2, 36; 3, 12; 4, 7; 5, 36; 6, 8; 7, 3. Total—138.

Practical Department.

HOW CAN WHISPERING BE PREVENTED.*

Hardly a class or a lesson passes by but the teacher has occasion to complain more or less of whispering, which interrupts the instruction, if it does not render it fruitless. What can be done? In order to give a satisfactory answer it is necessary to find out (1) who whispers, and (2) what is the reason. If whispering is constant and general during school-hours, the teacher is to blame. If only a few whisper, they are the so-called chatter-boxes who cannot refrain during lessons from sharing their thoughts and observations with their neighbors.

Every class has some scholars who cannot keep from chattering, whose tongues are never quiet, who very soon tire of any teaching, and who then yield to their own thoughts and communciate their notions to other children. They are thoughtless and playful. Commands and censure are of but momentary service, because they are used too often and are not commensurate with the cause. Each fault should have its peculiar remedy. Poor writers have to make copies, and poor scholars have extra lessons to learn; chatter-boxes who disturb the recitation and the class must be isolated in order to be made harmless. They should be shown to a separate place, seated on the end of a bench, or on the bench directly in front of the teacher's desk, so that they shall have no opportunity for whispering.

If whispering prevails in the whole class, or in certain recitations, the teacher's method is not suitable. He goes on too slowly or too quickly, speaks monotonously or too rapidly, is too wordy or expresses himself in phrases which the children do not understand. Then he should direct his attention to himself and correct the faults in his method of teaching.

*Translated from the German of Friedrich Körner by Marion Talbot, A.M., for the New England *Journal of Education*.

Whispering in general is caused by a lack of interest on the part of children, and by their need of activity and occupation. Idleness is the source of all vices. Accordingly the teacher should know (1) how to awaken interest, and (2) how to occupy the children and make them participate in the instruction.

Not all subjects of teaching are capable of being made particularly interesting. This is not the task of instruction, but properly comes within the province of method. In order to put life into instruction the teacher should be clear and intelligible in his statements, keep going forward, explain how the lesson can be applied, and call attention to the difficulties it presents, which yet are to be overcome.

The teacher must not teach too much nor too long at a time, but must examine the pupil in what he can find out, infer, and conclude by himself. In these questions the subject should be grasped from all sides, beginning from the end and going backward, breaking into the middle and so on, in order to show what goes before and what must result. At the end of the week there should be a review of what has been done during the week. The same should be done at the end of the month and term; in one case the teacher should pay attention to details, and in another be satisfied with a summary and make comparisons. In this way the lessons constantly assume a new aspect, and offer new points of view, and the pupils are obliged to reproduce them independently according to different perspectives.

In order to encourage this independence, the teacher, should cease explaining at the point where the pupil can draw the conclusion for himself. Or the teacher can point out the aim, and ask what means are suitable for reaching it: or what has been learned can be applied in similar cases. In this way the pupil shares to a certain extent in demonstrating the lesson; the result is evidently his work, and this excites his ambition and interest and impels him to an activity which leaves no time for whispering.

The teacher should avoid questioning the pupils in regular order, but should skip about so that no one will be sure but that he may be called upon suddenly. Nor should he stop too long with one pupil, lest the others become tired. If the one who is questioned cannot answer, the teacher should ask another to help him out, and the first one should then be made to repeat the correct answer. Between whiles the other pupils should be asked why the answer was right or wrong. In brief let every question be directed to all, and then no one is sure but that it is meant for him. It is injudicious to call the pupil by name before answering the question. The question should be asked before the scholar is called upon for the answer. All must be prepared in this way to give the answer. It is well, after an answer is made, to ask another scholar whether it was right, and for what reason. If a scholar has something to write on the board, the others should meantime be examined on what he has to do. How shall he begin? What shall he do now? What mistake has he made? Why? What has he left out? etc. If the the questions are put here and there, to this one and that one, whispering is stopped. If a chatterer is discovered, he must be made to repeat what has been said, and be more frequently questioned than the others.

If the scholars have to read from a reading book, the teacher must not keep his eyes fixed on his book, but glance about frequently so as to keep the class constantly under his eye. He must know what is in the book, and be able to tell from what is read where the place is. If a pupil looks up from his book and sees that the teacher is looking, not on his book but on the class, he knows he is watched. His glance meets that of the teacher. If the teacher moves about the room and calls, "John isn't looking at his book," the class knows that they are carefully watched, and stop talking. If, during the lesson, the teacher notices that one or another scholar is talking with his neighbor, he should suddenly stop. The whole class is startled as well as the chatterer, who should be asked whether he is ready to let the recitation go on. If these measures are of no avail, the whisperer should be shown to a separate place, as has been said, and be made to stand in such a position that the class shall be behind him, and that he can make no signs or grimaces. In order that he may not be altogether tired out, he should be allowed, after ten or twenty minutes, to sit down close to the teacher's desk. He must be a very hard case if these measures will not lead him to stop making trouble.

The entire cure for whispering rests simply in the inquiry "When and for what reason do the scholars whisper?" They are tired, either because they feel no interest in the lesson or because they lack employment and active participation in the work. If these causes are removed the necessary results will not be manifested.

In visiting schools one often notices that the teachers pay special attention to a few scholars,—usually the best,—while the others find the time hanging heavily, and know in advance that they will not be watched. Accordingly they look about for some way to make the time pass,—and talk, play, and plan all kinds of mischief.

THE TEACHER AT HOME.

Let us talk of the teacher in her home, or rather in the boarding-place. For it is sadly true that the great majority of our teachers are compelled to board. It is also sadly true that, with rare exceptions, boarding-places are not true resting-places. Often a room without a fire compels the teacher to share the general sitting-room with the family, and happy is that teacher whose nerves are so sound that she can endure the day's demands upon them without craving a quite evening for recuperation. There are teachers who can lock their school-room doors five minutes after the session, and give no further thought to school and its duties until they arrive next morning, just in time to ring the bell. It is barely possible that these gifted geniuses can do as faithful work as those who spend hours of patient thought and study outside the regular session. We will give them the benefit of a doubt; but most teachers need to give some study to their work, out of school-hours.

