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CANADA SCHOOL JOURNAL HAS RECEIVED

*An Honorable Mention at Paris Exhibition, 1876.
Recommended by the Minister of Education for Ontario.
Recommended by the Council of Public Instruction, Quebec.
Recommended by Chief Superintendent of Education, New Brunswick.
Recommended by Chief Superintendent of Education, Nova Scotia.
Recommended by Chief Superintendent of Education, British Columbia.
Recommended by Chief Superintendent of Education, Manitoba.*

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

REPORT OF THE MINISTER OF EDUCATION.

The report for 1883 appears just as this issue is made up. We are therefore unable at present to do more than give a brief summary of its contents.

The first point we notice is a decrease of 407 in the total public school population, leaving 483,817 of school age. Of these, 457,178 have attended school during some portion of the year. The average attendance was 45 per cent. of those on the roll, which is, compared with other countries, a very respectable result. We believe that the average attendance does not reach fifty per cent. in any country, but have not the exact figures at hand. For the work of teaching these 483,817 children we have 5,203 schools and 6,857 teachers. The total expenditure on the public schools was \$3,026,974 for the year, an increase of \$182,702 over the previous year. But from this we must deduct \$341,918, fixed capital, spent on sites and buildings, leaving \$2,685,056 as the working expenses for the year. The average cost per pupil for the year was \$6.42, probably many times less than the cost of prosecuting each criminal convicted during the same period.

The Legislative grant to the public schools was \$251,356, and \$14,382 to the separate schools, showing a total increase of \$7,441.

As the teacher really makes the school, and salaries roughly measure the efficiency of teachers on the whole, it is interesting to note the average salaries of teachers in the province. For cities it stands at \$742 for men and \$331 for women; in towns \$576 and \$273; \$385 and \$248, respectively, in rural districts. The highest salary paid in 1882 to city teachers was \$1,100 and the lowest to men \$400; in towns \$1,000 and \$240; in counties \$900 and \$120. We find that the number of women employed as teachers is 3,795, an increase of 235, while there is a decrease of 300 men, leaving 3,062, or a minority of the whole to the extent of 733. Perhaps this is not an unmixed evil, for many of our best teachers are ladies,

but to us it indicates a tendency to pay the lowest salaries and is not a good omen for the stability of the profession at large, for we can scarcely suppose that half these 3,795 ladies will remain without engagements of a closer character and that within ten years they will not hold certificates entitling them to preside elsewhere than in the school-room. If the province could be persuaded to spend \$50,000 on teachers' residences, perhaps we should be able to retain many of these skilful ladies in the service. At any rate many of the annual changes would be obviated and many of the 3,062 men who will soon leave the work, would marry and settle down to teaching for a far longer period. The lack of a comfortable house attached to the school is at the bottom of very many of the pernicious changes which give the teachers so much the character of itinerants. With a convenient dwelling many a man would be content to become a permanent resident

the place, who is now tempted to seek in some other employment the means of establishing a settled home. It is a great annual loss to the educational interests of the country to have experienced men continually leaving the ranks, and \$50,000 could not be more profitably spent. Even if one half the money were supplied directly by the government, we should save more than that amount by retaining skilled teaching power in the public service.

In the matter of school buildings steady progress is apparent. We spent \$341,918 for this purpose, being an increase of \$61,458 for the year. Handsome and well-equipped school houses are rising rapidly all over the country and we earnestly hope that during the next decade teachers' homes equally commodious and beautiful will nestle beside them. Teaching in the meantime will not become the life-work of the majority of men who are now teachers.

Looking at the percentage in the several classes, we find more than half of those at school in the first and the second class,—58 per cent.,—and one quarter in the third class. The figures are first class 35, second class 23, third class 25, fourth class 15, fifth class 2, and sixth class 22-hundredths per cent. of the whole number of pupils attending school. In all measures of educational reform it will be important to bear these proportions in mind. We must continually remember that the junior classes are more than one half of the whole number at school. In the preparation of programmes, the training of teachers, the work undertaken at conventions, etc., this fact should be firmly grasped, and thoroughly realized. If it be true, as constantly alleged by high educational authorities, that the best teaching talent should be employed upon these junior classes—and we endorse the statement—we can see the magnitude of the work that still lies before our Model and Normal Schools, and understand how much they need every encouragement and every stimulus, both moral and financial. At present we have only 1873 teachers who have been trained at the Normal Schools.

In the high schools as well as the public schools, there was a slight decrease in the attendance, viz., 663, leaving the total number of pupils 12,473. The average cost per pupil for the 104 schools was \$27.56. It seems there are yet 51 union high and public schools in existence, and that only 37 high schools charge fees, while the other 67 are free.

It is impossible within the compass of a brief article even to glance over the whole report. We conclude the present notice with a pleasing extract from the report of Inspector Kelly of Brant, which reveals the strides of progress making in the older and wealthier counties under the influence of intelligent direction.

"Perhaps the two most tastefully furnished school-rooms in the county are in the Cainsville school. There, in addition to a good library and a valuable cabinet museum of minerals, comprising also sea shells, fine specimens of coral are to be found. On brackets around the Principal's room are marble busts of the foremost poets and novelists of England. There are also samples, in small glass bottles, of the different kinds of grain grown in the country; models of full-rigged ships, of reapers, mowers, ploughs, harrows, etc." Here is an example worthy of imitation, and more eloquent than a whole sermon on æsthetics.

REPORTS OF THE HIGH SCHOOL INSPECTORS.

Both the Inspectors close their reports with emphatic expressions of satisfaction with the general efficiency of the high schools and collegiate institutes. Dr. McLellan says:—"There are but very few weak schools, and even those are doing work that ought not to be despised, while many really good schools are doing work which merits high praise. I have seen many of the best high schools in the United States, and a few of the best in Great Britain, and I feel sure of two things; that in the department of Mathematics our schools are superior to any I have seen, and that in general standing they are inferior to none." It is only necessary to point to this testimony to confute the few misanthropes who are continually repeating the charge that our high school system is radically defective. The real fact stands out plainly that in proportion to their cost they are about the best secondary schools in existence. But this is quite different from asserting that they have reached absolute perfection. And, as might be expected, the Inspectors dwell more upon the apparent defects than upon the many excellencies. Both officers report that reading and writing need more attention, and recommend that these subjects shall no longer be merely nominal at the Entrance Examination. As we lately pointed out, these subjects should have a higher value attached to them; and a higher standard of attainment should be exacted. Both public and high schools would immediately respond to the call for better results. The Inspectors agree in placing a high value on English Literature and urge the necessity of giving it a still more prominent position on the course of study. The Senior Inspector in his usual pregnant style points out the mischievous effects of forcing the study of formal grammar on children at an age when the "subtle

exercise of the reflective faculties is clearly impossible." He says:—"There is still, amongst many, a *furor* in the business of parsing and analysis," and expresses the hope that "the English language will be taught in a more practical way—as in the construction and re-modelling of sentences, the comparison of faulty with correct forms of expression, practice in epistolary writing, in simple narrative and descriptive composition, and the study of selections from the great masters of English whose 'sweet and proper utterance' has made the English tongue the glory of the English race."

Both Inspectors agree with the JOURNAL in asking aid for the establishment of good reference libraries in all our schools, and instances are quoted where the personal enthusiasm of head-masters has secured the desirable end, even without the assistance of government aid. We are glad to find the Senior Inspector emphatically condemning the excessive number of options recently introduced into the high school programme, and strongly recommending that the choice of studies should not be left to immature boys and girls, nor even, so much as now, to parents who are not much better qualified to make a wise selection. "The sooner," he remarks, "we return to a judicious *fixed course* with comparatively few options, the better it will be for the cause of education in this Province," and we believe that the evils already cropping out under the elective system, sufficiently establish the correctness of that opinion.

For the present we must be content to leave many excellent suggestions unnoticed. In regard to Science we have only space to put the following sentences beside the remarks of the JOURNAL on the same subject in our last number:—

"The department can make science obligatory, and, if necessary, substantially reward proficiency in this branch; the Universities can aid the Department in this work by giving elementary science a place in their primary examinations. Is it too much to ask the Provincial University to follow in this respect the example of the University of London?" What will be the reply?

MORAL EDUCATION.

On Dec. 27 last, a committee of the Wisconsin Teachers' Association presented a report on this topic. Their able paper sets out by stating that the object of the public schools is to fit the young for intelligent citizenship. Foremost among the duties of schools, therefore, is that of inculcating in the minds of their pupils those moral principles upon which social order and good government rest. There is a secular morality which is not opposed to religious morality. As the result of human experience, it is recognized by all civilized peoples, taught by the philosophers, and sanctioned by the creeds of all enlightened nations. This morality can and must be taught apart from religion but not in hostility to any of its forms. It must be taught without limiting it to the mere inculcation of precepts. It means the formation of character; the problem therefore is:—Can anything be done to help in rendering more effective the work of the schools in the formation of character?

Something will be done towards this by the distinct and general recognition of the fact that the formation of right character is one of the principal aims of the school. Good government is a means towards this great end. There are schools which are governed to death, out of which all life, naturalness, spontaneity, and enthusiasm are crushed by over-government and machine like order. There are other schools in which intellectual training absorbs the attention and becomes the great end. Management and discipline are looked upon as merely incidental means for securing conformity with the general routine and not for touching the springs of life in the child, to make the better elements of his nature supreme and help him to grow into noble character. A great step will have been taken when these imperfect views are abandoned and the thought of moulding character substituted for all lower aims. An attempt should be made to put into concise and simple form the essential elements of right moral training in the schools to serve as a guide and help to teachers.

The principal elements of moral training are: (1) The formation of right habits, (2) the inculcation of right principles, and, (3) the development of moral judgment. The work of the teacher is three-fold: (1) He must keep about his pupils right conditions for healthful moral development, (2) he must show good management, and, (3) he must give right instruction in such a way as to develop moral thoughtfulness. Management is a safer term than government, for the latter emphasizes external restraint and force while the former sets forth more clearly the right relation of the teacher to his school, and brings to view the fundamental thought that the teacher must enlist on his side, in the interest of progress and uprightness, the motive forces in the child's nature, and also the social forces in which he lives. The children of a free country must be educated for freedom, that is, they must be brought as early as possible under the sway of the motives which ought to control their lives, and be made properly amenable to that force of public opinion under which, as good citizens, they must live. An imperfect result of this sort is better than the most absolute submission to external force, which is indeed indispensable, but subordinate. This is what Rousseau meant by saying "let the pupil be his own master in appearance, but do you take care to be in reality. There is no subjection so complete as that which preserves the appearance of liberty; by this means even the will itself is led captive."

Locke wisely puts the opposite course in striking contrast:—"Slavish discipline makes slavish temper, and so leads to hypocrisy; and where it is most successful it breaks the mind, and then you have a low-spirited, stupid creature, who, however with his unnatural sobriety he may please silly people, will probably prove as uncomfortable a thing to his friends, as he will be all his life a useless thing to himself and others."

Under the head of "CREATING RIGHT CONDITIONS" the Report mentions (1) *Frank relations*. (2) *Order and regularity*. (3) *Cheerfulness*. Children are naturally joyous. They

are repelled by gloom, austerity, and fretfulness. They unfold healthfully and properly in a cheerful and inspiring atmosphere. (4) *A Right Public Opinion*. Very rarely will a child not rather defy the teacher than defy the public opinion of the school. It follows (1) that the teacher should earnestly strive to shape the public opinion of the school, and (2) that he should avoid putting the child in such circumstances that he will have to choose between obeying the teacher and obeying the public opinion of the community to which he belongs.

(1) The teacher shapes the public opinion—(a) by securing the regard and esteem of his school; (b) by talking familiarly with the pupils, and publicly to the school, of matters which interest the community in such a way as to enlist their sympathies and opinions on the right side; (c) by enlisting the more decided characters in support of the right, through appeals to their sense of honor and by giving them confidence and such responsibilities as they are capable of undertaking; and (d) by avoiding scrupulously all actions which will tend to concentrate public opinion in favor of wrong-doers and against himself. If he is wise and kind, he will be able to keep public opinion on his side, and so to lift to a higher plane. If he cannot do this, it becomes a serious question for him whether his usefulness in that field has not departed.

(2) Punishment or severe reproof in the presence of the school is a matter of great delicacy, and should be avoided, if possible, unless the teacher is sure that he can keep the sympathies of the school with him. It is especially likely to beget defiance on the part of the culprit, and this, from its apparent bravery, will often gain him the sympathy of his companions, and thus become the means of fostering wrong views in the minds of the pupils as well as wrong relations to the teacher. Good management will avoid, so far as possible, all occasion for such results.

HABITS are formed by doing. Actions performed regularly, uniformly, and without internal opposition, become so seated in the organism of the person doing them that they are executed unconsciously. The five great school habits are promptness, regularity, order, industry, and accuracy. Some habits may be secured incidentally, and without distinct, intelligent effort of the teacher to implant them; others require more skill and insight. Honesty, for instance, will not grow in the school without special intelligent care. Every recitation affords opportunity, and unless intelligently supervised, incitement to dishonesty. To get help surreptitiously is a natural inclination of the child who is being tested; and it is to be feared that school experience not unfrequently serves to strengthen rather than correct it.

There are three principal ways of implanting right ideals:—(a) by example, (b) by maxims, (c) by the formal lesson. The latter involves grave difficulties. It is liable to be dry. The child may re-act against it so as to be hardened by it. It may tend to formalism or sentimentalism by failure to keep it in close and vital relations with conduct. These difficulties are to be overcome by thoughtfulness and tact. The lesson may take four different forms:—(1) The committing to memory of short selections, maxims, single verses of poetry—form

specially suited to primary pupils; (2) the reading of stories inculcating some lesson, and the talking of them over with the class so as to develop moral judgment in applying principles few and easy, with numerous and complex applications; (3) the reading of biographies and anecdotes which have power to inspire high enthusiasm and create noble ideals in the youthful mind; (4) the discussion of occurrences in the school and of items of current news which furnish material for interesting application of great principles, and give them added weight by the sense of their practical utility. (5) Three special topics demand notice, viz., the use of intoxicating liquors, the use of tobacco, and the reading of coarse and debasing publications. The teaching on these subjects should be strictly temperate and non-partisan. The pupil must understand clearly the evil results of these practices, and their moral sense must be roused against them.

Such is the gist of the Report of which we have given the briefest possible outline as an effective counterpoise to the well-meant but mistaken efforts that have lately been made in this province to make Scripture lessons compulsory in the schools. The importance of the subject cannot be over-rated, and the *resume* given indicates with considerable grasp and lucidity the public school teacher's mission in the great moral vineyard. Blessed is he who labors diligently, sweetly, hopefully; he shall not lose his reward.

A considerable portion of the press has taken more or less notice of the question of school grants. It is remarked that the smaller and poorer a section is the less aid it receives from the government. It is practically impossible to distribute the grant on general principles so as to avoid some hardship in individual cases. The problem is complicated but we feel sure of these points—(1) the amount of the Legislative grant to both public and high schools ought to be largely increased; (2) in distributing the grant, efficiency as well as average attendance ought to be taken into account, and (3) the best general test of the efficiency of the average public school will be found in the qualification of the teacher, for the teacher is the school. (4) If a special grant of, say, \$10 for a third-class certificate, \$20 for a second, and \$50 for first were made it would tend to relieve those small sections which maintain good schools. A general examination of the schools would scarcely be practicable, and the best general tests remaining are (a) amount to be paid for salaries, and (b) the qualification of the teachers. We believe the latter the most reliable.

We greatly regret to hear of the illness of Mr. W. Ferguson, Inspector of Public Schools, South Grey. We hope to hear, very soon, of his complete recovery, and his return to those duties which he has hitherto performed with noted zeal and efficiency.

SCHOOL MACHINE WORK.—Some very reputable teachers can teach a subject without knowing it. They mistake facility in the handling of classes, in asking questions, and conducting recitations, for successful teaching. Such work is machine-work, and can give only machine results. The first condition of all successful teaching is knowledge of what is to be taught.—*Minnesota Journal of Education.*

REPORTS OF CASES.

We present this month the following, in continuation of the subject commenced some time ago:—

Arago tells of his boyhood at the Polytechnic School at Paris, perhaps the greatest science school of the world, about the beginning of the present century, when it numbered among the instructors such names as La Place and Legendre. The examinations were not on books but on subjects, and the choice of any method in solving a problem involved the necessity of giving some reason for making the choice, and why the student preferred it. In Legendre's room, at the entrance to which he met his predecessor carried out by two servants, having fainted from the severity of the ordeal, he was also marked for bad character because he gave one of Legendre's own methods, that official thinking it a case of bribing his good opinion, and only got off by a learned discourse on the reasons of his preference.

Even here the two science methods came into conflict, for they had not alone the Legendres, but a certain number of the text-book teachers. One of them would only look at the answers of problems, and his students would go through on the blackboard with a nonsensical mass of figures and formulæ, but ending with a correct result, when he would dismiss them with: "Good! good! perfectly good!" amid the jeers of the class. On one occasion, when he had a grudge against some student, he cooked up a perfectly crushing question, which he was to throw upon him when the class assembled. But the student, having a suspicion of something, was on his guard. The professor opened the question by the apparently innocent remark—I now copy the account—

"Leboullanger, you have seen the moon?" "No, sir." "How, sir; you say that you have never seen the moon?" "I can only repeat my answer, No, sir." Beside himself, and seeing his prey escape him by this unexpected answer, the professor addressed himself to the inspector charged with the observance of order that day, and said to him, "Sir, there is Leboullanger, who pretends never to have seen the moon." But that officer could not think of any law that had been violated. "What would you wish me to do?" stoically replied the inspector. Repulsed on this side, the professor turned once more to Leboullanger, who remained calm and earnest in the midst of the unspeakable amusement of the whole amphitheatre, and cried out with undisguised anger, "You persist in maintaining you have never seen the moon?" "Sir, I should deceive you if I told you I had never heard it spoken of, but I have never seen it." "Sir, return to your place."

The following incident shows what can be accomplished by one who has faith in himself:

A young teacher found the school-house surrounded by a fence made of boards set up on end—twelve feet in height. "It is to save the windows," said the trustee. "It looks like a prison," said the teacher. A heavy padlock was on the door. "The boys break it in unless it is strongly fastened," said the trustee.

The next spring if you had passed you would have seen that the fence had been removed, a pretty lawn had been made, trees set out, flower seeds had been sown, a plank walk laid down, and an air of neatness and joy prevailed. How was all this done? The teacher said, "The boys simply saw I was in earnest; I meant what I said." He either could not or would not give any other reply. And what more is needed?

Mathematical Department.

SOLUTIONS TO ENTRANCE ARITHMETIC.

(See January number, Page 6, for Questions.)

1. Indicating the work first, we have the expression

$$\begin{aligned} &(59404 + 47675)(59404 - 47675) \div 7 \times 13 \times 19, \\ &= (107079 \times 11729) \div 7 \times 13 \times 19, \\ &= (15297 \times 11729) \div 13 \times 19, \\ &= 1790192613 \div 13 \times 19, \\ &= 13 \mid 1790192613, \\ &= 19 \mid 137707124 - 1, \\ &= 7247743 - 7, \end{aligned}$$

∴ Quotient = 7247743, and remainder = 92.

2. Sold 5 for 11c., or 5 doz. for 132c.

$$\begin{aligned} \text{Bought 5 doz.} &= 50c. \\ \text{Gain on 5 doz.} &= 82c. \\ \text{" 20 " } &= 328c. \\ \text{" 11 boxes} &= \$36.08. \end{aligned}$$

3. Cost of fence = $\$1\frac{1}{2} \times 2(40 + 65)$
= $\$3 \times 105 = \$315.$

$$\text{Cost of land} = \frac{40 \times 25}{160} \times \$300 = \$1875,$$

which is less than ten times the cost of the fence.

4. If C gets 1 share, A gets 2 shares, B 2 shares—\$70,

$$\begin{aligned} \therefore 5 \text{ shares} &= \$70 = \$1200, \\ 1 \text{ share} &= \$1270 \div 5 = \$254 = C's, \\ \therefore A's &= \$408, \text{ and } B's = \$438. \end{aligned}$$

$$5. \frac{\frac{2}{3} \text{ of } 8\frac{1}{2} + 2\frac{1}{2} \text{ of } 5\frac{3}{4}}{\frac{3}{4} \text{ of } 3\frac{1}{2} - \frac{1}{2} \text{ of } \frac{1}{3} \text{ of } 2\frac{2}{3}} = \frac{10\frac{1}{2} + 2\frac{3}{4}}{\frac{5}{4} - \frac{1}{4}} = \frac{60 + 22\frac{3}{4}}{27 - 8} = \frac{285}{19} = 15.$$

$$6. \frac{(1 \cdot 02 + 3 \cdot 2589 + 40 \cdot 93) \times \cdot 00297}{90 \cdot 09} = 45 \cdot 4909 \times \cdot 00297 \div 90 \cdot 09,$$

$$= 6 \cdot 4987 \times \cdot 003 \div 18 = \cdot 00149902.$$

$$7. \text{Price} = \frac{2875 - 1083}{2000} \times 16\frac{1}{2}$$

$$= \frac{1792 \times 65}{8000} = 224 \times 65 = \$14.56.$$

8. A must allow B a start of 1 minute, i.e. one sixth of a mile = 293 yds.

9. Gang can do $\frac{1}{6}$ of work each day; in 5 days $\frac{5}{6}$ work done; $\frac{1}{6}$ work finished by 2 men in 5 days.

∴ 1st man did $\frac{1}{6}$ work in 5 days.

$$10. \text{Interest} = \$275.80 \times \frac{3}{100} \times \frac{1}{100} = \$4.813.$$

ELEMENTARY ALGEBRA.

1. Multiply

$$\begin{array}{r} a+b \\ c+d \\ \hline ac+bc \\ ad+bd \\ \hline ac+(bc+ad)+bd \end{array}$$

Observe that the product of the two extreme terms, ac and bd , is the same as the product of the two terms within the bracket, bc and ad . Each pair gives $abcd$. Suppose we wish to un-multiply such an expression, we have the clew to the method. Examine the case.

$$2. \begin{array}{r} x+5 \\ x+4 \\ \hline x^2+5x \\ 4x+20 \\ \hline x^2+9x+20. \end{array}$$

The product of the outside terms is $20x^2$. It is necessary then to split the $9x$ into two parts whose product shall be $20x^2$. In other words we have to find two numbers whose sum is 9 and their product 20. The only such numbers are 4 and 5. Thus we have,

$$x^2+5x+4x+20$$

i.e. $x(x+5) + 4(x+5)$, or $(x+5)(x+4)$.

3. Consider $8x^2 + 34xy + 21y^2$. We have to find two numbers whose sum is $34xy$ and their product $8 \times 21 \times x^2y^2$. Expressing 8×21 in prime factors, $2 \times 2 \times 2 \times 3 \times 7$, we can easily form two numbers, 2×3 and $2 \times 2 \times 7$, whose sum is 34. Thus we get

$$8x^2 + 34xy + 21y^2 = 2x(4x+3y) + 7y(4x+3y) = (4x+3y)(2x+7y).$$

4. $11a^2 - 23ab + 2b^2$. Product $+22a^2b^2$, sum $-23ab$. The signs show that both are minus; they must be -1 and -22 . Then $11a^2 - 22ab - ab + 2b^2 = 11a(a-2b) - b(a-2b)$, and the factors are $(a-2b)(11a-b)$.

5. $4(x+2)^2 - 37x^2(x+2)^2 + 9x^4$. Product must = $36x^2(x+2)^2$, and sum = $-37x^2(x+2)^2$; -1 and -36 are plainly the numbers; hence we have,

$$4(x+2)^2 - 36x^2(x+2)^2 - x^2(x+2)^2 + 9x^4$$

i.e. $4(x+2)^2\{(x+2)^2 - 9x^2\} - x^2\{(x+2)^2 - 9x^2\}$
or $\{(x+2)^2 - 9x^2\}\{4(x+2)^2 - x^2\}$
= $(x+2-3x)(x+2+3x)(2x+4-x)(2x+4+x)$
= $4(1-x)(1+x)(4+x)(4-3x)$.

The solution becomes neater if we write k for $(x+2)^2$.

$$4k^2 - 37kx^2 + 9x^4 = (k-9x^2)(4k-x^2).$$

Now restore the value of k , and we get the same factors.

6. $(12b^2 - 29bc + 15c^2)x^2 + (23b^2 - 31b^2c - 9bc^2 + 15c^3)x + (10b^4 - 6b^3c^2)x$
Set aside the common factor x ; factor the $12b^2 - 29bc + 15c^2$ by the preceding method = $(4b-3c)(3b-5c)$; observe that $10b^4 - 6b^3c^2 = 2b^3(5b^2 - 3c^2)$, that $(5b^2 - 3c^2)(3b-5c) = 15b^3 - 9bc^2 - 25b^2c + 15c^3$, and that $23b^2 - 31b^2c - 9bc^2 + 15c^3 = (5b^2 - 3c^2)(3b-5c) + 2b^2(4b-3c)$. Now write k for $(4b-3c)$, m for $(3b-5c)$, and y for $5b^2 - 3c^2$, and the given expression becomes simplified to $kmx^2 + (ym - 2kb^2)x + 2b^2y$. Now take together the first and third, second and fourth terms, taking out the common factors and we get $kx(mx + 2b^2) + y(mx + 2b^2) = (mx + 2b^2)(kx + y)$. Restore the values of m , k , and y , and we have the factors $x(3bx - 5cy + 2b^2)(4bx - 3cx + 5b^2 - 3c^2)$.

Elegant examples for practice will be found in *McLellan's Teacher's Handbook*, p. 71, and elsewhere, e. g.

$$6(x^2 + xy + y^2)^2 + 13(x^4 + x^2y^2 + y^4) - 385(x^2 - xy + y^2)^2;$$

$$21(x^2 + 2xy + 2y^2)^2 - 6(x^3 - 2xy + 2y^3)^2 - 5(x^4 + 4y^4);$$

of which the factors are, respectively,
 $2(4xy - 3x^2 - 3y^2)(61x^2 - 49xy + 61y^2)$, and
 $2(5x^2 + 4xy + 10y^2)(x^2 + 10xy + 2y^2)$.

ONTARIO.—JULY EXAMINATION, 1882.

FIRST CLASS TEACHERS—GRADE C.

EUCLID.

TIME—THREE HOURS.

1. The three angles of a triangle are together equal to two right angles.

If triangles be formed on the sides of a polygon of n sides by producing the alternate sides to meet, the sum of the vertical angles of these triangles is equal to $2n - 8$ right angles.

2. Establish the converse of the following: The complements of the parallelograms, which are about the diameter of any parallelogram, are equal to one another.

3. To divide a given straight line into two parts, so that the rectangle contained by the whole and one part may be equal to the square on the other part.

Point out all the lines in the figure that are divided similarly to the given line.

4. By the assistance of Prop. 12, Bk. II., when the sides of a triangle are 25, 45, and $20\sqrt{10}$ find its area.

5. If in a circle all possible chords be drawn passing through the same point in the circumference, and these chords be doubled in length by production, the locus of the extremities of the lines so formed is a circle.

6. The angles in the same segment of a circle are equal to one another.

If a line of constant length move with its extremities in two fixed lines, and at the ends of the first line lines be drawn perpendicular to the two fixed lines, the locus of the intersection of these lines is a circle.

7. ABC is a triangle, C being a right angle. On CA , CB are described segments of circles containing angles equal to CBA , CAB respectively. Show that the circles of which these segments are parts touch one another.

8. In a given triangle to inscribe a circle.
If the points of contact be joined show that the triangle thus formed can be equiangular to the original triangle only in the case in which both are equilateral.

9. Show, after the manner of Euclid, that triangles are to one another in the ratio compounded of the ratios of their bases and altitudes; and prove that this is algebraically equivalent to product of ratios.

10. Similar triangles are to one another in the duplicate ratio of their homologous sides.

Two circles touch, and through the point of contact lines are drawn cutting the circles, and the ends of these lines are joined. Prove that the triangles so formed are as the squares of the diameters of the circles.

HINTS.

1. I. 32.

Sum of int. \angle 's. of the n Δ 's = $2n$ rt. \angle 's.
= all the vertical \angle 's. + twice all exterior \angle 's. of fig.
= " " + 8 rt. angles.
 \therefore Vertical angles alone = $(2n - 8)$ right angles.

3. II. 11. There are five such lines.

4. Let x = part between obtuse angle and perp.
then $25^2 + 44^2 + 50x = 4000$.

$\therefore x = 27$.

The perp. may now be found by I. 47 and thence the area.

5. Let A be the given point in the circumference. Describe another circle equal to the given circle and touching it externally at A . Produce the chords of the first circle through A to meet the circumference of the second circle, then the enclosed arcs are respectively equal. The diameters are also equal, whence it may be shown that all the other chords are respectively equal.

6. III. 21. Let CA and CB be the two fixed lines. From A draw AD perp. to AC cutting BD , the perp. from B on BC , in D . From A draw also AE perp. to BC , and from B perp. to AC , and let these intersect at G . A circle will go round ADB , III. 22. The middle point H , of CD is the centre of this circle. In the triangle AHB , the angle at H = half the angle C which is constant. Also the angles HAB and HBA are equal and constant. Hence when AB is constant the triangle HAB is constant, and CD or $2AH$ is constant, i.e. the point D is always in the circumference of the circle ADB . Similarly G is always in the circumference of $CEFG$.

7. Draw CD perp. to AB , and it makes the angle DCB = angle at A , and angle ACD = angle at B . Through C draw CK perp. to CD . Bisect BC at right angles by QK meeting CK in K , then $CK = KB$, and a circle described through C with centre K passes through B . The angle in the segment outside the triangle = angle at A . Similarly the circle touching CD at C and passing through A has an external segment whose angle = angle at B . It is manifest that the circles touch one another at C .

8. IV. 6. Join EG , GP , BE . The angles at D are the supplements of the angles at A , B , and C ; also, the angles at D are double the angles E , F , G of the triangle EPG ; i.e., the angles of EPG are half the supplements of the angles of ABC . Hence unless the angles A , B , and C are equal, the angles E , F , G are not equal. And when A , B , C are equal angles, the triangles ABC and EPG must be equilateral.

10. Draw the common tangent. It is easily shown, III. 31, that the triangles are similar, and their bases parallel. Draw the diameters parallel to these bases and complete the triangles by joining the extremities with the point of contact. These triangles are similar to the first triangles. Their areas are as the squares of their bases, i.e. as the squares of the diameters. Hence the first triangles are as the squares of the diameters.

CORRESPONDENCE.

MR. J. H. THOMPSON, Mcneton, Ont., asks for solutions to the following:—

1. If a shot weighing 52 lbs. be fired from a gun weighing 2 tons, with a velocity of 1,120 feet per second, and if the friction between the gun and the ground be equal to a force of 1 ton, how far will the gun recoil?

2. A body weighing 12 lbs. slides with uniform velocity down a plane that rises 5 in 13. How much energy would have to be expended in order to drag the body 13 feet up the plane by means of a string stretched parallel to the plane?

3. A ball is fired from the ground at an angle of 45° , so as just to pass over a wall 10 feet high at a distance of 200 feet. How far will it strike the ground from the wall? $g=32$.

MR. A. T. DELURY, Manilla, Ont., sends us the following solution of number 6, page 5, in January number. We return cordial thanks.

Let OAB be Δ given by question. Produce $O.A$ and OB to C and D making $OC = m.OA$, and $OD = n.OB$. Then OC and OD represent the forces. Complete $\square ODFC$. Then OF represents resultant. Draw CEK parallel to AB cutting OF in E and OD in K . Then $O.AG$ and $OC'E$ are similar Δ 's.

$$\therefore (\text{Euc. VI. 4.}) \frac{OC}{OA} = \frac{OE}{OG}$$

But $OC = m.OA$. $\therefore OE = m.OG$.

Again $\angle EFC$ and GOB are equal (Euc. I. 29), and $\angle OGB = \angle AGE = \angle CEF$. $\therefore \triangle CEF$ and GOB are similar.

$$\therefore \frac{CF}{OB} = \frac{FE}{OG}$$

But $CF = OD = n.OB$. $\therefore FE = n.OG$.

\therefore The whole $OF = (m+n)OG$.

$\therefore (m+n)OG$ represents resultant.

Again, $\triangle CEF$ and OEK are similar.

$$\therefore \frac{OE}{EF} = \frac{KE}{EC}$$

But $\frac{OE}{EF} = \frac{m.CG}{n.OG} = \frac{m}{n}$. $\therefore \frac{KE}{EC} = \frac{m}{n}$

And since CK is parallel to AB it may easily be proved that

$$\frac{KE}{EK} = \frac{BG}{GA}$$

$\therefore \frac{BG}{GA} = \frac{m}{n}$. $\therefore m.GA = n.GB$.

which shows position of OG . Hence the proposition.

MR. A. D. FRASER, P. E. I., presents a neat solution of problem 5, page 252 of December issue.

$$DG^2 + AD^2 = AE^2 + EG^2 \quad (\text{I. 47 \& Ax. 1.})$$

i.e. $DG^2 + AB^2 + BD^2 + 2AB \cdot BD = AE^2 + EB^2 + BG^2 + 2EB \cdot BG$ (II. 4.)
but $DG^2 + BD^2 = BG^2$ and $AB^2 = AE^2 + EB^2$. (I. 47.)

$$\therefore 2AB \cdot BD = 2EB \cdot BG$$

i.e. $AB \cdot BD = EB \cdot BG$.

MR. T. F. SPAFFORD, Demorestville, sends the following for solution:—

4. A sphere, diameter 4 feet, is submerged until its centre is 5 feet beneath the surface of a pond; divide the sphere into two equal parts by a horizontal plane so that the surfaces shall be equally pressed.

$$5. \text{ If } x = \left(\frac{a+b}{a-b} \right)^{\frac{2mn}{n-m}}, \text{ then } \frac{1}{2} \cdot \frac{a^2 - b^2}{a^2 + b^2} \left(\sqrt[n]{x} + \sqrt[n]{x} \right) = \left(\frac{a+b}{a-b} \right)^{\frac{m+n}{n-m}}$$

6. Solve,—

$$\frac{xy}{4y-3x} = 20; \quad \frac{xz}{2x-3z} = 15; \quad \frac{yz}{4y-5z} = 12$$

C. FESSENDEN, B.A., Napanee, kindly points out that the words suggested in emendation of question 6, p. 251, of last vol., would not be an improvement. We regret that we have not more space to give the acute observations made on the problem. We hope all our correspondents will continue to let us know of their wants.

THE BOAT THE GNATS BUILD.—Did you ever hear about the wonderful boats the gnats build? They lay their eggs in the water, and the eggs float until it is time for them to hatch. You can see these little egg rafts on any pool in Summer. The eggs are so heavy that one alone would sink. The cunning mother fastens them all together until they form a hollow boat. It did not upset, even if it is filled with water. The upper end of these eggs is pointed, and looks very much like a pocket flask. One egg is glued to another, pointed end up, until the boat is finished. And how many eggs do you think it takes? From two hundred and fifty to three hundred. When the young are hatched they always come from the under side, leaving the empty boat afloat. These eggs are very, very small. First they are white, then green, then a dark gray. They swim just like little fishes, and hatch in two days. Then they change again into a kind of sheath. In another week this sheath bursts open and lets out a winged mosquito. It is all ready for work. There are so many of them born in a summer, that, were it not for the birds and larger insects, we should be "eaten up alive."—*Our Little Ones.*

Correspondence.