Every teacher ought to have a place, however small, where she can have at least one hour of perfect quite every evening. Nothing rests the tired nerves so much. Just in proportion to the energy with which the teacher throws herself into her work ought she to rest. You do not realize, young teacher, now in the bright flush of womanhood, with pulses bounding with health and strength, that this constant nervous activity is quietly sapping the foundations of life. You are prodigal of your strength. Perhaps at thirty-five you will find that the nerve-power God intended should last you to three-score-and-ten is already wasted. Then, with nerves strung to the pitch of agony, you may be called to lay aside your work, to resign the pleasures of independence, and to linger out an existence fraught with pain and sorrow. Do not be guilty of such criminal carelessness and self-neglect. Insist, from the very first, on a room to yourself, comfortably warm in winter. Your salary is so small you can't afford it? Undoubtedly that is true, but *it pays* here to be what seems extravagant. Keep your health sound, and you may work for years; ruin it, and you will soon become a burden instead of a help to others.

Sleep is God's best gift to school-teachers. Sleep as much as possible. Let your head be on your pillow at half-past nine every night, and keep it there just as long as the family breakfast-hour will permit. Try it for one year, and see how much easier the government of your school becomes, when you come to it fresh from

a long night's sleep. The world never looks so dreary, nor life so hard, as when tired nerves are struggling with its burdens.

When you get tired and discouraged over your school, eat a hearty supper, take a brisk walk, a warm bath, and go to bed. A nourishing meal and a good night's sleep are often the measure of the difference between hope and despair.

"But if I retire early I cannot sleep." Try it by following the plan continuously for one year. You cannot expect to overcome habits of long standing in a week. See that bed and bedding are properly aired daily. Have your beds out of doors in the sunshine frequently, and you will surprise yourself by falling asleep in good season. A large part of sleeplessness is due to improper habits in regard to the care of sleeping-rooms. The poisonous exhalations from the body, absorbed by bedding during the night, are not dissipated by an airing while the occupant of the room is at breakfast. Retained, they become an active excitant to the nerves.

If the teacher retire early, it necessarily follows that she cannot give much time to social duties, nor should she. Resign Friday evening to social enjoyment, and take comfort in throwing off all care. Spend a part of your vacations in social pleasures. And here let me suggest the wisdom of going entirely away from home and friends for a longer or shorter time, as your purse will allow.

Save your five-cent pieces during the year, and take a week at Nantucket in August; go to some seaside resort, where you will combine the salt breezes with some society. Go where there are no school-teachers, if you can, and do not speak of school while away. There is a time when teachers should meet teachers, and by the interchange of thought, gain inspiration for their work; but, to save herself from becoming stereotyped, the teacher should have contact with people of other interests.

If the trip with board to pay is impossible, visit some friend in the country. Rake hay, weed the flower-garden, go rowing,—do anything that will keep you out of doors and develop *muscle*. Teachers unfortunately do not have time for sufficient muscular work, to counterbalance the demand upon brain and nerves. Twenty minutes' exercise with bean-bags in the open air, after a hearty meal will enable you to work with a clear head the rest of the evening. Be out-of-doors as much as possible. In the pleasant summer weather, take your work out-of-doors, if you must work. Let the sunshine tan your cheek and steal away the lines of care left by the winter's work. Let the wine of the October air get into your blood, and give tone and vigor to the system.

Another desirable means of rest for the teacher is to be found in fiction of the right sort. When you return from school tired out and perhaps discouraged, take up an interesting book and read until tea-time. The suspension of your anxiety for a time is rest in itself; and often the interest aroused by the story invigorates the whole action of the mind. But let the fiction be of that instructive yet entertaining character that will elevate while pleasing. Such works as Eber's "Uarda," "Egyptian Princess," "The Sisters," "Burgomaster's Wife," and "The Emperor," or George Eliot's "Romola," are worth a small library of histories from which a tired teacher turns with weariness and too often with a pang of conscience that she cannot make herself "want" to read them.

When the evening's study is over, if you cannot take a short walk to turn the current of your thoughts, take twenty minutes of self-forgetfulness in your story, and sleep will come sooner and be sweeter than if the transition from work to the pillow be made at once.

The reading of history and kindred subjects should be done earlier in the day; and a careful economy of spare minutes will give you half an hour daily for solid reading. Let this be suggested by the story you have read; then it will be full of life and interest. For instance: read Dickens' "Tale of Two Cities," and let yourself thrill with sympathy for the poor down-trodden people of France, whose sufferings just before the breaking out of the French Revolution are therein so vividly depicted. When the emotion aroused by the story is somewhat calmed, you will desire to obtain a just view of the Revolution from the standpoint of royalty, and also from that of the educated middle-class, which was so important a factor in the Revolution. A good life of Marie Antoinette will give the one, and a life of Madame Roland the other. By the time these are read you will desire to know what force reunited the discordant elements of French society. Read Laufrey's "Napoleon." Carlyle's "French Revolution" will then be enjoyable, and you will have gained a knowledge, not only of this great period of history but also of the way to become interested in history.

—*Ida M. Gardner, in the Primary Teacher.*

BEAUTIFUL MANUSCRIPT.

One of the things which every conscientious teacher and examiner should require of those for whose education he is responsible, is a beautiful manuscript in examination. It should show a very great amount of good taste, besides attainments in the particular branch under consideration.

Mere answers to questions arranged with no respect to order should not satisfy him who hopes for refinement in the members of his classes, and who does not want to be classed among those who teach narrowly.

But many are content with any sort of manuscript from which may be gleaned answers to make up the much desired per centage. They seem to overlook the fact that an examination in any of the usual branches is one of the very best drills in language, and that where care must be exercised by the examined it is worth many times such a lesson as mere parsing.

The teacher who aims at, and succeeds in attaining breadth of instruction, will see that the pupil's manuscript in examination shows the practice of all he has learned of those subjects which he is at that time called upon to use, to-wit: the use of capitals, spelling, penmanship, punctuation, drawing, and even "gentle manners."

The manuscript and the letter are species of composition, and the pride of every cultivated teacher should lead him to see that the very simple rules of that exercise which are employed in them, and which are certainly not above the understanding of quite young manuscript-makers, be observed.

The following are two sets of hints which my pupils are expected to observe in a written examination. The first are for such a subject as history; the second for a mathematical branch.

I.

1. Set down the numbers of the answers whether you put down the answers or not.
2. Begin each proper name and each sentence complete in itself with a capital letter.
3. Close each sentence complete in itself with a period.
4. Use black ink, and write plainly.
5. Separate the names in a group by commas.
6. Omit a line between any two answers.
7. Do not crumple your manuscript.
8. Spell correctly; if you are in doubt as to the spelling of a word go to the dictionary.
9. The answers you give must suggest what the question might be.

II.

1. Be sure you know the meaning of a problem before you proceed to the solution of it.
2. Do not use too much time on a problem that you cannot for some time solve; attend to others and afterwards return to it.

3. Be careful to add, subtract, multiply, divide, and to use the decimal point accurately.

4 Use the dot in all abbreviations and style every important number by a proper term or phrase.

5 Make out solutions on the slate or separate slips to be copied in order.

6. Make beautiful figures and with the pen.

7 Separate your solutions by lines parallel to the ends and sides of your paper.

8 Have a certain place for answers.

9. Mark the leading parts of solutions I, II, III, etc.

10. Verify your answers.

11. Make your solutions appear as if copied from a book.

12. If you write on both sides of the paper, turn it "end for end" when you have completed the first page.

These hints will plainly serve in an examination of teachers.

If applicants for teachers' certificates were to be graded on neatness of their manuscripts, how many would fail who now succeed?

W. H. in *Ohio Educational Monthly.*

Notes and News.

ONTARIO.

Mr. Butler, public school inspector for Elgin, in his annual report has some sensible remarks on infant teaching. He contends that the work of teaching very young pupils is as important as that of any higher grade, that the conductors of infant classes should receive as large salaries as the best paid teachers, and that special certificates should be issued for those who wish to engage in this department of school work. The requirements, besides the ordinary English subjects, should be a knowledge of kindergarten methods, expertness in object lesson teaching, good elocution, proficiency in mental arithmetic, a knowledge of the science of common things, and an intimate acquaintance with the laws of health. Mr. Butler coincides with all intelligent educationists in condemning the policy of handing over young pupils to the care of unskilled, inexperienced, and inept teachers.

A well deserved tribute was paid a few days ago to Mr. J. H. McFaul, inspector of city schools, and head master of the county model school, St. Catherines. At the close of the professional examination of the model school, he was invited to meet the students in the central school, where he was presented by the teachers in training, thirty in number, with a valuable gold-headed ebony cane, elaborately engraved, and a handsomely framed photo group of the students accompanied with an address. In addition to the teachers-in-training, there were present Messrs. Grey, Seath, Moir, and Moyer of the institute. Mr. McFaul made a suitable reply, after which Mr. Grey briefly addressed the candidates. The model students were invited to meet at Mr. McFaul's residence at eight o'clock, where a most enjoyable evening was spent.

The changes for 1883 in the staff of the Cobourg collegiate institute are as follows:—E. Odlum, B.A., classical master, has accepted the head-mastership of Pembroke H. S. To be succeeded by Mr. E. C. Fluyck, Hon. undergraduate, fourth year, Victoria university, and at one time assisstant master in Campbellford H.S. R. Ferguson, B.A., first English master, has been appointed to the second mastership in Owen Sound H.S., and will be succeeded by Mr Chas James, a distinguished honor undergraduate, fourth year, Victoria, and for a time assistant master in Napanee H.S. W Hough, B A., preparatory department, takes an assistant mastership in Strathroy H.S., and will be succeeded by Mr. E. M. Popham, a fourth year man, Victoria.

At a late meeting of the St. Thomas school board a communication was received from the Education Department, containing an extract from the report of Mr. Hodgson, high school inspector, on the state of the collegiate institute. He visited the school on the 13th of October last, and found the accommodation highly satisfactory, the equipment excellent, specialists employed in the upper rooms, and the work taken up in departments. He found a very pleasing feeling pervading the school, and the discipline not only good but seemingly maintained without special effort on the part of the teachers. The contemplated appointment of a mathematical master, of high university standing, will render the staff unusually efficient. Evidently Mr. Millar, the principal, deserves the vote of thanks tendered him by the board for his efficient services during the year.

Since the re-organization of the University of Toronto on its present basis in 1853 the degrees conferred have numbered in all seven hundred and eighty-nine, analyzed as follows:—LL D., five; LL.B., thirty-one; M D., fourteen; M. B., forty-seven; M.A., two hundred and twenty-five; B.A., four hundred and sixty-seven.

In St. Thomas, Mr. John W. Cook, ex-mathematical master of the collegiate institute, is a candidate for the position of school trustee in one of the wards. Mr. Cook having "been there" ought to be able to sympathise with the teachers if he succeeds in being elected.

A very unpleasant occurrence took place recently in the Kingston medical school. During one of the lectures the lady students in attendance rose and left the room in a body, on account of the manner in which a certain remark made by the lecturer was received by the male members of the class. The latter declare that they did not indulge in any of the alleged cheering until after the ladies had taken their departure. It is difficult to get at the real facts of the case, owing to the conflicting statements of the students of both sexes and of the professor whose remark does not appear to have been in itself an improper one. The male students resolved to end the matter by requiring the non-admission of students of the other sex, and threatening to leave in a body as the alternative. Matters have been compromised by allowing the female students to complete the present session, and by giving a pledge that no more shall be admitted in future. If it is desirable to have lady practitioners, it is surely desirable that they should have a thoroughly scientific training.

E Odlum, B.A., of Cobourg collegiate institute, is to be head master of Pembroke high school for 1883; his assistant is Mr. Cabut, B.A., of Toronto. In the public school Mr. W. Alford is re-engaged at an advance of $50; in the separate school, Mr. Purtil is selected as head master.

At the last two meetings of the senate of the University of Toronto some matters of more than ordinary importance came up before that body. One of these is the question of allowing an option at the local examinations for women between Scott's "Marmion" on the one hand and Goldsmith's "Traveller" and Burke's "Reflections" on the other. The question was raised by a memorial from the Richmond Hill high school board, and as the senate has the matter under consideration it would be well for other localities interested to bestir themselves with a view to securing a very important concession. As these examinations are not competitive there should be no great difficulty in the way. The question of abolishing the residence in connection with university college has been raised by a notice of motion, but no action is yet reported. About 100 of the students in attendance at the college have sent in a memorial praying for the retention of scholarships, against which may be set off a previous memorial by double the number praying that the money thus spent might be devoted to some more generally useful purpose. The question of throwing open the meetings of the senate to the press was also raised on a notice of motion. Nothing that the senate could do would be more popular or more productive of benefit to the institution. The senate has taken the action necessary for the establishment of fellowships—nine in number—in connection with the work of university college. This is a novel experiment in Canada and time alone can tell how it will succeed. The fellows will be graduates who intend to pursue some post-graduate course and who will, in consideration of the $500 a year be required to do some tutorial work. The writing of theses in the examination hall for the degree of M.A. and M.D. was ordered to be discontinued. The following is the list of examiners for 1883, *Law* B. B. Osler, LL.B, Q.C.; Z. A. Lash, Q.C., late deputy minister of justice. *Medicine*—Physiology and pathology, Geo Wilkins, M.D. (professor Bishop's college medical faculty, Montreal), medicine and therapeutics—F. H. Eccles, M. D., (medical faculty Western university, London); midwifery and forensic medicine D. B. Fraser, M. B.; anatomy—M. H. Aikins, B A, M.B., (professor anatomy Toronto school of medicine); surgery and surgical anatomy—F. G. M. Grasett, M.B., (medical jurisprudence Trinity school), clinical medicine and clinical surgery—E O'Rielly, M.D., (supt. Toronto general hospital); hygiene and medical psychology—C. W. Covernton, M.D., (professor sanitary science Trinity medical school, member board of health. *Medicine and Arts.*—Chemistry—W. H. Ellis, M.A.. M.B., professor of chemistry, school of science. Biology—H. Montgomery, M.A., B. Sc, (Toronto school of medicine.) *Arts*—Classics—A. Johnson, B.A., LL.B., W. Dale, M.A., J. Fletcher, M.A. Mathematics—E. Frisby, M.A.; T. W. Wright, M.A.; W. J. Loudon, B.A. English and