KINGSVILLE ONT., Jan., 29th, 1884.

To the Editor of the CANADA SCHOOL JOURNAL.

DEAR SIR,—I am one of the many who take pleasure in reading our common property the CANADA SCHOOL JOURNAL, although at times I hold to opinions opposite to those advocated by it. At present I beg to explain my disagreement with your editorial on "History in the Public Schools" in the January number last.

You quote "proceed from the known to the unknown," then desire that we start at the Victorian age and work backwards. Pray, sir, what do public school children who have not started History know of the present age? They know partially that two contending factions are on the public stage, that *Grits and Tories* (unexplainable terms to them) are in opposition but their ideas of public weal, business, or advancement are vague indeed.

And, sir, are the minds of the children capable of grasping any ideas of the advancement, progress, and stupendous work of the present age in the study of *History* without first having other periods known to institute comparisons with?

Perhaps my views are too conservative in this respect and I need more enlightenment; but I hold with "beginning at the beginning" and working down. My reasons I will endeavor to explain.

The first part of the *History* of most countries is not very distinct. It is traditional and much in the form of a simple yet attractive story that a beginner (a child of ten or twelve) would readily understand. The pupil could trace, with proper teaching, the growth of the nation and with his mental eye look back into the story, and picture the events as easily as he now can a Sabbath School story book or one of *Beadle's Dime or Nickel* mental poisons. It will be like a child watching builders erecting a house,—foundation, collar, sidewalls, windows, doors, chimneys, are easily understood by him in parts but if he looks at the completed edifice, as he would at the present aspect of the Empire of Great Britain or the Dominion of Canada, he would but very indefinitely comprehend the steps, or the order of their procedure in producing the present condition. Children, too, have time to watch these steps rather than to analyze steps from effects, and if they but correctly have the successive stages of history delineated for them they will be interested enough when they are older to inquire into the complex problems of nineteenth century history, to see the repetition of history, to see the reasons of certain procedures, to comprehend the allusions to historic events that have influenced the people, language, commerce, and international affairs, made in the public press. As for the amassing and committing to memory of *dry bones and numberless dates*, I think that about one-tenth of what we have will be ample.

Why have not historians tried to write a text book commencing at the present age to work backwards? Because it is next to impossible, it would be such a see-saw, intermingled business that it would never see the light of day. It looks very pretty perhaps as a theory and may appear to have a parallel in science, geography, etc., but when in these studies we must commence at the beginning. In arithmetic we do not start at the results of ages of calculations.

There is a tendency to look upon every new idea advanced in school affairs as the best; that all twenty-year-old notions are questionable if not useless; that perhaps our father and their ideas were behind their precocious children. I have tried teaching of things of the present time, but found that I had to refer back so much to explain terms that it was nothing but giving the whole in a lump, an impossibility. Is not the present entrance examination in history a cause of such land-mark, bird's-eye, skeleton, date-be-spangled teaching of history? The questions range from 55 B. C. to A. D.

1876 about, over more territory than, though perhaps not so thoroughly desired as, first class teachers' history requirements.

Trusting that I have not trespassed too far on your valuable space.

I remain yours, very truly,

FRANK LEIGH.

[We are glad our correspondent has given his own views on this subject. We hope many of our friends will discuss educational matters from their own stand points. It is useful to have both sides of a question clearly presented, and is the only way in which sound progress in methods can be accomplished. In addition to what we have already said on the teaching of history we submit the following points.

1. More than 75 per cent of the pupils leave the public schools without entering the fourth class in which the study of history is begun.

2. Only a very small fraction of the remainder stay long enough at school to master even the barest outline of English and Canadian history.

3. Consequently, for all but a very small fraction the choice lies between the ancient Britons and the story of our own times.

4. We have never proposed that a history should begin with 1884 and go backwards. We maintain that it would in all respects be better in the first place to teach the history of the last two hundred years rather than of the first thousand as introductory to the great study of history.—EDITOR.]

A TEACHER FROM THE OLD COUNTRY, who is engaged in the County of Haliburton, sends a cheery, well-written letter which has the right ring about it. He hopes "to climb by degrees to the top of the tree" and will, we hope, attain his ambition. In commenting on the article, "School Matters in England,"—see Sep. 1883,—he gives the following interesting information about English teachers,—"The youthful aspirant to the office of teacher, must have reached the 6th standard, must pass the Inspector's Candidate's Examination and then undergo the Pupil Teacher's Course of 5 years; then if successful in all the examinations, he or she is supposed to go for 2 years to one of the Training Colleges, but this is sometimes evaded."

In reply to Lennox Teacher he recommends constant employment as a cure for whispering, and directs attention to the articles on the subject in the Jan. and Nov. numbers of last year's JOURNAL.

MR. SAMUEL ATTER, Abingdon, requests replies to the following:—

1. In case a teacher loses, say ten days in a year; in deducting their value from his salary, how would the price per day be obtained? that is, would the price per day be found by dividing the amount of his yearly salary by 220 the number of teaching days in a year, or by dividing the salary by 313, the number of working days in a year, or by 365 the days in a year? (Teacher hired by the year.)

2. Can a school meeting be legally closed before 11 a.m., when no poll is demanded?

3. In case of nomination for trustee, how long is given for demanding a poll, or does the statute give any definite time; if an hour, would business have to be retarded so as to see if any would demand a poll?

4. If the school meeting be opened according to law, and a trustee elected by a majority of those present or without opposition by those present, but after his election a number more of the electors come and elect another man before 11 a.m., which would be the legal trustee?

An American student of Latin being confined to his room by sickness was called upon by a friend. "What, John," said the visitor, "sick, eh?" "Yes," answered John, "sic sum!"

Special Articles.

NOTES OF TALKS ON TEACHING.*

TALK IV.—READING.—THE SENTENCE.

I will repeat the fundamental principle of the art of teaching reading. Learning to read is learning a vocabulary of written and printed words. Each word is learned by repeated acts of association of the idea and the word. That which helps in these acts of association, and that alone, should be used in teaching reading. All other means are hindrances. I have shown that the effectiveness of the acts of association depends on the stimulus or excitement to the act. This stimulus comes primarily and mainly from the side of the idea. The vividness of the idea or mental picture in the consciousness, with the appropriate word, determines the result. The greatest difficulty to be found in the process of learning to read is in learning the first few words. The habit, so strong in the mind, of learning the spoken word, is to be carried over and used as a power in learning the written word. The word itself should be subordinate and secondary in interest to the child, to the idea that excites the mind. The word is to be learned consciously as a whole, and any attempt to analyze or synthesize it hinders the act of association by absorbing the attention. The means used to arouse the mind to acts of association, I have told you, are, objects, drawings upon the blackboard, made under the eye of the pupil, pictures, conversations, and stories. But there is another and still stronger means of association after the first few words have been learned, and that is the arrangement of words that recalls ideas in their relations or thought. Every object that we recall or think of is recalled in space. The more interesting the relation of the ideas one to another, the stronger will be the association. That is, it is a great help in learning words to learn them in sentences. We do not learn the word in order to read the sentence, but we read the sentence in order to learn the word. The question may here be asked, Why not begin with the sentence, as many do, with great success? My answer is, that the first written words, as I have said, present the greatest difficulties to the child. We can hardly comprehend how mysterious the strange forms are to the little one. We may get an inkling of the trouble if we have ever begun Greek, Hebrew, or Sanscrit. We may recall the fear that came over us, when we looked forward to the time when we must use the meaningless forms to get thought. The successful learning of the first few words, it seems to us, depends upon presenting the simplest obstacle to be overcome, and in making the child, the little learner, as unconscious as possible of the difficulty. The simplest step, then, consists in following a fixed and powerful habit of the child, by presenting a favorite object, and saying with the chalk just what the tongue has so often repeated. I have no doubt but what the skilful teacher could successfully begin with a whole sentence. My point is, that it is much simpler and easier to begin with the single words. Just as soon, however, as a few words have been learned, for instance, fifteen or twenty, short sentences should be taught by the objective plan; so that when the child sees the sentence he is able to get the thought that it expresses. There are many words that mean nothing alone, which should always be taught in phrases or sentences.

We come now to the discussion of oral reading, or getting thought by means of written or printed words arranged in sentences. A thought is ideas in their relations, and may be called the unit of expression. We cannot learn a single word without recalling the

idea it expresses in some relation. You will remember what I have said concerning the different ways of getting thought. First, directly through the senses, by seeing, hearing, etc., objects in their relations. Second by pictures and drawings. Third, by language, both oral and written. In all these cases the thought is the same in the mind, differing only in degrees of intensity. The written sentence is simply one way of getting thought. The child has already, by long and continued practice, learned to talk, and to talk well. One thing above all others I wish to impress upon your minds, here and now—do not teach him to talk in any other way—that is, when he gets the thought by means of the written sentence, let him say it as he always has. Changing the beautiful power of expression, full of melody, harmony, and correct emphasis and inflection, to the slow, painful, almost agonizing, pronunciation that we have heard so many times in the school-room, is a terrible sin that we should never be guilty of. There is indeed not the slightest need of changing a good habit to a miserable one, if we would follow the rule that the child has naturally followed all his life. *Never allow a child to give a thought until he gets it.* Remember, and keep on remembering, my dear teachers, that the child has learned to talk, and that that teaching which mangles this grand power is needless and worse than useless. Let the child get the thought himself, in the easiest possible way, by means of the written sentences. One of the worst ways of teaching reading may be called, for want of a better term, the method of imitation. Now you will see that the valuable act of the mind, the thing to be done, is the child's getting the thought for himself, and by himself by the means, I repeat, of written words. If the teacher reads the sentence to the child, the child gets the thought through the ear from the teacher's lips, and the one thing he ought to do is prevented. I do not wish to be understood that the teacher should not read to the child. The teacher should make herself the best possible model of good reading, and through her reading present a high ideal of expression for the child to attain. What I wish to impress upon you is, the one pedagogical principle that stands above all others—we learn to do by doing. Oral reading has one function, one use to the teacher; it is a means of knowing, as I have said in a former talk, whether the thought is in the mind of the reader, how it is there, if every relation is known, and the intensity of the thought felt by the reader. This grand function of oral reading may be perverted or entirely destroyed. First and foremost, by not waiting for the child to get the whole thought before he gives it. Second, by training the child to imitate the teacher's voice, her pauses, emphasis and inflection; and, third, by a useless struggle with the parts of the word in forcing a analysis before the whole word is clearly in the mind. The alphabet method is the best possible means of obstructing the mental action of the child in learning to read; too early phonic analysis the next. With the child thought has always controlled expression. Why should we throw this grand power aside, and try to teach a child oral expression by means of pauses and imitated inflection and emphasis? The initial capital of a sentence and the punctuation have one use—they enable the child to get the thought. When the thought is in the mind they have no use. You will see, then, that if you follow the principle—thought controls expression—much of the labor and toil of the teacher, in trying to force artificial expression by training a child to pause at commas and periods, to raise the voice or let it fall at the end of sentences, to give stress when they see diacritical marks, is not only useless, but positively injurious and nonsensical.

TALK V.—READING.—SCRIPT.

The written word to the little child has no element of attraction. It is, on the other hand, a repelling object. I have tried to show how the difficulties of learning the first words may be overcome by

* Notes of Talks on Teaching, given by Francis W. Parker, at the Martha's Vineyard Summer Institute, July 17 to August 19, 1882.

the stimulus of the idea in acts of association. It is a matter of great importance to steadily overcome the repulsion occasioned by the written word. The repulsion will grow less and less, and the acts of association will be made easier by continued familiarity with the new forms, if the interest and the appetite of the child for words is sedulously cultivated, through the pleasure that the objects and pictures excite. All words are made, as you know, of only twenty-six different forms. The less the mental action it requires to see these forms, the easier will be the acts of association. It is important to impress these forms upon the mind in an easy, natural, semi-unconscious way. As I have shown, the best possible way to impress the word forms upon the mind, is to write them—to make them. We hear the objection very often that a child does not learn the letters by the new method. He does not learn their names, but he learns *them* by continually making them. What is the best proof that any object is clearly in the mind? A word description is weak beside the representation of the object in drawing. *This brings to the question so often mooted, whether we should use print at the beginning, or print and script, or script alone. I will try and present the arguments in favor of using script alone, not denying, however, that script and print may be used at the same time with good effect. When two or more ways of teaching are presented, all of which may be defended by good reasons, reasons that do not directly violate a principle, the question of choice then becomes a question of economy. If we begin with print, it certainly fixes the printed forms in the mind by reproducing them on the slates, so that if the teacher uses print alone at the beginning, she should train the children to make the printed forms. But, making the printed forms is not a means of expression that a child ever uses after the first few months, or the first year. Writing is the second great means of language expression. It should be put into the power of the child just as soon as possible, in order that he may express his thoughts as freely with the pencil as with the tongue. This fact needs no argument. Written expression is as great a help to mental development as oral expression; and, indeed, in many respects, it stands higher. Written expression is silent, the child must give his own thought, in his own way; thus developing individuality. The greatest difficulty in all teaching in our graded schools is the sinking of the individual in the mass. In written expression we find a means of reaching individuality, through the mass. Why not, then, begin at the beginning with this mode of expression that the child must use all his life, and every day of his life?*

Why not teach printing and script together? Because it violates the rule of perfect simplicity. Train the child to use one set of forms, made in one way, and one alone. In my experience extending over eleven years of supervision of primary schools, I have never known the failure of a single class to change from script to print, easily and readily, in one or two days. What, then, is the use of print at first? What logical reason can be given for its use, if the step from script to print is so very simple? The writing of the words by the child on blackboard, slates and paper, furnishes a vast amount of very interesting and profitable busy work. In writing the first word the child begins spelling in the only true way. In writing the first sentence the child makes the capitals and punctuation marks, and if he is never allowed to make a form incorrectly, it will be almost impossible for him ever to write a sentence incorrectly—that is beginning it with a small letter, or not using the proper punctuation at the end. In writing the words, the child follows exactly the method of learning the spoken language. Spelling is the precise co-relative of pronunciation. The child hears the spoken word and strives to reproduce it by his voice. The child sees the written word, and reproduces it with his pencil

He gets the thought by means of the written word, and gives it back just as he gets it—he is talking with his pencil. He is ready to tell you any time, orally, what he is writing.

In the first three years' work, talking with the pencil may be used as a greater means of learning to read than all the books of supplementary reading. When the child writes the first word, the unity of all language teaching is begun. Getting thought and giving thought by spoken and written words should be united at the start, and grow through all future development as from one root.

What advantages have the blackboard and crayon over the chart and printed book in elementary reading? First, the words are created by the hand of the teacher before the eyes of the children, as the spoken word is created. Second, the word is written alone in large letters, separated from all other objects of interest except the object it names. How different the confused mass of black specks upon the printed page. Third, the attention of the little group is thus directed to one object in a very simple manner. Fourth, words are learned by repeated acts of association. The great fault with charts and primers is that they do not repeat words times enough for the child to learn them. On the blackboard, on the other hand, these repetitions can be easily made. It is of great importance that the first one hundred words should be learned thoroughly. Superficial work is always bad work. From the first, then, the child should write every word he learns from the blackboard, and just as soon as he is able to write sentences the word should invariably be written in sentences.

The child should be trained to read from his slate all that he writes. The reason why the change is made so easily from script to print used to puzzle me. I only knew that it could be done, but could not tell the reason why. Script and print are very nearly allied in form. The first print was a crude reproduction of old manuscript. Both, indeed, have changed since the art of printing was discovered, but the resemblance remains. The child, as you know, has a wonderful power of seeing resemblances. Like comes to like in his mind because his mental pictures are not filled out with that which produces the differences. This, to my mind, is sufficient reason for the surprising ease with which the child changes from script to print.

(To be continued.)

THE TEACHING PROFESSION.

It is interesting to note at this season of the year, when school boards are advertising for teachers, the smallness of the salary offered in a large proportion of the schools. The rate at which the teacher's services are remunerated is a sure index to the status of his profession in the public estimation, and tested by it that status is not yet in the eyes of the people of Ontario very high. And this conclusion is confirmed by other indications, which are too familiar to require enumeration here. An honest effort on the part of those most directly interested in this state of affairs to estimate its evil effects and ascertain the true remedy can hardly fail to be productive of good.

The effects are patent to the most superficial observer. Because it is not worth a teacher's while to stay in his profession he leaves it as soon as he can for something else. Some take to farming, some to mercantile life, some to the insurance business, some to the so-called learned professions, not one of which has any better title to the epithet than the one that is abandoned. Its inevitable consequence is that the ranks of the teaching body are filled up very largely with inexperienced recruits, and very largely with those who lack either the energy or the ability to better their posi-

tions. That there are always to be found many able and self-sacrificing teachers we all know, but it is greatly to be regretted that the recruits and the drones are so numerous as they are.

This is one evil flowing directly from the low estimate put on the profession by the public. Another is the frequency with which teachers are changed in schools. Very few school boards adopt the plan of providing residences which they could easily do, and therefore the great majority of even married teachers are birds of passage, ready to take the wing whenever a favorable opportunity offers. The injurious effect of this tendency on both the schools and the teachers might be indefinitely lessened by providing rent-free residences for the teacher, and engaging him for several years instead of one. It is hardly necessary to add that the remedy can be made thoroughly effective only by paying decently liberal salaries.