history—E. B. Brown, B.A.; D. R. Keys. B.A. Metaphysics and ethics—Rev. J. W. A. Stewart, B.A.; J. G. Schurman, M.A., Rev. J. R. Teefy, M.A. French—J. L. McDougall, M.A. German—Rev. E. Schluter, M.A. Italian—D. R. Keys, B.A. Mineralogy and geology—J. B McMurrich, B.A., (professor of botany, Agricultural college, Guelph). Oriental languages—J. C. Dunlop Meteorology—C. Carpmael, M.A.

Mr. J. J. Tilley recently visited and inspected the Renfrew county model school, which is under the direction of Mr. E. A. Stevens. The examination was a thorough one and the remarks of the inspector show that he was agreeably surprised at the condition of the institution. Mr. Stevens has commenced a good movement by gathering into a bible class on Sundays a number of young men who were not members of any other class. Teaching the text of the sacred scriptures is one of the most instructive and ennobling of occupations, and teachers would do well to follow so good an example. They would soon find the benefit of it in a decided increase in the moral influence they are in a position to exert.

NOVA SCOTIA.

R. McKay, B.A. (Queen's, 1881) has resigned the professorship of English in Pictou Academy, and is pursuing a post graduate course at his *Alma Mater* in Kingston. His place at Pictou has been filled by the appointment of Mr. Wm. R. Fraser (Dalhousie, 1882). Mr. Fraser obtained a Provincial Grade A license in July last. Pictou Academy was never more prosperous than at present.

The following changes in the principalships of county academies took place at the beginning of the current year: Mr. E. J. Torey (Dalhousie, 1882) was transferred from Baddeck, where he was succeeded by Mr. Geo. Patterson (Dalhousie, 1882) to Guysboro, where he followed Mr. J. R. Ruggles (Mount Allison, 1882). The principalship at Sydney, vacated by the acceptance (previously noted) of the position of Principal of the Truro Model Schools by Mr. B. McKittrick, has been assumed by Mr. H ctor McInnis (Provincial Grade A, 1882). Mr. Alex. McRae, after many years' service at Digby, has removed to Annapolis, and has been succeeded at Digby by Mr. W. H. Magee (Provincial Grade A, 1882). Mr. A. Cameron, for many years principal of the central school, Yarmouth, is now principal of the Yarmouth county academy.

It is reported that, on account of ill-health, D. H. Smith, A.M., is about resigning the inspectorship of district No. 9. As the district comprises within its limits such institutions as the Provincial Normal School and the Pictou Academy, besides many of the best graded schools of the Province, the appointment of his successor is a matter of considerable importance.

MANITOBA.

At a recent meeting of the Protestant section of the Board of Education the following were appointed a standing committee to examine and classify pupils of collegiate departments, viz.: the Superintendent of Education (convener), Rev. Professor Hart, Rev. Canon O'Meara, and Mr. J. H. Stewart. At the same meeting the Superintendent introduced some important changes in the programme of examination for teachers. Hereafter, certificates will be divided into professional and non-professional. Professional certificates in all three classes will imply a Normal School training, and in the case of first class certificates, a year of successful teaching. Professional second class certificates will be valid during the pleasure of the Board. Professional certificates in Grade A of the third class will be valid for four years from the date of issue. Non-professional certificates in the first class will be valid for two years, all others for one year.

The new programmes of study—one for use in the cities and towns, and the other for the rural schools of the Province—which have been used for the past few months provisionally, and which were thoroughly discussed and adopted at the last meeting of the Provincial Teachers' Association, have been finally adopted.

The Ven. Archdeacon Pinkham, superintendent of education, has been urging upon the people of Regina, North-West Territories (in the archdeaconry of Manitoba) the importance of organizing a public school as soon as possible. His Honor Lieut.-Governor Dewdney has promised a grant from the North-West Council towards its support.

At the last meeting of the Council of the University of Manitoba T. A. Bernier, Esq., Roman Catholic superintendent of education, was unanimously re-elected Registrar of the University for the ensuing year. The Council has memorialized the Dominion Government for a grant of land for the purposes of the University.

The census returns of Protestant children between the ages of five and fifteen years in Winnipeg, and a few other places, are as follows:—Winnipeg, 2623; attending school, 1686. Brandon, 314; attending school; 169. Portage la Prairie, 518; attending school, 402. Emerson, 210; attending school, 153. The total school population in the organized school districts of the Province is about 10,000 (ten thousand).

At a recent meeting of the board of Protestant school trustees, Winnipeg, the following scale of salaries was adopted:

MALE TEACHERS' SALARIES.

	1st year.	2nd year.	3rd year.
Standard IX and X	$1,100	$1,150	$1,200
" VIII	1,000	1,050	1,100
" VII	1,000	1,050	1,100
" VI	900	950	1,000
" V	900	950	1,000
" IV	800	850	900

LADY TEACHERS' SALARIES.

	1st year.	2nd year.	3rd year.
Standard VII	$700	*	*
" VI	600	650	675
" V	550	600	650
" IV	525	575	625
" III	500	550	600
" II	500	525	550
" I	500	525	550

* No teacher at present.

FOREIGN.

Michigan University, Ann Arbor, has 182 female students who attend lectures along with the male students.

THE HARVARD ANNEX:—The third annual report of the "Society for the Collegiate Instruction of Women," at Cambridge, Massachusetts, better known as the Harvard Annex, recites the fact that the institution has been incorporated during the year, and says it is now in a position to receive endowments and bequests, and these it hopes to receive in the near future. It says that a fund one-tenth the size of that represented by the property and endowment of Harvard University contributed to the "annex" will give women greater privileges than are within their reach in America, and will make them permanent. For the past year the classes for women number twenty eight in all, and the departments are Greek, Latin, English, German, French Italian, fine arts, history, mathematics, physics, and botany. Besides these classes the students generally attend the open lectures and readings in the university. Instruction was offered by thirty-nine instructors of Harvard College, and the actual classes received the services of five professors, seven assistant professors, and eleven instructors. These repeated to the women the instruction given to the students of the college in the different departments. Of the students, eight were in their third year, eighteen in their second year, and twelve in the first. Ten were pursuing a course of study covering four years, and corresponding to that pursued by the candidates for the degree of bachelor of arts in Harvard College. The others were taking from one to four special courses of study each. The report adds that the health of the students has been good.

Hon. Edwin Willits, who is now serving his third term as a member of the U. S. Congress, has just been elected principal of the State Normal School at Ypsilanti, Mich. He is a lawyer by profession.

A DUCAL SCHOOLMASTER:—The late Duke of Galliera, of Italy, possessed a fortune of 300 million francs, and an only son. During his father's lifetime the heir declared his intention of renouncing the world. Instead of following the example of the kings and nobles of earlier ages when they were seized with this passion, and retiring into a cloister, this young man, at the age of twenty, crossed into the territory of Nice, and applied for a situation as a village schoolmaster. His father regarded it as a mere freak, and sent his son every year a sum of 350,000 francs. The young man accepted it, but refused to spend it upon himself, sending the whole to Paris, with the request that it should be expended anonymously upon the poor of the French capital, while he himself existed entirely upon the income which he earned as a schoolmaster. The secret of the origin and riches of the village pedagogue could not be kept, and after he had been at work for three years the French Minister of Education sent him a nomination as "Officier de l'Academie." Meanwhile the father died, and the eccentric schoolmaster had become the Duke of Galliera, and the rightful possessor of enormous riches. He determined, however, to adhere to his vow of renunciation. He wrote a polite letter to the French Minister, declining the offer which had been made him, saying that his three years'

service was too mean to be compensated with such dignity. The young Duke is still contentedly teaching the children of the peasants in his Nice village, and never interferes with his mother, regarding himself as dead to the world in which he once lived. It is now reported that she has given the income to the Pope

Herr Von Gossler, Prussian minister of education, has issued a circular ordering that all the boys in the higher schools of the country shall be made to play games. For some time public opinion in Germany has been much exercised about the physical condition of the boys; they were good scholars but listless, inactive, unenterprising, often appallingly short-sighted. A remedy is to be sought not only in gymnastics, but in cricket and football and other outdoor games requiring skill and agility.

Victoria University, Manchester, founded and incorporated in 1880, and consequently the youngest university in Great Britain, held the first meeting for conferring degrees Nov, 1. The degrees which it is empowered to confer are Bachelor of Arts and Master of Science, together with a degree of Doctor, viz, Doctor of Literature, of Philosophy, or of Science. Professor Roscoe moved that a petition be presented to Her Majasty in council to grant a supplemental charter to the Victoria University empowering the University to grant degrees of medicine and surgery. The motion was adopted.

The Cleveland *Herald* thus advocates the cause of co-education: —"It is strange that educators can still persist in closing the doors of our great institutions of learning against young women who really wish to attain the highest possible scholarship. The knowledge that the day is inevitably coming when co-education of the sexes shall be an almost universal reality, seems to have the singular effect of confirming some men in this progressive course In general the objection to the system proposed amounts to a prejudice against anything which threatens interference with the present order of things; in short, against any innovation. And thus it happens that most frequently the men who object to co-education are those who have never thoroughly investigated its workings. They seldom descend to an examination of the facts in the light of figures, and the chief weapons with which they answer the champions of co-education are contempt and good-natured ridicule.'

At the recent meeting of the Maine Pedagogical Society the sentiment of the members seemed to be opposed to the marking system in schools. Principal Rounds of Farmington, declared that much of the marking is sheer nonsense, besides being a great burden to good teachers. He added that he had given up trying to find out a pupil's knowledge by searching examinations He held brief examinations at unexpected times Recitations, he added, cannot be judged so minutely as by tenths without interfering with the instruction He thought that conduct should be taken into account in marking, because teachers undertake to do something more in teaching than merely to make scholars—they strive to mould character W J. Corthell, of Gorham normal school, would, he said give more for the judgment of the teacher at the close of the term than for any system of marking; would promote scholars upon the individual opinion of their teachers that they were able to do the work of the higher grade. Marking, he thought, an unhealthy stimulant.'

Since the modest beginning thirteen years ago of Girton College—the woman's college at Cambridge—it has twice been found necessary to make considerable extensions. The students have proved themselves eager to profit by the advantages afforded to them, as was shown by their distinctions obtained at Cambridge this year. It is now once more intended to develop the work of the college by making further and more elaborate extensions. For some time past a number of applicants have been refused admission owing to the want of space, and plans have at last been adopted which will make room for 23 more students, bringing up the number to 78.

An Oxford correspondent says that out of the 338 resident members of Convocation 200 are college officials, and 170 of them are engaged in teaching on behalf of the colleges as distinct both from private teachers and from university teachers. The number of undergraduates on the books is 2,800, and the colleges thus provide already one teacher to every sixteen or seventeen students. In 1864, when Mr. Matthew Arnold made his report, the thirty-four German universities had 2,031 professors and readers against 18,971 matriculated students, or one to every nine or ten, and the proportion does not appear to have been reduced since that time. Two years ago, for instance, the official returns for Prussia showed 995 teachers against 9,663 students.

The classical departments at Oxford still continue to attract the largest number of able men, being hard run, however, by the mathematical school. Natural science comes next, then theology, then history, and last of all law, in which only one first-class was obtained during the year.

The Parliament of Norway recently passed a law, which the King has signed, giving women the privilege of attending the universities and applying for degrees in all the arts and sciences; but the right to hold office in the service of the State and of participating in the competitive examination for such positions are not yet accorded to them.

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.