The teachers have in their own hands to some extent the means of remedying the evils of which they justly complain. They have excellent facilities for co-operation, and there is no reason why co-operation should not be as effective in bettering their condition as it has been in bettering that of mechanics. Questions of salary, residence, and length of engagements are proper subjects for discussion in teacher's conventions, and though the members of the profession cannot by their deliberations and resolutions compel the taxpayers to be more liberal, they can improve their own *esprit de corps* and arrive at the best means of improving and enlightening public opinion.

They can do more even than this. The collective expressions of the opinions of teachers have always, and properly, had a great deal of influence with the education department, and the right to legislate in several matters which have an intimate relation to the teacher's status is vested in that body. We need not refer here to more than one of these matters—the qualification prescribed for entrance into the profession.

A great improvement has been made in this connection during the past few years. It is now impossible for a person to become a teacher without having had some professional training. But the time has come for making another advance. Attendance for a single brief session at a county model school is not enough. That period of preparation and probation should be greatly lengthened in the interest no less of the schools than of the teachers. It is still to a great extent the case that the teacher gains his professional skill and experience at the expense of the children on whom he operates, when he should be compelled to gain them more largely at his own. By judiciously increasing the difficulty of entering into the profession its standard may be indefinitely raised, and there is little reason to doubt that by unanimous and persistent efforts the teachers of this province can secure this wise reform.—*Toronto World*.

NEW METHODS.

BY WILLIAM T. HARRIS.

I wish to offer a few words on some of the "new methods" in vogue. The reform of the reading-lesson through "Supplementary Reading" is one that I find most liable to abuse. Many teachers have been in the habit of conducting the lesson in reading as a mere test of the pupil's acquired ability to read at sight, and not as a means of instructing the pupil how to read well. They have accordingly given the child no lesson to study and prepare for the recitation, but have kept the reading-book away from him until the hour of actual trial. Then the books are suddenly placed in the hands of the pupils, and they are expected to "read at sight." They read what they have not studied nor seen before. The books, too, are not carried home by the pupils to be read in the family, nor are they studied by the pupil at school.

Only one step further could be taken in this direction, namely, entirely to abolish instruction in reading, and expect the pupil to read newspapers and books "at sight" whenever he may have occasion to do so in after-life.

I think it is clear enough that reading resembles any other branch of instruction, and is to be learned by *study*, and study, too, on the part of the pupil. The teacher must teach pupils self-help. Unless something is given for the pupil to prepare in reading, the teacher can not hold him responsible for results, and we have simply what is called a "pouring-in" process, or the old-fashioned, long since discarded habit of "reading round," which was a mere calling of words and a correction of pronunciation.

And yet "Supplementary Reading" has a place in a proper course of study. Each teacher should be furnished with a dozen copies each of three or four volumes of selections from the best of classic authors—the selections being made from what is most attractive to children. These should be loaned for home reading to those pupils who prove that they have time to spare for supplementary reading by learning well the regular lessons assigned them in school. Such books of good literature and history are likely to be read at home not only by the pupils, but by the parents and older brothers and sisters, and thus accomplish manifold good. When the set of books in one room is pretty well finished by the pupils in that room, exchanges may be made with the next room and different authors may thus be obtained.

One great object of the school in our time is to teach the pupil how to use books—how to get out for himself what there is for him in the printed page. The man who cannot use books in our day has not learned the lesson of self-help, and the wisdom of the race is not likely to become his. He will not find, in this busy age, people who can afford to stop and tell him by oral instruction what he ought to be able to find out for himself by the use of the library that may be within his reach.

Oral instruction, except as an auxiliary to the text-book—except as an incitement to the pupil's interest and a guide to his self-activity and independent investigation in the preparation of his next lesson—is a great waste of the teacher's energy and an injury to the pupil. The pupil acquires a habit of expecting to be amused rather than a habit of work and a relish for independent investigation. The most important investigation that man ever learns to conduct is the habit of learning by industrious reading what his fellow-men have seen and thought. Secondary to this is the originality that adds something new to the stock of ideas and experiences of the race. The pupil who has not learned yet what the human race have found to be reasonable is not likely to add anything positive to the sum total of human knowledge, although he will certainly be likely to increase the negative knowledge by adding a new example of folly and failure.

The first thing in education, therefore, is the acquirement of the experience of the world, in order that the pupil may not start anew at the bottom of the hill, but may begin with a goodly share of the results of the work of his race.

I find, therefore, in these considerations the justification for the action of your committee, by which you have required the pupils to own their reading-books, and study them as they study other lessons. I would recommend, however, that a certain sum, not less than five dollars each year per room, be appropriated for books of supplementary reading, to be loaned under the strict supervision of the teacher, to pupils who show ability in regular school-work to profit by such books. It would be understood, of course, that the books of one room are to be exchanged gradually for the books of another room, as circumstances require.—*Report to School Committee, Concord, Massachusetts, 1888.*

DUTY.*

A German philosopher has said "the two most beautiful things in the universe are the starry heavens above and the sentiment of duty in the human soul;" and could he have chosen from the universe a more fitting creation to place side by side in the scales with this divinely given guiding power than the starry heavens in their beauty, grandeur, sublimity and incomprehensibility. To many this word "duty" appears harsh and pictures to their minds unpleasant associations; to these, instead of being a soul inspiring word encouraging them to press on in its pathway to reach the bright goal at its farther end, and coloring their daily life with all that is good and noble, it is a hard task master whose demands they justify themselves in neglecting and ignoring as did the unprofitable servant in the parable. They regard it as a whip to keep the coward in track, whose lash they are determined to escape, rather than as an ennobling principle to guide and regulate their daily life. They forget that it is the solid and beaten road on which one may travel safely, and in straying from its straight course they are entering unknown and uncertain paths which will sooner or later lead them into wildernesses of trouble and sin. Of some of these pleasure is the watchword substituted for duty—not that duty forbids pleasure; on the contrary, pleasure is never so sweet as when enjoyed in accordance with the dictates of this monitor. If they limited their pleasures and enjoyments to those that would not interfere with the performance of their duties, they would find that their capabilities for enjoyment would be increased ten-fold. Others neglect duty from indolence; rather than exert themselves they let golden opportunities pass, and turn out of the true way to escape difficulties they ought to overcome. But whatever be the excuses with which they seek to hide their shortcomings, the fact that they are surrounded by obligations to themselves, others, and their Creator remains unchanged. Man is born into the world to perform an allotted work—he will either leave the world better or worse—from the cradle to the grave his one straight path, following and struggling manfully in which he will finally stand at the close of his life's toil a conqueror worthy to receive the reward of victory which awaits him. No matter whether destiny has elevated him to a throne, placed him in the archbishop's chair, or led him along the more obscure paths of life—on board the man of war, in the mechanics' workshop or behind the plough, his path of duty is mapped out and a life's work waits a stout heart and willing hand. All are needed to fill their role in the grand onward march and progress of humanity, and indeed the noblest and truest men have often walked quietly along the humblest paths, fulfilling the duties of their station from purer motives than many of our greatest heroes, whose faltering foot-steps are often steadied and quickened by the consciousness that the eyes of a world are upon them. Truly in the daily routine of life, its trivial duties seem to us small items and we would fain neglect the little things because of this insignificance, but should we reflect that the little word "duty" hallows each act and throws a halo around the monotonous round, the thought would inspire us to renewed effort to perform the smallest offices faithfully. But its pathway is not strewn with pebbles only, nor all its walks lined with flowers; there are difficulties like huge boulders in the way, and these must be overcome, and trials mingle like thistles with its roses and these must be endured. If the minor details require constant watchfulness and perseverance, the great acts call forth moral courage and steady determination, which will perfect and beautify the character of the happy possessor. Duty often means a decision between right and wrong: in these

cases pause, and having clearly decided what is right—that do independent of difficulties or obstacles. Duty comes home to us in manifold forms—duties lie on every hand but all may be embraced under two grand heads, social and religious—our duties to ourselves and others, and our duty to the Creator and Preserver of all mankind, or as the catechism has so admirably put it, our duty to God and to our neighbor. In the ten commandments we have a divine code of law which clearly defines these duties. Social duties are numerous and we can only regulate them by references to our sphere in life. We must not live for self. The very fact that God has planted in our hearts such reverence and loyalty to family ties establishes this clearly. All the world abhors a thoroughly selfish man. Why is the word "miser" pronounced with so much pity and shrinking contempt. With pity we reflect what a vast wealth of happiness he loses by hoarding all for himself, and with contempt when the dark side of the picture of what his nature, bound up in himself, must reveal passes through our minds. Again with what a shudder we fancy ourselves shut out from society as the lonely hermit. We would not change places with him for worlds—no social advantages are too vividly real to us, and, if we really feel this, we ought to contribute all in our power to make these privileges and pleasures more valuable. These several duties beginning at personal obligations as the centre, form an ever widening spiral. Our habits, culture, and conversation not only influence and color our actions but they affect the tone of society in which we move. God has given us talents and abilities. We are required to cultivate these and render an account of our stewardship according as we have used them to improve ourselves and benefit those around us. Next after self come the family ties and relations, and duties, like charity, should begin at home. Around the family groups, our friends and acquaintances, and among these we are called to fulfil the requirements the world expects from us in that circle known as society. The hand of brotherhood between man and man inspires him to acts of self-sacrifice, and writes among the daily news, items of heroism which touch our hearts and thrill our souls with reverence and admiration. The courageous mortal who rushes into the burning building and saves the life of his perishing brothers, or launches his boat upon the raging sea, and in the face of the frowning tempest rescues his drowning fellow creatures, acts from this inspiring motive. His duty to his fellow man came home to him and as a mainspring animated the act. He did not, as Cain, stop to answer to the voice, "Am I my brother's keeper?"—no, he knew his duty and hesitated not to perform it. This universal tie appeals to our inner natures where lies this hidden spark to be ever ready as then to offer up ourselves for our brother's need—be it physical, moral, or spiritual. Will we, like cowards, drown the voice of this monitor and dull the finest sense in our natures rather than overcome difficulties, and sacrifice our paltry pleasures for our neighbor's temporal or eternal welfare. Forming an outside ring as a guard and boundary lies our duty to our country, its liberties and laws. Heroes in their country's cause have lighted the pages of history since the world began. Hear that noble Roman, after he has sacrificed his best friend for his country, exclaim "I have the same dagger for myself when it shall please my country to need my death." Watch Oliver Cromwell struggling with difficulties at home and abroad and meeting the exigencies of his trying position with calm fortitude, buoyed up with a consciousness of his duty. Coming nearer our own day see that brave lad leave the shelter of his home and devote his life and energies to his country. View Washington's life from the time he bade farewell to his aged mother and entered the battlefield, till an orphan nation laid him sorrowing in the grave. What has kept its well filled pages so unsullied, prompted the noble acts and inspired the brave deeds?—

*An essay read before the West Bruce Teachers' Association by Miss E. I. Curtis Powell, and published at their request.

an honest conviction of duty has been the moving power. It has sustained his footsteps through the trials and troubles of many years' warfare. It weaves its golden thread through his term of presidency and flashes forth in all its brilliancy when he steps down to preserve the constitution he has established. Ambition formed no factor here—the path of duty led up to an earthly pinnacle. This hero pursued his course steadily. Visions of his country's glorious future shut out of his mind all aspirations after personal greatness and he died the ideal of many, the hero of all. He had walked in the footsteps of this divine guide; and view the close of his life's toil, how unlike ambition's devotees! Think over those last years of honor and contentment, while he, having finished his work, waited his call home. Then pass before our minds the closing scenes in the life's struggle of some when ambition ruled. See Cæsar bleeding at the base of Pompey's statue; Wolsey (?) walking crowned with shame and dishonor to the scaffold, and Napoleon pining with grief and remorse on lonely St. Helena's isle. But the social list would not be complete without a consideration of official duties. This division may not affect as large a class as the others, but, to those it does affect its demands are even more arbitrary. If we regard duty as a sacred obligation in our private relations surely when we make it doubly binding, when we accept positions of responsibility and trust, we will make it our first consideration to perform these duties faithfully, and conscientiously. And here as teachers we have a two-fold responsibility resting upon us in our social and official relations to pupils and parents. Not only will neglect of official duties be a weakening of our moral forces, a stain upon our integrity, a lasting injury and loss to our pupils, but positive wrong to the noble work in which we are engaged. The world every day has enough examples of those who, occupying positions of responsibility and emolument, take advantage of the privileges of their positions to consult their ease and personal interests; who fill their tills with coins from the public treasury, and neglect the very duties which alone would entitle them to the remuneration they pocket without any adequate return, without our profession adding to the ranks. If we consider it criminal for those in high positions, remember that the insignificance of our duties in comparison will not pardon our neglect, but rather condemn us. Some consider neglect of duty, so long as they still manage to draw their pay, as rather a clever device. What an inferior position they give this sentiment of duty! Where are their principles, their love of truth, their abhorrence of dishonesty? But leaving moral principles and looking at it from a strictly business point of view, neglect of duty will lead to failure and ruin. Our successful business men, bravest warriors, best generals, cleverest professors and greatest statesmen, all will testify to the fact that perseverance alone will win the day.

After omission of duty comes the commission of sin. In duty's path lie all the virtues; once outside its course the poor victim is besieged with the vices and started on the downward road. Others there are who though faithful in the ordinary course of business flee at the approach of danger. For the rebuke of such point to brave John Maynard who singed and burned at the wheel. Ask them to watch that captain on the sinking vessel issue every order, give each command, and, still at his post, smile with the ruined wreck. Life is short; death is certain; it comes to all; then let our earnest prayer be that it may find us faithful at the wheel.

Then our religious duties—the love, reverence, and devotion we owe to Him who created and preserves us, who has implanted in our natures this strong sense as a rudder to steer us over the rough and uncertain ocean of life, and guide us into the harbor of rest when the toils are over. As the sun and all the planets that revolve around it travel on through space, so man with all the attendant duties of his temporal life, moves onward to life eternal. We want,

as never was wanted before, our forefathers' strong convictions of truth and duty to grapple with modern positivism, naturalism and agnosticism. Mankind to-day needs the spirit which inspired the Apostle Paul to assert and stand by right even to death; the steadfastness of the host of martyrs who endured all the tortures of the rack and horrors of the stake for right and duty. Would we model our lives after the life of Him who is perfect, who left his glory above, came to earth, endured the cross and shame to do his Father's will, then we must follow in this pathway, this heavenly voice must be our guide. May we, thoroughly convinced of the grandeur and sublimity of this sentiment in the human soul, exclaim with Wordsworth in his "Ode to duty,"

I myself commend unto thy guidance from this hour;
Oh, let my weakness have an end!
Give unto me, made lowly wise, the spirit of self sacrifice,
The confidence of reason give;
And in the light of truth thy bondman let me live.

THE PUBLIC SCHOOL SYSTEM OF ONTARIO.

BY DAVID ALLISON, LL.D., HALIFAX, N. S.

In an article under the above heading, written by his Lordship the Bishop of Niagara, and published in the *Globe* of February 9th, I find the following statements and expressions of opinion:—

"I was a Superintendent of common schools for the Township of Thorne, when such officers were first appointed, more than thirty years ago, and I can testify that the pupils in our common schools of those days could spell, read, write, cipher, and understood geography better than they do now. It is true they had not so many different things to study as they now have; they had by no means so many 'ologies to study as they now have. But they had more time to study those things which are good and necessary for them. They were not so crammed with a dozen subjects as they now are, but what they learned they learned well, and did not forget in a week; and the common school education of those days did not cost the people of the country one-fifth of what it now costs them, taking into account the Minister of Education, with his handsome salary, the county Inspectors, the well remunerated school teachers, very expensive buildings, the very costly books, apparatus, maps, etc., required now.

"The whole tendency, in short, of the educational system in vogue in the States—the same thing is true of that in Ontario—is to develop institutions essentially aristocratic, in which are sacrificed to a great extent the interests of the many, for the sake of unnaturally and unjustifiably "coaching forward" the few. An illustration of this truth was given a few years ago in one of our large thriving towns. A butcher's apprentice had served out his time, and his master wanted to supply his place, advertised for a fortnight before his advertisement was answered. About the same time a third-class teacher was required in one of the numerous schools of the town, and an advertisement brought out 59 applicants in two days. Now this difficulty of finding a lad to learn this respectable and profitable business was not that there were no lads in the town and in the surrounding country who were not by nature and constitution fitted for this business, but they had been spoiled for it, they had had their heads filled with too many 'ologies and their minds filled with the idea that manual labor was degrading, and that they should aim at something higher than to be a butcher.

"Should we, then, foster a system at an enormous expense to the country, which not only, on your confession, does not impart the education which the country wants, but actually unfits the sons of the artisans of our towns and cities, and the sons of the farmers, too, as I hope to show in another letter, for walking in their fathers' honorable steps, but fills them with the idea of living easy lives by becoming professional men, or, if they cannot become such, by becoming merchants, with the pretty certain prospect of following the 95 out of every 100 of their predecessors by going into bankruptcy and pulling their parents down into want and misery too? I have materials, consisting of public documents, articles from the United States, showing what have been the fruits of the system in that country, and shall be glad to follow up this letter with one or more on the same subject, thanking you for your courtesy in giving me the use of your columns."

The learned prelate also quotes approvingly from an editorial article which appeared in the *Globe* of January 29th, and from a recent essay in the *North American Review*, certain passages which more or less strongly condemn an asserted tendency in modern educational methods towards slipshod haste and superficial expansion. These passages the reverend writer proceeds to endorse, amplify, annotate, and specifically apply to the condition of his own Province, E. g. (referring to the *Globe* article) he says :

"Again you say with equal justice :—

'In order to live an honest and independent life it is needed that a child should at any rate be well grounded in the rudiments of a good English education, should, at least, be considered master of the three R's. A great many of the graduates of even "high schools," both in the States and in Canada, are not that length to-day; a smattering of a hundred things which they have is but poor compensation for this lack."