OTTAWA.—The regular half yearly meeting of the Ottawa Teachers' Association was held in the Normal School, Ottawa, on Friday and Saturday, 1st and 2nd December. The meeting was called to order at 9 a m., Friday, by the president, Mr. John Munro. The first subject taken up was "Probable Changes in the School Work," by Mr. L. Harstone, B A Among the changes referred to as both probable and desirable may be mentioned shortening of the school hours; abolition of home work for all excepting advanced pupils, and reducing it to a minimum even in such cases; a better system of physical education; and the making of our education more of a literary character. In the discussion which followed Mr. Harstone's address many of the members expressed themselves as in favor of the shortening of the school hours of study, and giving more attention to physical training, but on the subject of home-work there was a diversity of opinion, some maintaining that a fair amount of work for home preparation should always be given and that the majority of those who had excelled in any particular line of study have been home-workers. Miss A. MacLardy introduced a class of little girls from the fourth division of the girls' model school and taught a lesson in geography the principal gulfs and bays of North America By means of pictures and an outline map, all sketched upon the blackboard, the teacher presented the subject in a very interesting manner, and upon the conclusion of the lesson Miss MacLardy was highly complimented by several members of the association. *Afternoon Session*.—Mr D E Sheppard delivered an able address on the subject of "English in Schools." In his opening remarks the speaker pointed out the necessity of beginning the study of English at an early age, and the importance of the teacher being able to speak grammatically with ease Special attention was paid to the memorizing of poetical selections as a means of giving pupils a vocabulary of choice words and phrases. It was shown that the grand object of the teacher should be to create in the minds of his pupils a fondness for poetry and substantial reading, and as the chief instrument by which this end may be accomplished is the reading lesson, it is therefore desirable that our school readers should contain choice selections from standard authors. The next subject taken up was "Reading" by J A MacCabe, M.A., principal of the Ottawa Normal School In the course of his very interesting address the lecturer spoke of the great importance of reading, classing the ability to read well as one of the fine arts, ranking with painting, sculpture, music, &c. Respecting the teaching of reading in our schools it was shown that the text-books in use at the present time are not suitable for the purpose of practising reading, many of the selections being of little or no value for such exercise. The difficulty might be met, however, by not taking the lessons consecutively, but by making a proper selection. The three qualities of good reading were given thus: 1st, distinctness; 2nd, distinctness; 3rd, distinctness, and it was pointed out that to read with expressive effect due regard must be had to time and expression. The speaker illustrated various points, noticed in his address, by reading selections from "Mark Anthony's Address to the Roman Citizens," "Tell's Address to the Mountains," Collins' "Ode to the Passions," and "Jugurtha in Prison." SECOND DAY.—Mr. D. McArdle introduced the subject of "Co-Education of the Sexes." He divided the subject under the following heads: 1st, economical view; 2nd, intellectual view; 3rd, social and moral view. Under the first head he pointed out that unless the sexes were educated together a much larger expenditure of money would be necessary. Under the second head he met the objection that the intellectual qualities of the sexes were so different that separation was indispensable. He then referred to the extent to which co-education was carried on in the United States in which 90% of the colleges and universities, and 60% of the high schools adhere to the principle and bear witness to the beneficial effects resulting from it. Referring then to the normal schools and Canadian universities he pointed out the tendency in all of these, and then passed on to the social and moral aspect of the question. Here he pointed out that the school life should

be an extension of the home life, that it should be a world in miniature, and showed that the principle of separation was contrary to nature. He concluded by proclaiming that separation was injurious from the standpoint of political economy, from the intellectual, and also from the social and moral aspect of the question. *Afternoon Session.*—Mr. C. Campbell took up the subject of "Reduction," and illustrated, by examples solved on the blackboard his method of teaching this subject. He recommended a thorough drill in notation from the fact that it is so closely connected with reduction, and considered the tables given in our text-book more extensive than are required for practical use. He would prefer thorough familiarity on the part of the pupils with a few practical tables to an imperfect knowledge of all. He believed in making the subject a thoroughly practical one. The pupils should always be permitted, as far as possible, to handle and compare the weights and measures mentioned in the tables used. Mr. E. D. Parlow, delegate to the Ontario teachers' association, presented his report which, upon motion, was received and adopted. The following officers were elected for the ensuing year: president, Mr. E. D. Parlow; vice-president, Mr. R. J. Tanner; secretary-treasurer, Mr. J. T. Bowerman; executive committee, Misses Forgie and MacLardy, and Messrs. Glashan, Payne, and McNevin; auditors, Messrs. Sheppard and Harstone. The auditors' report was received and adopted. After disposing of some formal business the association adjourned to meet again at the call of the executive committee.

RENFREW CO.—The teachers' association for the county of Renfrew was opened in the model school, Renfrew, at eleven o'clock, on Nov. 16th by R. A. Barron, B.A., the vice-president; the president, Mr. McKillop, of Pembroke, being absent. Mr. Campbell, principal of the Arnprior public school, then read the minutes of last May's meeting held at Pembroke, which were accepted. Sixteen teachers were present at the opening; but the number finally increased to sixty-seven. The meeting was adjourned till two o'clock, when Dr. McLellan, senior inspector of high schools, gave a long and highly instructive lecture on Elocution and Pronunciation. In the evening when Dr. McLellan was to lecture on "Parents and Teachers in relation to Schools." Gravelle's Hall was crowded with the members of the association and the residents of the village. Mr. Jas. Craig, chairman of the board of education, was called to the chair. It had been intended to present the Wright medal at the close of the Dr.'s lecture; but at the last moment it was decided to proceed with that part of the evening's work first. The chairman therefore called upon Mr. Wright to take the platform. In the course of his remarks he said that the teachers' salaries had been somewhat increased this year and deservedly so. Referring to Mr Barron's capabilities in French, he said that not only were thirty pupils in the high school studying that language, but twenty from the model school were taking advantage of the chance of special instruction. Noticing the activity in this branch, he had spoken to Mr. James Carswell on the subject, and the latter had generously come to the fore, and after this year would give a silver medal to the pupil of the Renfrew high school taking the highest number of marks in French at the intermediate examination. Mr. Alex. Barnet had also been generous enough to give a silver medal or $10 in cash, as the winner might choose, to the pupil making the most marks in some branch (which particular one Mr. Barnet had not yet decided upon.) And, better still, he thought he could promise that at the next meeting of the teachers' association held in Renfrew he would be able to announce that a gold medal would be awarded to the first pupil of the Renfrew high school taking a first-class certificate. In aspiring to see the Renfrew high school at the "top of the tree," he said that it lay in the people's hands to place it there; and instanced the high school at Farmersville, a small inland village without railroad or water communication, but where the people took an interest in and were proud of their high school, paid first class salaries to the teachers, passed a large number of pupils at the intermediate examination, and made money out of their school into the bargain. There was no reason why Renfrew should not have just as good a school; it needed only that the people should interest themselves in it; he wanted them to look upon it and speak of it as "our" school; and he hoped yet to see it a collegiate institute. Mr. Wright then called upon Mr. McDowell to bring forward his pupil Miss Maggie O'Gorman, to receive the medal for making the greatest number of marks in all the subjects at the last intermediate examination, which she had so deservedly won. After the presentation, Miss O'Gorman and Messrs McDowell and Wright retired to the body of the hall, amidst the loud and continued applause of the audience. Dr. McLellan, before commencing his lecture, extended his congratulations to Miss O'Gorman; and informed the audience that it was no mean matter to take 700 marks at an intermediate, as she had done. Referring to Mr Wright's remarks he mentioned the fact that in the last few years the education of each child had been reduced from over $5.00 to $1.48 and said that he was sorry that such was the case, as it meant over-work and under-pay for the teachers. At the conclusion of the lecture, which was attentively listened to and well received by the audience, Mr. F. F. McNab, of the Arnprior high school, moved, and Mr. A. A. Wright seconded, a vote of thanks to the lecturer. Friday's session was opened by Mr. Stevens, principal of the model school. His method of teaching the first steps in grammar, by showing the relation existing between objects and words, and of taking up mood, were highly spoken of by the teachers. Dr. McLellan then proceeded to lecture on the "A. B. C. of Arithmetic." After an intermission, during which a club of subscribers for the CANADA SCHOOL JOURNAL was organized, Mr. Barron read his paper on "Teachers and their work." Dr. McLellan began the afternoon session with his lecture on "Good Questioning." Mr. Barclay, of Arnprior, followed with a paper on "English," dealing chiefly with the common and most noticeable defects in spoken and written English, with a little attention to the absurdity of many of the modern newspaper idioms; winding up with some humorous advice in the matter of pronunciation. After a vote of thanks to Mr. Barclay, the meeting considered the matter of the place of the next meeting, and it was decided to hold it at Arnprior.

PRESCOTT.—The following account of the last meeting of the teachers' association of this county has been sent to us for publication:—

Vankleek Hill, Nov. 27., 1882.

Not having seen in the CANADA SCHOOL JOURNAL, an account of the very successful teachers' convention held in the Vankleek Hill model school building, on the 28th and 29th of Sept. last, I take the liberty of sending you for publication a short resume of its proceedings. There was present a full attendance of the teachers of the county. Their conduct during the convention proved that they had come to learn something. Friday was spent in giving lessons in the principal subjects on the public school programme. These lessons were given to the children of the school who were present for the purpose, by the following gentlemen: Mr. Summerby, inspector of Prescott and Russel; Mr. Marshall, head master of the model school, and Mr. C. R. Grey, first assistant. To the many inexperienced teachers present this part of the convention's work was perhaps the most valuable. On Thursday evening Dr. McLellan lectured in the Presbyterian church on the subject "Parent and Teacher in Relation to the School." A good synopsis of this lecture would fill the JOURNAL therefore I shall not attempt to give it. Dr McLellan spoke over two hours and was listened to with the closest attention from the first word to the last. A Vankleek Hill audience is hard to please, but this one was pleased. "This lecture will give teachers a higher estimate of their work." "This is the best lecture we have ever had on the Hill." "This is the grandest thing we have had since Punshon's lecture on "Daniel in Babylon," were some of the remarks the writer heard made with regard to the Doctor's effort. On Friday Dr. McLellan lectured on the "A. B. C. of arithmetic," the "Art of Questioning," and "Reading." To have the opportunity of being present at any one of the Doctor's lectures is well worth the two days spent at a convention, at least, such is my opinion and such was likewise the judgment of the other teachers of Prescott at their last convention. The "A. B. C. of Arithmetic" should work a complete revolution in the county in the usual method of teaching arithmetic to beginners. Previous to this many had only read about proceeding from the known to the unknown in teaching the subject, but during this lecture they saw it done so clearly as to convince them that it is the easiest and best way of teaching the most difficult of the three "R's." The peculiarity which distinguishes the method unfolded in "The A. B. C. of Arithmetic" from similar methods, is the careful grouping of the units or other objects used. For instance a child learns to recognise a group of *two* units and a group of *three* units, —these placed together form a group of *five* units. This group the child soon learns and when placed with the previously known group of three, learns that five and three are eight and so on. But I shall not lengthen this article as my object is not to attempt to reproduce the work done before the teachers at our last convention but to express on their behalf not only their entire satisfaction with what was done, but their liveliest gratitude to Dr. McLellan whose presence at the convention made it a success.

ONE OF THE TEACHERS OF PRESCOTT CO.

GOOD ADVICE CORNER.

TAKE THE TROUBLE—

To always speak to every one you know, unless you have reason to believe they do not care to have you do so.

To keep from marring anybody's enjoyment by expressing your own lack of interest, or bad feeling.

To try to enjoy everything as much as is possible. thereby you may make some one else have a good time.

To treat elderly people with especial thoughtfulness and respect.

To show anybody a kindness, even if it is a small one and you have to go out of your way to do it.

To think of others before yourself.

To explain anything that is not understood, whether it be in commonplace conversation, or a misunderstanding.

To keep from speaking ill of any one.

To credit others with good intentions, until you are convinced of their having the opposite; and, finally,

Take the trouble to speak the truth, and nothing else.

—*Scholar's Companion.*

REVIEWS.