It would be in a high degree presumptuous and impertinent for one living nearly a thousand miles from the nearest point of Ontario, to assume that her arranged system of education lacks native defenders. I shall not even assume that present circumstances require any defence at all. But I may be permitted to call attention to what the reverend writer really asks us to believe :—

1. That the common school teachers of thirty years ago were superior to those of to-day. This is a necessary inference, for if pupils in "those days could spell, read, write, cipher, and understood geography better than they do now" they must have been better taught. But who can believe this?

2. In close connection with the foregoing, that the work of normal training for the past thirty years has been worse than useless. If the lame and halt and blind and intemperate, who once constituted the main teaching staff of all our Provinces, achieved such grand results in the all sufficient "three R's," while keeping the schools free from those most reprehensible "ologies," Ontario had better close up the normal schools, and, "the sooner the better."

3. That the position of apprentice to a butcher is a more useful, if not a more honorable, calling than that of a school teacher.

4. That our educational system is defective in proportion as it inspires youth enjoying its privileges with an ambition to rise from the position in which they have been "necessarily placed."

5. That institutions to which all are admitted on equal terms and which have been the gateway to fame and future, for thousands of the children of the lowly are "essentially aristocratic."

6. That the somewhat prevalent idea, that Ontario has an educational system of which she may justly be proud is entirely unwarranted, and that the eulogies bestowed upon it by every intelligent foreigner who has investigated it, have been founded on mere hallucination.

The *Schoolmaster* is right when it says, speaking of the phrase, "The New Education," and the "high relish with which it is used in some quarters," that "it has the indecorous swagger of a patent medicine. About the term, and what it is made to imply to the unsophisticated, there is a decided flavor of quackery." "The evil of this phrase," again says the *Schoolmaster*, "lies in the fact that it turns the gaze from the individual teacher and her personal power, and sets it in search of something outside of her, and which, in fact, does not exist. For the mass of teachers, as well as of mankind in general, education is not, to-day, a question of philosophy or principles. These were long ago established."

Education is twofold. First, it consists in the acquirement of information which is generally called learning, such as language, spoken and written; facts in the ordinary events around us: facts of trade, of history, of geography, of arithmetic. Second, in the training of the physical powers and the intellectual faculties; strengthening and enlarging them till they have the power of using these facts to aid in the successful accomplishment of the ordinary work of life. This training is sometime called discipline. An educated person may be compared to a mason standing beside a pile of bricks. The bricks are the facts, the mason is the physical force picking up the facts one by one, and the intellectual power is guiding him as he skillfully welds them into a solid wall. The building which he constructs is the work of life.—C. J. Platt.

Examination Papers.

ADMISSION TO HIGH SCHOOLS, DECEMBER, 1883.

GEOGRAPHY.

1. Define—Latitude, Parallel of Latitude, Meridian, Peninsula, Lake, Water-shed, River-basin, Tide, Limited Monarchy, Republic.
 2. Give the names and positions of the more important British possessions.
 3. Name the Countries of Europe and their Capitals, and the River on which each Capital is situated.
 4. Name the Countries, Capes, River-mouths, and Islands you would pass, and the waters you would pass through, in a coasting voyage from Halifax to Rio Janeiro.
 5. What are the chief manufactures, the chief exports, and the chief imports of Canada?
 6. Draw an outline map of Canada, marking its Capital, the boundaries of each Province, and the Capital of each.
- Values—1, 10; 2, 12; 3, 18; 4, 10; 5, 10; 6, 12.

COMPOSITION.

1. Punctuate the following, dividing it correctly into sentences, and, when proper, substitute pronouns for nouns :—

A wolf roving about in search of food passed by a hut where a child was crying notwithstanding that the child's mother did the mother's best to quiet the child as the wolf stood listening the wolf heard the mother chiding the child and threatening to throw the child to the wolf so thinking the mother would be as good as the mother's own word the wolf hung about the hut licking the wolf's own lips in the joyful expectation of a capital supper towards evening when the child had become quiet the wolf heard the mother praising the child saying that if the wolf came for the child the wolf should be beaten to death off the wolf trotted home as fast as the wolf's legs could carry him.

2. Combine the following into two complete sentences, at the same time substituting pronouns for nouns, when proper :—

An ass found a lion's skin. The ass put the lion's skin on. The ass went into the woods and pastures. The flocks and herds were thrown into consternation by the ass. The ass then met the owner of the ass. The ass would have frightened the ass's owner. The good man, however, saw the long ears of the ass sticking out. The owner thus knew the ass. The owner had a good cudgel. The owner made the ass sensible that though the ass was dressed in a lion's skin, the ass was really no more than an ass.

3. Write a short composition on "A Spade."

4. Write a letter to your mother, describing a visit to your uncle's.

Values—1, 16; 2, 16; 3, 20; 4, 20.

DRAWING.

Twelve marks for each question.

1. Draw a cross from the following dictation :—Draw a square in dotted outline, and by dotted lines divide it into nine equal smaller squares. Divide each side of the innermost square into halves. In each corner square draw a diagonal with its side to the centre of the large square. From each end of each of these diagonals draw a straight line to the nearest point of division on the sides of the inner square.

2. Draw a right-line moulding from the following dictation :—Draw two horizontal lines four inches long and one inch apart. Divide the intervening space into squares and draw their diagonals. Divide each half diagonal into two equal parts and join the points of division, so as to form smaller squares on the same diagonals as the larger ones. Add a horizontal line above and another below.

3. Draw a wheel from the following dictation :—Draw a square and its diameters and diagonals, all in dotted outline, and inscribe in the square a circle in unbroken line. Divide the semi-diameters of the circle into quarters, and through the outer ends of the first and of the third quarters draw, in full line, circles concentric with the first drawn one. Draw full-lined the portions of the diameters and diagonals between the innermost and the middle circle.

4. Draw the outline of a cube.

5. Draw the outline of a pick-axe.

ENGLISH GRAMMAR.

"The almond blossoms on the tree,
 *As emblems of thy charms were made;
 The flowers of life, my sweet, like thee;
 Yet ere the Summer is gone, they fade."

1. (a) Analyze the first three lines of this stanza.
 (b) Parse the words that are printed in italics.
2. Name four classes of adjectives that do not admit of comparison.
3. Write the second person singular of each tense in the indicative mood, passive voice, of the verb *strike*, using the common form.
4. Make a list of four words that are used sometimes as one part of speech, and sometimes as another. Quote or make examples to illustrate your answer.
5. Correct the following sentences, where necessary :—
 - (a) Many people never learns to speak correct.
 - (b) James is more diligent than thee and your brother.
 - (c) Neither his conduct or his language have left me with that impression.
 - (d) Exactly opposite to each other stands a church and a gin palace.
 - (e) He had not ought to do that, because it ain't no use.
 - (f) What you must rely on is facts.
 - (g) It has not rained last week or this week.
 - (h) He turned away with the utmost contempt that he was capable of.
 - (i) They returned back again to the city from whence they came forth.
 - (k) On a sudden off breaks a limb and down tumbles both negro and nagoon.
 - (l) The beaux in those days painted their faces as well as the ladies.
 - (m) When he has went I will let you know at once.

Values—1, (a) 6, (b) 26; 2, 4; 3, 6; 4, 12; 5, 46.

DICTATION.

NOTE—The Presiding Examiner will read the passage three times; the first time to enable the Candidate to collect the sense; the second, slowly, to enable the Candidates to write down the words; and the third, for review.

VALUE—22.

Two marks to be deducted for each word misspelled.

These internal arrangements are so various and so complicated that pages of description might be written thereupon. There are myriads of rooms, cells, nurseries, provision-chambers, guard-rooms, passages, vaults, bridges, subterranean streets and canals, tunnels, arched ways, steps, smooth inclines, domes, &c., all arranged in a definite, coherent and well-considered plan. In the middle of the building, sheltered as far as possible from outside dangers, lies the stately royal dwelling, resembling an arched oven, in which the royal pair reside, or rather are imprisoned, for the entrances and outlets are so small that, although the workers on service can pass easily in and out, the queen cannot do so. Above and below the royal cell are the rooms of the workers and the soldiers that are specially charged with the care and defence of the royal pair.

SPELLING AND FOURTH BOOK.

NOTE—All Candidates must take questions 1 and 2 of the paper on Spelling and Fourth Book; and as regards questions 3, 4, 5, 6, 7, each must select the series on which he will be examined, and confine himself to the set of questions based on the Fourth Book of that series. No answers can be considered that may be given on either of the series other than the one selected by the Candidate for the examination.

1. Distinguish—hail, hale; whine, wine; ascent, assent; e'er, ere, air; wax, whacks; tracks, tracts; wail, whale.
2. Accent the following words, and correct any errors in spelling:—secede, succeed, decieve, wooddin, posthumous, ballance, allarm, combine.

Values—1, 7; 2, 8;

ONTARIO READERS.

3. Give the substance of the lesson entitled "The Voyage of the Golden Hind."

4. Xerxes, having lost in his last fight, together with 20,000 other soldiers and captains, two of his own brethren, began to doubt what inconvenience might befall him, by the virtue of such as had not been present at those battles, with whom he knew that he was shortly to deal. Especially of the Spartans he stood in great fear, whose manhood had appeared singular in this trial, which caused him very carefully to inquire what numbers they could bring into the field. It is reported of Dioneas, the Spartan, that when one thought to have terrified him by saying that the flight of the Persian arrows was so thick as to hide the sun, he answered thus: "It is very good news, for then shall we fight in the cool shade."

Explain—*captain, brethren, befall, virtue, he was shortly to deal, singular, bring into the field, thought to have terrified, flight of the Persian arrows.*

5. What is the subject of the lesson from which this passage is taken, and what is the name of its author?

6. Write the emphatic words in the sentence commencing at 'Especially,' and concluding at 'field.'

7. Quote ten consecutive lines of poetry.

Values—3, 20; 4, 15; 5, 4; 6, 8; 7, 10.

ROYAL READERS.

3. Give the substance of the lesson entitled "Harold Skimpole."

4. Then was committed that great crime, memorable for its singular atrocity; memorable for the tremendous retribution by which it was followed. The English captives were left at the mercy of the guards, and the guards determined to secure them for the night in the prison of the garrison, a chamber known by the fearful name of the Black Hole. Even for a single European malefactor, that dungeon would, in such a climate, have been too close and narrow. The space was only twenty feet square. The air-holes were small and obstructed. It was the summer solstice, the season when the fierce heat of Bengal can scarcely be rendered tolerable to natives of England by lofty halls and by the constant waving of fans.

Explain—*singular atrocity, retribution, guards, garrison, malefactor, dungeon, air-holes, solstice, tolerable, lofty halls.*

5. What is the subject of the lesson from which this passage is taken, and what is the name of the author?

6. Write the emphatic words in the sentence commencing at 'It was the summer,' and concluding at 'fans.'

7. Quote ten consecutive lines from any poem in the twelve selected lessons.

Values—3, 20; 4, 15; 5, 4; 6, 8; 7, 10.

CANADIAN READERS.

3. Give the substance of the lesson entitled "The Taking of Roxburgh Castle."

4. The House of Commons is called upon to-night to fulfil a sorrowful, but a noble, duty. It has to recognize, in the face of the country, and of the civilized world, the loss of the most illustrious of our citizens, and to offer to the ashes of the great departed, the solemn anguish of a bereaved nation. The princely personage who has left us was born in an age more fertile of great events than any period of recorded time. Of those vast incidents the most conspicuous were his own deeds, and these were performed with the smallest means, and in defiance of the greatest obstacles.

Explain—*House of Commons, recognize, civilized world, illustrious, ashes of the great departed, solemn anguish, fertile of great events, recorded time, defiance, obstacles.*

5. Give the name of the speaker and the person spoken of in the above passage.

6. Write the emphatic words in the sentence commencing at 'O! those,' and concluding at 'obstacles.'

7. Quote ten consecutive lines from any poem in the eleven selected lessons.

Values—3, 20; 4, 15; 5, 4; 6, 8; 7, 10.

ENGLISH HISTORY.

Twelve marks for each question.

1. Who were the Saxons? What changes did their invasion make in England? What changes did the Norman conquest make?
2. Name a good king of England and also a bad one, and tell some things the former did that were good for the people, and some the latter did that were bad for them.
3. What were the chief events in the reign of Henry VIII?
4. What were the causes that led to the setting up of the Commonwealth?
5. What have been the chief events in the reign of Victoria?
6. Write short notes on any four of the following:—Magna Charta, Court of the Star Chamber, The Petition of Right, The Habeas Corpus Act, The Declaration of Rights, The Reform Bill.



THE DRY-ROT CODE.—We have been favored (says *Funny Folks*) with a copy of a Board school Inspector's report under the New Code, which is now agitating the Board school teachers all over the country. For obvious reasons we suppress the name of the school to which the report refers:—"As compared with the last two years, a falling off is to be noted in the results. The infants in arms are especially weak in the multiplication table, no less than fifteen failing in giving a correct answer to eleven times eleven. The explanation given that these fifteen were 'bottle' babies is scarcely satisfactory. Algebra still requires more attention in the two-year-olds. I have also to report that in one of the exercise books I found three caraway comfits, showing that the discipline is somewhat lax. The four-year infants appear to be well acquainted with the dimensions of the fifth space, but I should recommend a closer study of 'Newton's Principia.' I am sorry to report unfavorably of the physiology of the five-year-olds, several of whom failed to appreciate accurately the distinction between the interior medullary filaments and the ganglionic centres. The chemistry in the six-year boys was fairly good, but I regret that there seems to be some uncertainty as to the composition of such elementary combinations as chloride of ethylomethylamylphenylammonium. I am pleased to find that occupation has been found for the sixth standard boys—who have mastered every department of human knowledge—in slate-pencil sharpening drill. Out of fifty points I could only find one which differed to an appreciable extent (.000002 of an inch) from the standard. It is to be regretted that the number of boys drafted off to the Asylum for Idiots shows no decrease. To obviate this I should recommend a revision of the Code, which certainly requires to be made much more difficult and complicated than it now is."

"I WILL STAY."—In a Memphis graveyard is buried a young hero. He was a pilot on board a White River steamboat. The boat caught fire while he was at the wheel. Seeing that to land against the bluff bank opposite to the boat would cause the loss of many lives, he headed the steamer for a sand-bar some distance away, where all could be saved. The flames came nearer and nearer the pilot-house. He was urged to fly, but answered, his hands grasping tighter the spokes of the wheel: "I will not go. If I go nobody will be saved; if I stay, no one will be lost but me, I will stay." And he stood by the wheel till the boat grounded in the shallow water on the bar. The flames had closed around the pilot-house, and in escaping through them he was fatally burned. Of the two hundred persons on board, his was the only life lost. "The history of Mississippi piloting," says Mark Twain, in his "Life on the Mississippi," where he found this anecdote, "affords six or seven instances of this sort of martyrdom." "But," he continues, and the noble fact is worthy of the italics in which he puts it, "there is no instance of a pilot deserting his post to save his life, while by remaining and sacrificing it he might secure other lives from destruction.—*Youth's Companion*.

The law of the association of ideas is, as yet, as far from accomplishing those beneficent ends for which the Creator implanted it in the human mind, as steam was on the day when the Marquis of Worcester caught the idea of its power, from seeing it throw off the lid of a tea-kettle, and before Savery, Newcomen, Watt, and Fulton, made it dig coal, weave cloth, grind corn, and bring all nations and continents into one small neighborhood.—*Horace Mann*.

Practical Department.

PEDAGOGICS.

BY REV. J. B. SILCOX, WINNIPEG.

Perhaps I cannot introduce my theme better than by quoting a few passages from the chapter on Pedagogy in Sartor Resartus. Teufelsdröckh says: "Of the insignificant portion of my education which depended on schools there need almost no notice be taken. I learned what others learned and kept it stored by in a corner of my head, seeing as yet no manner of use in it. My schoolmaster, a bent-down, broken-hearted, under-foot martyr, as others of that guild are, did little for me except discover that he could do little." And again he says: "My teachers were hide-bound pedants, without knowledge of man's nature or of boy's, or of aught save their lexicons and quarterly account books." "Innumerable dead vocables they crammed into us and called it fostering the mind." When Teufelsdröckh passed up into the University he did not find things much better. "The Hinlerschlag professors," he says, "knew syntax enough, and of the human soul this much, that it had a faculty called memory and could be acted on by the muscular integument by application of birch rods."

This criticism on old-time teachers and systems of teaching by Carlyle may be over severe when applied to present-day systems, but I am inclined to think that there is enough sober truth in it to command the serious attention of Educators. The criticism has force to-day. We are in the habit of eulogizing our educational system. We chant its praises on all possible occasions. With pride we point out the schoolhouse to the stranger or visitor. And yet it may be that our eyes, like lovers', are blinded to the radical fundamental defects of the much be-lauded institution, and the sharp stinging criticism of a grim Carlyle is needed to open our eyes and direct us to amendment.

There is in the minds of the thoughtful to-day a growing discontent with the results of our educational system. Thoughtful, practical, utilitarian men are questioning the usefulness of our public and high-school system. They are dissatisfied with the quality and the quantity—the fruit the tree yearly yields. The most radical critic would not cut the tree down as a cumberer of the ground, but they do not hesitate to speak of it disparagingly and say it gives a poor return for the labor and time and wealth bestowed upon it. There is reason for the affirmation that there is a great waste of energy and misdirection of effort in our much praised system of education. A successful business man not long since said, "I have sent my son to school for seventeen years: he has graduated with honor at one of our most noted universities, and now he does not know how to do anything." Another father testified his appreciation of the systems in vogue in this way. He said: "I put my son through the public school, high school, university, and now all I can say of him is what Aaron said in defence of his making an object of idolatrous worship for the people, 'I put in the gold and there came out this calf.'" A recent writer after reviewing the history of educational systems, says that schoolmasters are still spending their best energies in teaching subjects which have been universally condemned by educational reformers for the last 200 years. These criticisms outline the truth of thought on this subject in the minds of many to-day. They also indicate the direction of permanent practical reform. The signs of the times lead us to believe that the world in the days to come will have a more rational theory of education than it has had in the past. Chairs of education, where the science of education will be studied and taught, have recently been established in the Scottish Universities. In

Germany and in England the most eminent scholars are giving this subject their closest attention. As in every other science, so we may expect there will be progress in the science of education.

With all modesty let me venture to indicate the line along which progress will be made in the future. Let me draw attention to some facts which every true science of education must respect; some truths which every true science will incorporate.

In the first place, a true science of education must have a true and clear conception of the purpose or object of education. This is fundamental. This is what the premise of an argument is to the conclusion. If the premise is wrong the conclusion will never be right. If our theory of education be wrong our practice is not likely to be right. The successful pilot on the sea steers for a definite port. He knows where he wants to land his vessel. The man who builds and equips a mill, knows before-hand what he intends to accomplish. The structure he erects; the machinery he places in it; the men he employs are all selected under the governing idea or purpose in his mind to convert wheat into flour or logs into lumber as the case may be. What then should be the purpose or aim of the educator? What object is he to seek to attain? What is "the chief duty" of the schoolmaster? Am I right when I say that "the chief duty" of the educator is to stimulate and superintend the development of the inborn faculties of the child. His aim should be the complete and harmonious development of all the mysterious and manifold powers and faculties of man. The teacher is to seek the holiness, that is the wholeness, the perfection of the entire nature in harmony with the laws of its own being. Froebel says however we may differ as to the manner and condition in which the first human being came into conscious existence, we are agreed in the fact that all subsequent human beings came into life at zero, and under certain fixed laws evolve into higher and more complex forms. There are these in this germinal form,—a physical nature, a mental nature, and a moral nature, and the business of the educator is to take this bundle of humanity and develop it by appropriate processes and influences into a full-orbed manhood. In this process of evolution from the lowest zero point to the highest result of physical, mental, and moral culture, every faculty and power of body, mind, and soul must have its needed stimulus and direction. The ideal of the true education is a perfected harmonious development of the whole nature.

It follows from this that a true science of education must be evolved from and built up on a true science of man. A knowledge of the physical nature of man, a knowledge of the various faculties of the mind of man, a knowledge of man's moral nature and of the dependence and subtle relations that exist between this trinity of existence—all this is fundamental to a true science of education. Teufelsdröckh's declaration that his teachers were without knowledge of man's nature, or of boys', is a criticism that applies to many of the learned magnates who prepare the curriculum of study for our public schools and universities to-day. The teachers are not so much to blame as those who are over them and who prescribe the course of studies to be pursued. The teachers are no more responsible for the vicious system that environs them than preachers or teachers of morality are for the false system of theology that is imposed on them by their ecclesiastical authorities.

It is only a self-evident truth to say that a teacher, to succeed, must know something of the wonderful nature of the being he is seeking to develop. The artisan must know not only what he is seeking to make—whether it be a plough, a sword, or a watch, he must also know something of the nature of the material he is working on. Much more, it is necessary for the teacher to know something of the nature of the material he is working on and seeking to develop. If he does not, it is the blind leading the blind, and both

will fall into the ditch. "Man, know thyself." Teacher, know thy scholar. What a wonderful creature is a child! Who can know it? We can analyze a mineral and determine its constituent elements, but who can analyze a being made under the laws of animal life and yet made in the image of God, made for a brief day of existence here, and made for an eternity of existence yonder. How true to nature is Emerson, when he says, "The great Pan of old, who was clothed in a leopard skin to signify the beautiful variety of things, and the firmament, his coat of stars, was but the representation of them. O rich and various man; thou palace of sight and sound, carrying in thy senses the morning and the night and the unfathomable galaxy; in thy brain the geometry of the city of God; in thy heart the bosom of love and the realms of right and wrong! An individual man is a fruit which it cost all the foregoing ages to form and ripen."

A true system of education must recognize the fact that the child has a body, fearfully and wonderfully made, and that its mental condition and growth, and its development in morality, etc., probably depend very largely upon its full, healthy, physical development. We must purge our minds from all ascetic St. Simon Stylites' notions of humanity, and develop in its young a respect and reverence for their own bodies. Encourage all games and exercises that tend to develop the body in strength, and grace, and beauty. Anatomy, physiology, and hygiene should surely have a place in the studies of every child.

Then again, a true system of education will recognize the fact that nine-tenths of the human race have to earn their bread by daily toil. Those who are at the head of our educational institutions must give this fact more attention than it has had in the past. This is a utilitarian age. Institutions, governments, schools, churches, are tested by their usefulness. Now there are not a few to-day who say that our schools instead of fitting the young for the practical duties of life, really unfits them. The criticism that practical men make upon our educational system is that the scholar goes out of the school with a distaste and disrespect for honest manual labor. The effort of thousands of young men who are flocking every year into the cities from the country is to get a living by their brains. It has been truly called "the crime of education," that its tendency is to educate the young away from productive labor. Too few are going to mother earth for a living. The noble profession of agriculture is falling into disrepute. The young skillful artisan or mechanic is looked upon with disrespect by mothers who have daughters eligible for marriage, but they will eagerly welcome to their parlors the white-handed young scribe or copying clerk in a down town office. The foundation of all living is productive manual labor. The forces of nature are continually at work converting dead inorganic matter into living organism to supply the wants of man and beast. So man must work continually, converting the native materials of wood, wool, and iron into that which will minister to his own and other's comforts and needs. The starting point, therefore, of all higher education is to educate youth to honest productive labor. Culture is not the first requisite. The ability to live an honest, healthful life; the ability to earn an honest livelihood is a greater necessity. It is more necessary that a girl should know how to cook a beefsteak, or make a digestible loaf of bread, than that she should know how to conjugate a Greek verb, or perform the last musical production on the piano. Bread-winning must always be the work of man, and every child should be taught the nobility of manual labor. And no more forceful criticism could be made on our school system than that it fails to fit the child for the practical business and work of life.

Emerson said something like this: "We send our boy to school, but the boys on the playground educate him."—*N. E. Journal of Education.*

ELEMENTARY TEACHING.

BY PROF. HUXLEY.

There are a great many people who imagine that elementary teaching might be properly carried out by teachers provided with only elementary knowledge. Let me assure you that that is the profoundest mistake in the world. There is nothing so difficult to do as to write a good elementary book, and there is nobody so hard to teach properly and well as people who know nothing about a subject. It involves that difficult process of knowing what you know so well that you can talk about it as you can talk about your ordinary business. A man can always talk about his own business. He can always make it plain; but, if his knowledge is hearsay, he is afraid to go beyond what he has recollected and put it before those that are ignorant, in such a shape that they comprehend it. That is the way, to be a good elementary teacher. To teach the elements of any subject, requires most careful consideration if you are a master of the subject; and if you are not a master of it, it is needful you should familiarize yourself with so much as you are called upon to teach—soak yourself in it, so to speak, until you know it as a part of your daily life and daily knowledge, and then you will be able to teach anybody. That is what I mean by practical teachers, and, although the deficiency is being remedied to a large extent, I think it is one which has existed from no fault of those who undertook to teach.—*Nature*.

SIX DEFECTS OF OUR SCHOOLS.

"Prominent among 'the chief defects in our system of public education,' in large cities, and the 'changes' needed there, though differing from the defects which are generally found in the towns and villages, are the following:

1. The scholars are treated too much 'en masse,' because of the large number of pupils to a teacher.
2. Too much time and effort are given to secure results which are not valuable either educationally or practically.
3. Too much time is spent in mere manipulation and organization, as if order and system were the end in view, and not the means to an end.
4. Too frequent sacrifice of the proper progress of pupils through a course of study (presumably arranged to secure natural development and educational results in its successive stages) in order to equalize numbers in the different grades. This is a disadvantage alike to the bright, ambitious pupils, and the slow but faithful pupils. The former are forced up, to fill vacancies in higher grades, by skipping portions of the regular course of study, which are essential to good progress in higher classes. The latter become duller and often disheartened by too much repetition. They take the routine over again with newly-promoted pupils, after all the charm of novelty, so essential to children, has gone. They are often neglected; because the teacher must be occupied, either in preparing the quick scholars for an extra promotion, or in helping those who are victims of such promotion to supply their lost links.
5. Too frequent changes of teachers, and consequent loss of moral influence over pupils and of that perception of their individual needs and peculiarities which makes discipline easy and natural.
6. Too much reliance upon artificial spurs to study. As is the teacher, so is the school. Where the teacher stimulates ambition to excel others to the 'highest per cent.,' to be 'number one,' to sit in the 'first row,' to get 'an extra' by a bright remark,—this will be the ruling motive of the school.—*Miss Lucretia Crocker, of Boston Board of Supervisors.*

SCIENCE TEACHING IN TRAINING COLLEGES.

Mr. Sharpe's report on Training Colleges contains a lengthy section dealing with the present state of science teaching in those institutions. Apparently he is pleased but not satisfied with what he has seen in his visits of inspection. "The lectures on these subjects," he says, "are generally excellent, so far as I can judge from their conformity to good text-books, from the interest evinced by the students, and the success of the experiments. The apparatus also is in conformity with the rules approved by the Science department." There is, moreover, no complaint that the students are not successful in passing their examinations. It is nevertheless true that, at the last Christmas examination of male students in training colleges, one-fifth of those presented in science failed altogether, and less than seventeen per cent. obtained first classes. A great deal too much seems to have been expected of them in science subjects, when it is remembered what pressure there is of other work. At present only two hours a week can be devoted to attending lectures on each science, and not very much more to private study of the same subject. Such is the case in one college referred to in the report. What Mr. Sharpe, however, complains of is, not that the student is ignorant of the facts in his science, but that when he attempts to illustrate his own lessons by experiment, he too frequently fails, through want of practice in handling simple pieces of apparatus. The remedy proposed is that such students as show special aptitude should be put through a six weeks' course of practical work in some particular science, and receive a special certificate for it.

There is no doubt that this course would highly benefit those who were allowed to take it. No doubt it is very desirable that a schoolmaster should be well read and instructed in every science subject he undertakes to teach, and it is of enormous advantage to his class if he has skill and ingenuity in making up apparatus. But the requisite amount of knowledge and skill in a single subject is only to be obtained by long attention and practice. The Associate of the Royal School of Mines spends more than a year in gaining what is considered to be sufficient practical knowledge of physics to become a teacher of that branch of science; while the unfortunate student in training is expected to do equally well, and, besides to be an adept at teaching the usual school subjects, to have a fair knowledge of his own language, to have worked up a tolerable smattering in Latin or French, or both, and to pass examinations in a few other odd subjects, such as mathematics, mental and moral science, and political economy. The Inspectors are not, as matters stand, nearly satisfied with the advance made in the subjects presented at the Certificate Examination. One "is struck with the general hopeless inability to face the analysis (of sentences) with any sort of intelligent notion of the meaning." "The greater number of papers do not come up to the standard of fair," says another, speaking of school management, and so on for the other subjects. In face of this, it is scarcely feasible that the college authorities should be able to give up six weeks entirely to practical science. Already four weeks are taken up by the practising schools, and thus nearly a third of the year would be disposed of before ordinary subjects could be touched.

For such a scheme to be possible, one year would have to be considered sufficient to finish off what may be called the general education of the ex-pupil teacher, and the second year employed in two or three special subjects, of which practical science might be one. But until pupil teachers are better instructed than at present this will not be advisable. One has only to glance over the reports of examiners to satisfy himself that by the end of one year the majority of students are not prepared to throw aside their English.

work and take to higher flights. Neither would it appear to be advisable to extend the period of training beyond the present limit of two years. A third year's course, such as was allowed in the earlier days of training schoolmasters, only benefited a very few. It is only a few who could afford it, and they are not always the most fitted to receive it.

The proposal, indeed, suggests so many difficulties, that one is tempted to ask whether we ought not to be contented with the present *regime*; insisting as much as possible on demonstration by experiment on the part of the college instructor, but not attempting to make any further demand on the time of the already overburdened student in training. Men with any native ingenuity, and a sufficient knowledge of the laws underlying physical phenomena, will readily devise means of illustrating their lessons. What they have to teach is simple enough, and the necessary experiments are simple enough. Sufficient dexterity in manipulating can easily be acquired by any teacher who is worth his salt, at much less cost than loss of time in his two short years of training.—*The Schoolmaster (Eng.)*

TEACHERS; THEIR QUALIFICATIONS AND DUTIES.

Next in importance to self control, I would class the ability to maintain order in the school-room. Somebody has said, "There may be order without instruction, but there can be no instruction without order," and I know of no better way of expressing my own opinion on that subject. Besides, I consider it as much a part of the teacher's duty, to teach the children to *obey* as to teach them to read. Many children have no other restraint than that of the school-room, parents or guardians being either unable or unwilling to restrain them, and they grow to manhood and womanhood in constant antagonism with and rebellion against rightful authority. Consequently they, unprepared to yield a ready obedience to the laws of the land, grow from bad to worse, and sooner or later furnish a large share of the criminal and lawless classes of every community, simply for want of a little wholesome and necessary discipline and restraint in childhood and youth. Certainly, they who will not obey parent, guardian, or teacher, cannot be expected to readily obey the laws of the land.

Following ability to control, I would place ability to interest. To do this successfully will require a variety of attainments, many of them not mentioned in the statutes made and provided. In addition to a knowledge of those studies mentioned for certificates, I would say a general knowledge of history, ancient and modern, natural history, geology, and in fact, the greater variety of information, the greater the possibilities for instruction. Now I am aware that some people may well question, as to what direct benefit a knowledge of geology, natural history, etc., etc., might be to a teacher in one of our primary schools. Yet, if they will but stop and consider for a moment, they will readily see there is scarcely a day in the school year, but some lesson treats of beast, bird, fish, fowl, earth or water, and if the teacher knows no more of the subject than may be found in the lesson provided for the children, the chances are that the children will know even less, and that lesson will be a failure.

Perhaps I should not say failure, but it will partake very much of the nature of bread, alone, for dinner. The bread may be of the best, but taken alone will seem dry and unpalatable. How nicely a little good butter, judiciously applied, lubricates its passage into the stomach, and then kindles the fires to warm it up, and also heats the grand machine, which is, indeed, so "wonderfully made."

But, I can, perhaps, better illustrate in this way. I open a First Reader, and the first line I see reads "A fat hen. A big rat."

Now you say that is a very plain case and needs no comment. Possibly! The teacher can doubtless, after a time, succeed in teaching the little ones to speak the words in exact imitation of the teacher's voice, accent and all. If I should say, they have been taught to *mimic* the teacher, how far wrong would I be? Suppose, however, instead of trying to teach the memory to retain the sounds and accents as used by the teacher, a little time be devoted to telling something about the habits, or particular descriptions of "a hen," and "a rat," drawing as much from the children as possible, the teacher supplying what they lack. How long will it be before the little eyes will begin to kindle with enthusiasm, and the little piping voices, each in its own individuality send out the words in all their completeness, with accents hardly to be improved? Does it never occur, that children talking, as a rule, give proper emphasis to the words they use? They may not use proper words, but there can be no mistaking their meaning by the emphasis placed upon their words.

And here I may say that the teacher's success will be proportioned to the ability to interest, and the ability to interest will be proportioned to the knowledge of the various subjects as they are presented for consideration. Of course, anybody can take a *great* occasion, or a *great* subject, and make a sensation. But unfortunately for the mass of the human family, great occasions are like angels' visits, "few and far between," and those who wait for them usually find not only the *ere* and *yellow* leaf of life, but even its withered branches, and still the coveted hour not come. So the teacher must learn to be great in the small things of every-day life.—*Supt. J. Hinson, Wis.*

PROGRAMME FOR TOWNSHIP INSTITUTES.

L. P. HARLAN, SUPT. MARION COUNTY, INDIANA.

1. *Methods of Instruction.* (1) *a* What determines method? *b* What are the sources of all primary ideas? *c* What faculties in the child are first developed? (2) Classification of methods, as—*a* The object-lesson method. *b* The illustrative method. *c* The Socratic method. *d* The authoritative method. (3) *a* At what stage in the child's advancement is each method applicable? *b* To what different subjects are different methods adapted? *c* The combination of methods in one recitation, etc. Discussion by Institute.

2. *Reading—Continued.* (1) Reading as related to the intellect. *a* The meaning of words. *b* The form and construction of sentences. *c* The marks of punctuation. *d* The figures of composition. In this connection prepare an outline of topics, the answers to which will indicate a preparation of the lesson. (2) What means can the teacher adopt to excite the emotions of the pupil so that he may experience the feeling of the writer? (3) Methods in teaching delivery. *a* Expression—Imitation; rules to be followed; laws of taste. *b* Posture—Easy to himself; graceful. *c* Gesture—Those which assist in expression. Discussion.

3. *Arithmetic—Continued.* *a* How impart the idea of a fraction? Exercises in fractional expressions. Kinds of fractions by induction. Show from board, method of conducting operations in addition, subtraction, multiplication, and division of fractions. Illustrate form of board-work required of pupil, and write out the model of the explanation required, etc. Discussion.

4. *Penmanship.*—*a* Organization of school into classes; necessary materials; instruction in position and manner of holding pen; grouping small letters; analysis of letters by groups; criticism of copy-books. Show Institute your method of teaching the subject, using the blackboard in your analysis. Discussion.