The CONTEMPORARY REVIEW keeps up its reputation for excellence. One of the most important political problems just now for the world, as well as for England, is the relation of the latter to Egypt. This is discussed in an admirable spirit, and with great intelligence, in a lecture which forms the first paper in the December number of the *Review*. The lecturer is John Westlake, Q.C., and his scheme for the settlement of the Egyptian question may be summed up as comprehending (1) security for the bondholders who, under existing treaty rights, have advanced money for carrying on the administration; (2) British control in the future management of Egyptian finances; (3) satisfaction to the other European powers by the withdrawal of British troops, and the guarantee of the Egyptian debt; (4) depriving the Porte of the last vestige of control over the country; and (5) allowing the Egyptians, under an independent sovereign and British protection, an opportunity of working out for themselves the problem of self-government. This seems a reasonable programme, especially when to it is added the contention that the present exemption from taxation enjoyed by Europeans in Egypt should cease, and that all Europeans, instead of being left under consular jurisdiction only, should be made subject to the regular courts. In close connection with this premonition of the separation of Egypt from Turkey should be read Principal Fairbairn's paper on "The Primitive Polity of Islam," in which the conclusion of the whole matter is thus stated: "The Sultan of Turkey may indulge in Panislamic dreams, but he will never realise them. The world of Islam is too deeply divided about him to be unified and vivified by him. His Caliphate is to the sections most radically opposed, alike to those most loyal to the prophet and to those most loyal to the people, to the men who most love the Holy Book, and the men who most love the Holy Land, a deep offence, and an act of the worst usurpation." If this is a correct description of the Sultan's relation to Mohammedanism, then indeed may the "sick man's" days be regarded as numbered. The fear of a Mohammedan uprising in India has long brooded like a nightmare over the British foreign office, which may yet find itself in the position of the man who, having fallen over a precipice, and hung for hours by a bush caught in his descent, discovered by letting himself drop that his feet had all the time been nearly touching the ground. An exceedingly suggestive paper is the one on "Impersonality and Evolution in Music," by Mr. Vernon Lee, and another is a short account, by Mr. Phil Robinson, of the present standing and requirements of professional war correspondents.

The frontispiece of the CENTURY MAGAZINE for January is a beautiful full-length portrait of the great natural philosopher, Charles Darwin, and one of the best papers is a finely illustrated one on the "Debt of Science" to him. The *pièce de résistance*, in the shape of an illustrated paper, is "Hydraulic Mining in California." The wild scenery of the mountains and wilder life of the miners, the peculiar character of their appliances for breaking up the rock and washing out the precious metal, and the novelty of the whole subject, make it a good one for the exercise of the illustrative designer's art, and of course the *Century* has made the most of it. Another staple article is entitled "Who are the Creoles"? This question is answered at some length by a description of their local *habitat* in Louisiana, illustrated by engravings, and also by a sketch of their history and their social peculiarities; it is also answered briefly in the statement that the Creoles of Louisiana are "the French-speaking, native, ruling class." The old serials, Mrs. F. H. Burnett's "Through One Administration," and "The Christian League of Connecticut," are continued, and an interesting new one, "The Planting of New England," is begun. The last is profusely illustrated by engravings of old historical landmarks and relics, and the name of the author, Edward Eggleston, is a guarantee of the literary excellence of the letter-press. The other papers, too numerous to be specified, are up to the *Century's* high average.

In THE ATLANTIC MONTHLY for January that veteran contributor, Oliver Wendell Holmes, discourses pleasantly in "An After-Breakfast Talk" of the inconveniences to which fame subjects authors. From it we quote the following interesting piece of autobiographical chit-chat: "The men of my birth-year are so painfully industrious at this very time that one of the same date hardly dares to be idle. I look across the Atlantic, and see Mr. Gladstone, only four months younger than myself, standing erect with Patrick's grievances on one shoulder and Pharaoh's pyramids on the other,—an Atlas whose intervals of repose are paroxysms of learned labor. I listen to Tennyson, another birth of the same year, filling the air with melody long after the singing months of life's summer are over. I come nearer home, and here is my very dear friend and college class-mate, so certain to be in every good movement with voice, or pen, or both, that where two or three are gathered together for useful ends, if James Freeman Clarke is not there, it is because he is busy with a book or a discourse meant for a larger audience. I glance at the placard on the blank wall I am passing, and there I see the colossal head of Barnum, the untiring, inexhaustible, insuperable, ever triumphant and jubilant Barnum, who came to his atmospheric life less than a year after I began breathing the fatal mixture, and still wages Titanic battle with his own past superlatives. How can one dare to sit down inactive with such examples before him?" It is curious in this connexion to notice how large a part of the contents of this number is the work of men who were born before Mr. Holmes. He and Gladstone date back to 1809; Tennyson and Barnum to 1810. But John Greenleaf Whittier, whose poem, "A Summer Pilgrimage," just precedes Mr. Holmes' article, was born in 1807; while Henry Wadsworth Longfellow, born in the same year, posthumously contributes the first part of "Michael Angelo," and Nathaniel Hawthorne born in 1804, and long since dead, furnishes the second part of "The Ancestral Footsteps." Charles Dudley Warner writes an account of "Wagner's Parsifal" as he heard it at Baireuth; there is an interesting instalment of "Studies in the South;" "Chance Days in Oregon" is very readable; and "A Stranger yet at Home" is a capital short story. Reviews, poems, and other matter complete the number.

Announcements

ONTARIO TEACHERS' ASSOCIATION.

PROGRAMME OF THE ANNUAL CONVENTION FOR AUGUST, 1883.

The following subjects will be discussed at the next annual meeting of the Ontario Provincial Teachers' Association:—

1. School curriculum.
2. Literature in schools.
3. The advisability of a change in the administration of the school law, by the appointment of a Chief Superintendent of Education, and a Council of Public Instruction, in lieu of a Minister of Education.
4. Licensing of teachers.
5. Moral education.
6. Examinations and examiners.

The subjects for discussion in the public school section are:

1. Text books.
2. Revision of programme.
3. High school entrance examination.
4. Hygiene in public schools.

The subjects to be brought before the public school inspectors, and high school sections, as well as the names of the essayists and prelectors, will be announced hereafter.

The great end to be attained in all moral teaching is to lead the child to act from principle, to do a thing because it is right, and avoid doing or saying a certain thing because it is wrong.—*Professor Huxley.*

THE INFALLIBLE TEACHER.—A bright child asks a question that a gray-headed philosopher would be cautious in answering; yet a teacher of limited learning and less sincerity gives a glib reply to keep the child from doubting his scholarship. He wishes the pupil to think that all knowledge worth having has been attained in a few years by one person, namely, himself. Between devotion to text-books and the careless dogmatism of such teachers, children leave our schools with the conceit that they have compassed the universe and settled all the problems of existence.—*Education*

A CITIZEN'S COMPLAINT.—"Now, if the teacher would teach, what a task would be spared to at least one unfortunate father, who, every night, jaded and tired with a hard day's work, gathers his children together and patiently teaches them the interminable lessons that should have been explained at school! What a blessing it would be to many a household if this system could be only reversed, and the children could be taught at school, and there learn their lessons, and recite them at home! But, no! To the the parent is delegated the task of instruction while the teacher has only to hear recitation!