5. *The Recitation*—*a* The object to be reached directly and indirectly by the recitation. *b* The essentials of a well managed recitation. *c* Rules or points to be observed in conducting a recitation. *d* Reviews; their scope and frequency, etc. Discussion.

6. *Biographical Sketch*.—Subject to be selected by the writer.

7. *Elementary Grammar*.—(1) The parts of speech. *a* The noun. *b* Classes of nouns. *c* Written exercises in distinguishing one from the other. Show from the board how the properties of nouns may be taught inductively.

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| (2) Quotation marks. | } Examples under each. Discussion. |
| (3) Abbreviations. | |
| (4) Contractions, etc. | |

8. *Offences—Punishments*.—(1) Kinds of offences, such as careless, unintentional acts, or deliberate offences. (2) Means of preventing offences, i. e., such as employment, parental co-operation, and punishments. (3) The objects and kinds of punishments, etc. (4) Write out and give to the Institute ten rules which should govern the teacher in his conduct toward the school. Discussion.

9. *Literary Exercises*.—Oration, public reading, declamation, or other literary work. Adjournment.

By order of the Board of Education.

Indiana School Journal.

TEACHERS' INSTITUTES.

What sort of institutes are the most productive of good to the teacher, the one week institute consisting of lectures, or the four weeks' institute which is a short-term normal school? This is one of the "live topics" upon which teachers should think and come to a conclusion. The original idea was to bring a normal school to the very doors of the teacher. Is not the feeling growing among teachers that it does not pay them to assemble for one week? It seems plain to us that (1) the teachers should be graded into four classes, three undergraduate classes, so to speak, and one holding life certificates. (2) That the undergraduate teacher should receive instruction in a graded institute, the third or lowest class getting about what pupils get in the lowest class in a normal school; that having finished the lowest class he should have a certificate to that effect, which should also authorize him to teach for one year; that this certificate should not be renewed, but, on its expiration, the teacher should be required to go into the second class, and upon finishing that, should have a certificate to that effect, which should also authorize him to teach for two years; this certificate should not be renewed, but on its expiration the teacher should be required to go into the first class of the institute, and upon finishing this should have a certificate good for three years, not renewable. He would now be able to enter the highest class in the normal school and obtain a life certificate, and be examined no more.

Too many institutes hold a mass meeting. Let them follow the plan of the graded school; give a due amount of instruction, and fit for a higher grade. As it now is, normal school graduates, life-certificate holders and country school graduates, the green hands and the experienced, are all mingled together.

The plan of devoting a part of each session of the teachers' institute or teachers' association to witnessing a teacher at work will, in a short time, be widely adopted. It was urged several years ago in the *Journal*. It was tried with fear and trembling, it was found to have excellent results, and it has been followed in many institutes this summer.

The plan is to bring in a class of children and place them on the platform in full view of the institute. A member of the institute, usually, volunteers to teach reading for example, and she conducts her work to the best of her ability. This being over, discussion follows. The institute conductor now assumes charge, and if he is

an able man much good will result. It is often the case however, we must confess, that the discussion is a profitless criticism. It too much resembles the criticisms that some teacher allow when a pupil has read a selection. "Raised the voice at the end," "Didn't stop at a comma," "Read too fast," etc, etc.

It is nice work to criticize a teacher; few can do so well. Only those who know what *teaching* really is, and this few may claim. The criticism comes best from the conductor; he may ask questions of the institute. Before the teachers can criticize they must clearly understand what the exercise in reading given by the class was meant to be. It is an attempt at a conveyance of ideas or thoughts. Then they must clearly conceive how those ideas or thoughts are conveyed. A discussion of those two points will take several days.

The plan ought to become general. As usual the West leads off in this matter, though Canada is not behind. Let us hear from conductors on this "new departure."

New York School Journal.

THE EFFECTS OF ALCOHOLIC DRINKS, NARCOTICS, AND STIMULANTS.

I. ALCOHOL.

1. Its origin :
 - a. Fermentation; b. Distillation.
2. Its source :
 - a. Fruit juice; b. Grains.
 - c. Starchy substance; d. Solution of sugar.
3. Its character :
 - a. A poison,—give examples;
 - b. Relation to animal life;
 1. Action on the stomach,
 2. Disturbance of normal digestion,
 3. Method of removal from the stomach,
 4. Explanation of the "alcoholic breath,"
 5. Disturbing action on the brain,
 6. Action on the nervous system,
 7. Action on the muscle.
 - c. Alcohol as food,—not useful.
 - d. Disturbing effect of alcohol on the intellect;
 - e. Effect on the will;
 - f. Alcohol as an alleged protection against extreme heat or cold;
 - g. Alcohol as an alleged protection against disease;
 - h. Alcohol as a cause of vice;
4. Transmitted effects of alcohol;
 - a. Hereditary appetite for alcohol.
5. Alcohol in domestic drinks, as cider, etc.
6. The proper place for alcohol :
 - a. In the mechanical and scientific arts,
 - b. In medicine,—always under the direction of a competent physician.

II.—TOBACCO.

1. Its nature :
 - a. A narcotic poison;
2. Its effects :
 - a. On the body;
 1. Contagion from smoking—ulcers, sore mouth and lips.
 2. Tendency to produce dyspepsia, nervousness, an appetite for alcoholic drinks.
 - b. On the mind;
 1. Loss of memory.
 2. Irresolution.
 3. Cowardice.
3. Transmitted effects :
 - a. On sons—aimlessness, lack of vigor;
 - b. On daughters,—nervous organization.

NOTE.—No attempt to present the above syllabus scientifically is deemed desirable. The more obvious evil effects should receive special attention.—*Manual of Institute work, Mich.*

Notes and News.

ONTARIO.

[We have to thank a number of correspondents for sending us contributions to this column. We hope that all our friends will continue to send us the current news. Items of educational news clipped from the local papers and enclosed in an envelope are particularly acceptable. We beg to state again that the disorder caused by our removal to new premises last autumn was the cause of our apparent neglect of many interesting communications. Our friends must not be discouraged but please write again. It would save us much trouble if they would kindly place matter for this column on separate sheets, and it would prevent many oversights which occur when business and news are intermingled. Rally round the JOURNAL and assist in making it still more useful! EDIT. C. S. J.]

The Hon. G. W. Ross has expressed his intention of giving a Gold Medal at the close of the present session to the Normal School student who obtains the highest standing at the final examination in June. We trust that still more substantial rewards will be offered to those who make the profession of teaching their life work and that some means will yet be devised for making the salaries of teachers bear some proportion to the amount of capital and energy they invest in the noble work. Meantime, it is inspiring to find a Minister of Education setting such an excellent example. Some of our wealthier citizens could not make a more patriotic use of their money than by founding scholarships at the Provincial Normal Schools.

At the last Entrance examination at Newmarket thirty-two out of sixty-four candidates passed. The Newmarket school sent up fourteen of the successful pupils, which made twenty-six passed during 1883.

The staff of teachers in the Caledonia High School for this session is as follows:—L. A. Kennedy, B. A., Head Master, J. Elliott, B. A., and L. H. Alexander, B. A., assistants. The County Model School is under the direction of Mr. R. C. Cheswright. The present staff is giving very general satisfaction. At the last examination, out of thirty-six candidates thirty-two passed—eight second class, fourteen third class, and ten intermediates.

We have received the announcement of Holy Trinity School, London. C. Turner Esq., C. M. is the Head Master.

"I don't feel healthy intellectually without your valuable JOURNAL." A. K. Feb. 7th, 1884. This is but one of numerous kind expressions we are continually receiving.

At Christmas, the pupils of the Newmarket Schools contributed to the inmates of the Industrial Home 111 apples, 23 oranges, 5 lemons, 1 box of figs, 2 lbs. sweets, 1½ lbs. nuts, 1 lb. raisins, cash \$6.00, and 165 cakes of all kinds. A handkerchief was purchased and a 3 lb. paper bag was filled with nuts, candies, etc., for each inmate. Mr. W. Rannie, the principal, conveyed the present on Christmas morning. The folks seemed to enjoy very thoroughly the treat and bestowed many a "Merry Christmas" on the donors. The plan might be adopted by many schools. "It is more blessed to give than to receive."

A correspondent says: "You ask for jottings for the JOURNAL. Would items regarding changes, examinations etc. be suitable." Certainly, dear friend, we want to have in our columns a faithful record of every matter of educational interest. Again we repeat, we have to rely entirely upon our friends for the current news. Send it along, please.

Mr. A. Kerr, has entered on his fourth year with increased salary as headmaster of the school in Warton.

Mr. Brebner succeeds Mr. Ross as Inspector of the Petrolia schools, which receive 950 out of the 1,000 children in the town. The average attendance for 1883 was about 510. There are four school buildings and ten teachers in the town. Their names and salaries for 1884 are:—Mr. S. C. Woodworth, \$800; Miss A. Lantton, \$400; Miss MacDougall, \$340; Miss Corry, \$340; Miss Eclardt, \$300; Miss A. Dibb, \$240; Miss E. Austin, \$240; Miss McRobie, \$240; Miss Dawson, \$240; Miss Ross, \$240. About 38 pupils passed the Entrance Examination in 1883. A by-law to raise \$7,000 for the purpose of building a new High School was carried on Feb. 2nd. The school will employ three masters, and will probably open in Sept., next. Music and Drawing are taught in nearly every department of the Petrolia schools.

The London Free Press, says: "It were far better for the rising generation that they be given a whole year's holiday than that they be exposed to disease and death for the sake of the little imperfect education that may be snatched in the depressing and poisonous air of poorly-ventilated school-rooms. . . . The minimum of absolute air space provided for each child should be in no case less than 500 cubic feet, and this small space should be permitted only when there are such efficient means of ventilation and heating as will change the air contained in the room six times per hour, thus allowing 3,000 cubic feet of healthy air per hour to each child. People shut their eyes to the matter of drainage and ventilation because building is expensive." These are timely remarks, and deserve earnest attention from every teacher.

At the final examination of the Toronto Normal School, Inspectors Maxwell and Carson were assistant examiners. The report of both Normal Schools closes with the following pleasing paragraph:—"With respect to the undermentioned candidates who have hitherto held grade B certificates, the examiners report that marked improvement has been made by them during their attendance at the Normal School, and their answers at the final examination were excellent. It is recommended that the grade of their certificates be raised from 'B' to 'A.'"

Toronto Normal School:—Alex. F. Birchard, James A. Edmiston, Neil S. McEachern, Mattie Murphy, Henry Chappel, George Kerr, McDomall, Jessie Alexander, Emily F. Rose.

Ottawa Normal School:—Edward J. Etherington, Rowland John Hastings.

Among those who have grade A certificates the examiners report the following as specially worthy of mention for their satisfactory course and examination:—

Toronto Normal School:—David A. Burgess, Robert H. Carnie, Alice M. Banister, Christina Niven, Harold Clark, Alfred Orr, Agnes Henderson, Sarah Ross.

Ottawa Normal School:—Peter D. McDonald, Enos J. Norrish."

Principals Davies and McCabe recently spent two weeks among the Normal Schools of New England to observe their methods of working. This is an excellent plan of the Education Department and will, we hope, be further developed.

On Feb., 15th the Banquet of the University of Toronto was held in the Pavilion of the Horticultural Gardens, and proved a great success. The capacity of the building was scarcely sufficient to accommodate the gathering of friends, graduates and undergraduates which assembled. The most note-worthy speeches were made by the Hon. Edward Blake, Dr. Daniel Wilson, Principal Caven, Hon. G. W. Ross and Rev. Dr. Lemuel Moss, President of the Indiana State University. The latter gentleman said that he came from a State where by easy and successive stages, the poorest boy or girl in the commonwealth may pass from the room where the alphabet is taught to the room where the bachelor's degree is given, without one penny of expense. People are beginning to recognize that the higher education was beneficial not only to him who received it, but also to the community at large. Schools are built on the same principles as penitentiaries—for the public good. The public school and the state college are for the benefit of all, and every educated man who comes into a capital increases the value of every corner lot in the city. What is the State for, if it be not to reach out its arms of beneficence? In the republic of letters is no custom house, no officer with suspicious glances, no State lines; all are bound together for the elevation of man.

The greatest enthusiasm prevailed in favor of granting further aid to the University, and at the same time the most cordial expressions of good will towards the sister Universities were uttered by the numerous speakers. The question of University Federation received favorable notice, and some significant hints were dropped that further reforms of a liberal character are needed within the Provincial University. Mr. Harcourt, M. P. P., amid loud applause, said that it was a shame that the doors of the University should be closed to the ladies, thus shutting out half the population. The fact is perfectly clear that if the alumni had more power entrusted to them the institution would speedily become thoroughly liberalized and enter on a new career of popularity and usefulness. Great confidence was manifested that the needed grant would easily be obtained.

In consequence of the increasing population and rising importance of the village of Tira, a new school-house is being constructed, which is much needed. The old building is too small and is unsuitable in every respect.

A meeting of the students attending the Toronto Normal School, was held on the 21st ult., for the purpose of organizing a Literary Society, Mr. T. Kirkland, the Science Master, being in the chair. The following officers were elected:—President, A. Hutchinson; 1st Vice-President, Miss Elliott, 2nd Vice-President, B. F. Black; Sec-Treasurer, F. Crasswell; Assistant Sec-Treasurer, Miss E. Edwards; Critics, H. F. Forrester, Miss Harris; Committee, T. W. Sloan, A. D. McConnachie, J. H. Gimby, J. R. Balfour, G. H. Thomas, Miss Barrie, Miss Killoran, Miss Eadie, Miss Gray, and Miss Grant. The society is named the "Toronto Normal School Literary Society," and will hold its meetings every Friday afternoon, commencing at four o'clock. The members hope to be able to hold some public meetings during the term.

The following petition was numerously signed by the teachers of Stormont County, at their last meeting held in Cornwall on the 7th and 8th of February:—

PETITION.

To the Hon. the Minister of Education of the Province of Ontario.

Sir.—Believing that the education of the people would in a great degree prevent the evils of intemperance, we the undersigned officers and members of the Teachers' Association of the County of Stormont, in the Province of Ontario, desire to urge the introduction of scientific temperance instruction into the public and high schools of the Province of Ontario. We would respectfully but very earnestly call your attention:—

1st. To the terrible effects caused by the excessive use of alcoholic liquors upon the health, mind and morals of large numbers of our people and to the pressure of necessity for some sure and effective remedy therefor.

2nd. That in a large majority of cases the habit of drinking is contracted by children and youth without any correct knowledge of the nature of alcoholic liquors and their effect upon the human system.

3rd. That no more efficient medium than the public school can be found for imparting this much needed knowledge to the rising generation.

We earnestly request, therefore, that you will order adequate stated instruction to be given on this subject to the pupils attending the public and high schools, with a view to their examination on the subject, for promotion.

We unite with numerous friends in congratulating our esteemed friend H. E. Kennedy, M.A., late head master, Trenton high school, on his matrimonial union with an accomplished young lady from Colborne. We wish the happy couple many years of prosperity and felicity.

NOVA SCOTIA.

The Report of the Superintendent of Education for the past year shows a total registration of 98,307 pupils, being an increase over that of the preceding year of 2,395. The comparative attendance by terms is given as follows:—Winter Term, (1883) 79,091, (1882) 76,888; Summer Term, (1883) 81,863, (1882) 81,196. Considerable increases are also shown in the number of teachers and schools. The total number of teachers in service during the Winter Term, was 1,911,—703 males and 1,208 females; during the Summer Term, 2,011,—608 males and 1,403 females.

The Provincial expenditure for education was \$186,087.12. Of this sum, grants to common schools consumed \$149,761.50; Inspection \$11,450; Provincial Normal and Model School, \$6,051; County Academies, \$2,000; Special Academies, \$4,000. The remainder was distributed among various services.

The Superintendent discusses at some length, what he views as desirable readjustments of the relation of the Provincial Normal School to the other schools, and the certifications of teachers. He also repeats suggestions offered in the previous Reports touching a reconstruction of the system of Academic education.

The Inspectors' reports generally disclose progress in the work of the schools, and deal interestingly with many phases of the important question of public education.

Mr. H. S. Congdon, has been appointed Principal of the public school, Dartmouth, vice Mr. L. D. Robinson, resigned.

The annual dinner in commemoration of the George Munro benefactions to Dalhousie College took place on the 9th ult. It was largely attended by the Faculties of the various departments, and by the students almost *en masse*.

The question of admitting the children of the colored citizens to the public schools of Halifax, without any discrimination, has not yet been definitely settled by the Board of School Commissioners. That body has under consideration a proposition to provide improved accommodation for colored children in the primary grades, and to admit those of the necessary qualifications to the higher departments of all the schools, including the high school. The citizens of color, however, have by resolutions adopted at a

public meeting, expressed their determination to rest satisfied with nothing short of the sweeping away absolutely of what they regard as an unjust discrimination.

The newly established Law School of Dalhousie College, has upwards of 50 students in attendance.

GENERAL.

Dr. Arnold, writing to one of his old pupils who had commenced the work of tuition, said, "You need not think that your own reading will now have no object because you are engaged with young boys. Every improvement of your own powers and knowledge tells immediately upon them, and, indeed, I hold that a man is only fit to teach so long as he is himself learning daily."

ARGENTINE REPUBLIC.—Education is making rapid progress in this country. For the last year an attendance of over 44,000 pupils was reported in the public schools. Buenos Ayres alone had 16,000 of these in 169 schools of three teachers each.

ENGLAND.—The University of London has taken an important step in resolving to confer a new degree, to be called the "Teachers' Diploma." It is to be under the seal of the University, and signed by the chancellor. No one will be examined, however, who has not already graduated. The examination will test the practical ability as well as the information of the candidates, and will combine a close scrutiny into the knowledge regarding the theory of the art of teaching. These diplomas will be certificates of merit of the highest order.

A translation of an address delivered to secondary school teachers in Switzerland has been circulated by the Bureau of Education to answer the question, "How to teach natural science." It urges that knowing facts is not the object of such education; in that case a supply of works of reference would be a royal road. "One gets on faster with a child by carrying it, but it is for the child's interest to teach it to run and swim by itself." A teacher, therefore (who must be laboriously grounded himself), must patiently bring all his scholars, not the most promising only, to discover and observe facts for themselves,—teach them to see. Cram is most dangerous in scientific teaching, because most easy to both of them. Books, therefore, should be little used, and nothing about an object should be taught, without such object before them. After seeing, the next lesson is describing, with the help of drawing if possible, both leading to accuracy in the use of language. Plants first, which are plentiful for experiments; then animals of different classes; later on minerals should be chosen, mechanical effects on these latter first, later on chemical. The district museum of natural history and such classes would mutually assist each other greatly; in fact neither, to be successful, would long go on without the other. But the making of collections must not become a rage with pupils.

A correspondent of the *Glasgow Herald* who has been making a tour in Norway thus writes on the subject of education:—In the Norwegian, as in all other well-ordered village communities, the schoolhouse stands next in importance to the church. It is there usually a spacious and well appointed building. Both the town and country schools have their vacation during the period of the hay harvest, the herring fishing, and the tourist. I had not, therefore, the opportunity of seeing the schoolmaster at work. Under the guidance, however, of a schoolmaster, whose home-spun suit, generally substantial aspect, and shrewd but kindly face, put me in mind of the good old-fashioned Scottish domine, I inspected the premises occupied by one of the Bergen public schools. This building was divided into a number of rooms, each fitted for the reception of not more than thirty scholars. Each scholar had his or her separate seat and desk, and more than the number of cubic feet of air required by our sanitary inspectors at home. The subdivision of the school building into small class rooms renders necessary the employment of a large staff of teachers and monitors, and is an arrangement somewhat costly, if admirable. Another admirable feature of the Bergen Public School which I inspected was its spacious gymnasium, in which each of the many classes into which the school is sub-divided was exercised three times a week. Our School Boards, it seemed to me, have something to learn from the analogous bodies in Norway in the matter of attention to the physical training and the physical health generally of their pupils. In the Board schools of Norway, in addition to the three R's, the elements of physiology and of physical science are taught, as is also one or more of the modern languages. Of these of late years English has become the favorite. It is the language most commonly taught in the primary schools. It has the foremost place

on the modern side of the secondary or grammar schools, which are planted in all the considerable towns, and which are often the recipients of large private endowments. Sir Charles Dilke in his "Greater Britain," predicts that a few centuries hence English will be the universal language. Perhaps this vaticination is overbold; but a modest prophet may at least suggest as a high probability that, in the year 2001, Norway will have become bilingual, and that English will be as commonly spoken there as in Wales or in the Highlands. Education, it appears, from what has been said above, is well attended to in the western half of the Scandinavian peninsula. Even into its most mountainous and sparsely peopled regions the schoolmaster penetrates. In these regions he itinerates, teaching in rotation for a week or two at a time during the winter and spring at each of several farms or hamlets. I do not suppose that English is taught by these itinerant instructors of youth; but a little English is picked up by their ex-pupils (turned post-boys) from tourists, a little more by ghillies, or their Norwegian analogues, from sportsmen who have spent long summers in their company; more still by farmers returned from lengthened sojourns in the American backwoods or prairies. Thus English speech is slowly but surely making its way even into the remotest corners of Norway.

The woman question, in the matter of the equalization of salaries, has scored another triumph in the city of Brooklyn, N. Y. Miss H. N. Morris has fought the battle and succeeded. The pay of principals of full-grade grammar schools in that city had been fixed by the School Board at \$2,700 per year, but when Miss Morris by sheer force of fitness was elected to the position of principal, the Board were willing to accept her services but demurred at the price,—because "she was a woman"; because "a good male teacher was a little better than a good female teacher"; because, — the old array of arguments had to be got over. Strangely, even in Brooklyn, so near the parish of the Rev. Morgan Dix, all were not satisfied with these arguments. They reasoned that "either Miss Morris is, or is not, a capable and efficient principal. If not, why retain her?—if capable, why not so pay her?" But to attempt to fill these school-committeemen with this radical logic seemed almost as futile as filling the sieve of the Danaides. The maidens of to-day, however, were more successful than those of old. On November 16th, after six years of asking, the Board voted to pay Miss Morris the full principal's salary of \$2,700. Thus a woman once more gains a well-earned victory, establishing another precedent for the payment of equal salaries for identically equal work, irrespective of sex. In a city where thirty-nine out of forty principals are men, even the most conservative may well rest assured that a woman is not liable to be elected to the position unless her exceptional merits compel her.—*Exchange*.

To Acadia College, Wolfville, N. B., belongs the honor of being the first college in the Dominion of Canada to appoint a Professor of "The Principles and Practice of Education." This is eminently a progressive action. It is one of the most important steps in the interest of general education that has been taken in Canada for many years. There is an importance attached to the movement which deserves more than a passing notice. It may at first sight be supposed that a Chair of "The Principles and Practice of Education" makes simply a provision which applies only to those students who are preparing to be teachers. This is a great mistake. It is true teachers will receive special benefits, but the discussions of a Professor of Education should take a wider range than the consideration of methods of teaching and school organization and management. This is but one of the factors which enter into the problem of educators. The family, the social, and the civil circle perform their several parts in the development of human character. And each must be taken into full account in any well devised educational scheme. A chair of the principles and practice of education must therefore include these as well as methods of teaching and school management. In short, it must include the discussion of all the educational forces that are operative in moulding the individual man, and in moulding society, and also the nature of the organizations and appliances necessary to make these forces productive of the highest good.—*N. Y. School Journal*.

The Eau Claire (Wis.) Kindergarten Association has just completed a fine building for kindergarten purposes, at an expense of \$5000. Miss J. L. Jones is the supervisor of the enterprise.

Some years ago, in one of the model schools of Pennsylvania, text-books were banished from the class-rooms, and oral instruction substituted. Dr. Schaeffer thus sums up the results: "Pupils,

parents, and teachers were delighted with the result. After a time the promotions lifted the pupils taught in this way into classes of the Normal department. At first they seemed by far the brightest in the class, so quick were they in catching the point of every explanation. But, after the lapse of some weeks, reports came that this boy and that girl were not keeping up with the class, and the fact that they had been model-school pupils caused no little surprise. On close investigation, it was found that the system of oral instruction had developed the perceptive powers, but not the power of independent preparation of lessons; that the plodding boys from the ungraded county schools were taking the lead by reason of the superior will-power which they had developed." The conclusion is, that "when instruction is made interesting for the purpose of saving a pupil the necessity of application to his books, it results in a kind of intellectual weakness which prevents concentration upon subjects that are not attractive."

One of the clearest evidences of the increasing favor with which co-education is received is found in the failure of so many female academies. A contemporary says it all came a dozen or more in Ohio and Indiana, where the appointments and accommodations were very complete, but have ceased to exist, and their buildings have been converted into hotels, asylums, or factories. There was a rage twenty, thirty, and forty years ago to build high schools and colleges for young ladies, but lately very new enterprise in those States aims at co-education.—*New England Journal of Education*.

The Brooklyn Board of Education has at last passed a resolution directing all principals of schools to receive colored children on an equality with white. Heretofore the practice has been that in the sparsely-settled wards where colored schools could not be sustained, and the colored children were only, say, half-a-dozen among a hundred white, they were admitted; but that in densely-peopled wards where the proportion of colored children was large, and schools especially for them had been provided, they were limited to those schools. It has become apparent, however, that the teaching of the colored schools is inferior; and hence in justice to those colored citizens who desire that their children shall receive the best instruction, the color line has everywhere been broken down.

The Legislature of the State of California, at its twenty-fifth session, commencing on the first Monday after the first day of January, A. D. eighteen hundred and eighty-three, two-thirds of all the members elected to each of the two Houses of said Legislature voting in favor thereof, hereby propose that section seven of article nine of the Constitution of the State of California be amended so as to read as follows:

SECTION 7. The Governor, Superintendent of Public Instruction, and the Principals of the State Normal Schools shall constitute the State Board of Education, and shall compile or cause to be compiled and adopt a uniform series of text-books for use in the common schools throughout the State. The State Board may cause such text-books when adopted to be printed and published by the Superintendent of State Printing at the State Printing Office, and when so printed and published, to be distributed and sold at the cost price of printing, publishing, and distributing the same. The text-books so adopted shall continue in use not less than four years, and said State Board shall perform such other duties as may be prescribed by law. The Legislature shall provide for a Board of Education in each county in the State. The County Superintendents and the County Boards of Education shall have control of the examination of teachers and the granting of teachers' certificates within their respective jurisdictions.—*The Pacific School Journal*.

The Hon. John Quincy Adams, in the school report for 1880-'81, thus gives the result of Col. Parker's superintendency: "For five years the town had the benefit of his faithful, intelligent, and enthusiastic services. In those years he transformed our public schools. He found them machines, he left them living organizations; drill gave way to growth, and the weary prison became a pleasure-house. He breathed life, growth, and happiness into our school rooms. Year by year as the change went on the gradual process of transition was reported to the town, and year by year the town by great majorities approved the work and sustained its author. The committee have never doubted that he wrought a great gain to education among us, and that our schools have been vastly bettered by the methods he introduced, the organization he effected, and the enthusiasm he instilled."

How many teachers ever show or tell their pupils how to study? This is very important. Weeks and months are often wasted even by older pupils, because they do not have a definite idea of, or a systematic plan for, studying.—*N. E. Journal of Education*.

Readings and Recitations.

[We earnestly recommend teachers to encourage their pupils to commit to memory *prose* recitations. In no other way can composition be taught more effectively, nor literary taste be more rapidly developed. The following may serve as trial pieces. Put the epitaph on the black-board, and, if found necessary, the first two words of each sentence. This will arouse the curiosity of the hearers and will serve a better purpose than prompting to the speakers who declaim.—EDITOR.]

THE STORY OF A LITTLE HERO.

In the churchyard of an isolated hamlet in Brittany an inscription has been engraved on an unpretending stone slab, couched in these terms:—

PIERRE BOZEC,
Skip Boy,
Who lost his life in saving the crew of
the Sancta Maria.

The circumstances under which this humble and youthful hero died in saving eight Breton sailors are singularly touching. The lad, an orphan, embarked on a small trading vessel, the captain and crew of which systematically ill-treated him. Some time ago the little craft was in imminent danger of breaking up on the rocks in the neighborhood of Corsan (Finisterre). All the men were on deck, with the captain, who, foreseeing a catastrophe, told those about him to be prepared for the worst. A hundred yards off was the coast, and a group of fishermen were visible through the driving rain, debating the point how to render assistance to the distressed vessel. In the last emergency the captain took a rope, made a slip knot in it, and asked who would swim to shore through the breakers? The answer was promptly given by the lad Pierre, who said that he was the right one to run the risk, being without relatives or parents to regret him if he perished. His offer was accepted; the brave boy started on his perilous mission, and after a while a ringing shout told that he had reached the land. The boat was saved, with its human freight, but the lad was lost. Just as he reached the shore the waves threw him with violence against a sharp pointed rock, and when the fishermen drew up the rope it was to find a mangled corpse attached to it. The crew of the Sancta Maria, smitten with remorse for their former brutality towards the ill-fated lad, and with admiration for his courage, perpetuated the memory of his brave deed on the tablet which marks the spot where he was buried.—*Scholar's Companion.*

BESSY'S LIFE ROPE.

Steeple Jack, who was celebrated for working on high steeples, had a daughter named Bessy, who had much of the fearless, adventurous spirit of her father, and would carry up his dinner to the dizzy heights without trembling; she seemed to feel as safe as a bird, and would stand at the edge of the loftiest scaffold, amusing herself by scattering bits of paper in the air, laughing to see her little pigeons fly, for so she called them.

Once upon a time, a flash of lightning struck Repton spire, and displaced the cross and globe which surmounted it, also doing great damage to the upper courses of fine stonework, and Steeple Jack had to repair it. This he did by ascending the tower as high as the bell chamber, then placing ladders within the hollow of the spire, until the highest loop-holes were reached, through which braces were put cross-ways; on them a slight flooring was laid, which supported two light ladders, reaching up to the ball. Day after day Bessie climbed with her father's dinner in a basin slung in a handkerchief, to this aerial scaffold, and at length the job was completed, a new copper ball, brightly gilded, superseded the old one, and a glittering cross surmounted the graceful steeple. Jack had done his work so well, that the vicar and church-wardens resolved, in addition to his pay, to present him with a new coat, vest, and hat, and a sort of village fete was to be held in honor of the occasion. Drinking one night at the "Red Lion,"

Jack had bragged that he would put on the new clothes on the top of the ball; and he was not the man to risk being twitted for cowardice from not making his rash promise good. His assertion got abroad, and on the fete day, quite a crowd, from the adjacent villages and farms, gathered to witness the exploit. Jack's wife was away working at a lone farm-house some two miles from the village, and Bessy had accompanied her, for she knew that her husband would in all probability spend the day in dissipation, and she did all she could to conceal his weakness from the little maiden.

With the bundle of clothes in his hand, Jack started up the tower, the crowd eagerly watching until he emerged from the loop-hole on to the scaffold. He came out, and pulling off his old hat, flung it down among the people, then taking a rope in which he had made a noose, in his hand, he ascended the ladders. Flinging the rope over the ball, the noose passed round the cross, and, tightening it, Jack managed to get beyond its bulge, and soon stood on the very top of the cross, while the huzzas of the crowd below came up like the buzzing of bees to the elevated regions of his proud ambition. By some unlucky accident, while Jack was coolly divesting himself of his old jacket and vest, having made his bundle safe on one of the arms of the cross, the noose of the rope slackened, and the rope itself slipped over the ball, leaving him without any possible means of overcoming its rotundity. A cry of horror made Jack look down, and he at once understood the desperation of the position. His pride was humbled, a vertigo seized his brain, and he would have fallen if he had not clutched the cross. What was to be done? Among the whole crowd there was not one with sufficient courage even to brave the scaffold, much less to mount the tottering ladders which led from it to the apex of the steeple.

Concentrating all his energies into one shrill shriek of agony Jack exclaimed:

"Send for Bessy!"

There was a movement in the crowd, and a farmer in his buggy drove off for the daughter of the entrapped steeple-climber. What an hour of waiting was that! When Bessy arrived she displayed no fear, but taking on her little arm a coil of slender rope, she passed through the crowd, which readily made way, and ascended the ladders. Standing on the topmost round, with one arm passed around the slender stonework, she flung the rope. Jack clutched it, and the little maiden descended the steps. All the danger was over. Jack made the rope fast, and was soon upon the scaffold, while a shout of joy rose from the people below.

Bessy could not understand that she had done anything wonderful, but she embraced her father, and putting her little face to his, begged him to thank God for his safety.

This was many years ago, but should any of you visit Repton, you may still see a fragment of line swinging in the breeze from the now tarnished cross surmounting the steeple, and among the simple peasantry it goes by the name of "Bessy's Life Rope.—*Scholar's Companion.*

HIGHER.

Not at a bound,
But round and round,
Up the ladder we're climbing;
Striving to aim at something higher,
Striving to win the heart's desire,
With noble zeal the soul to inspire,
Up the ladder we're climbing.

Each step we count the while we mount,
Up the ladder we're climbing;
Ladders of learning, ladders of fame,
Ladders of wealth, it is all the same,
To gain a fortune or win a name,
Up the ladder we're climbing.

Pause though we may,
Yet every day
Up the ladder we're climbing;
Not content with a low degree,
Anxious still at the top to be,
Hand over hand continually
Up the ladder we're climbing.

A WELSH CLASSIC.

BY H. H. BALLARD.

An unlettered clergyman wanting a place,
(His manners were genial and pleasant his face),
Received a kind letter inviting him down,
To preach to a church in a large country town.

The town was uncultured, old-fashioned and plain,
The principal business was harvesting grain,
And none of the church members ventured to speak
A word of the Hebrew or Latin or Greek.

For this very reason they wished all the more,
A scholar well-grounded in classical lore;
While a candidate might just as well stay away,
If he didn't quote Hebrew at least once a day.

The divine about whom this odd story was told,
By the "Times" of Manhattan, was cunning and bold,
And knowing they wished for a classical man,
Though he didn't know Latin, he hit on a plan.

For he thought, "We shall see how much shrewdness avails,
Though I cannot read Greek, I'm a native of Wales;
If a few Welsh expressions I cautiously use,
It may rival the Hebrew in pleasing the pews."

On the critical day, with exceptional grace,
With well-attuned voice and well-controlled face,
He read from the Bible a passage or two,
And remarked, "My dear friends, this translation won't do.

To be sure 'tis correct, but if beauty you seek,
Hear the rhythmical sound of original Greek!"
Then boldly a medley of Welsh he recited,
And marked the effect on his hearers benighted.

The children gazed up with a wondering stare,
Their mothers assumed an intelligent air,
While the deacons all nodded, as much as to say,
That Greek was by far the more excellent way.

A still bolder venture he hazarded next,
By a curious way of announcing his text:
"These words, as my hearers have noticed of course,
Have lost nearly all their original force.

In the Hebrew how clearly the thought flashes out,"
And more of his Welsh he proceeded to spout;
When what was his horror to spy near the door,
A jolly old Welshman, just ready to roar!

Overcome with remorse and foreseeing the shame,
Exposure would bring to his reverend name,
The preacher's mad impulse at first was to run,
But the Welshman's round face so brimming with fun,

Suggested a possible plan of escape,
Which none but a terrified parson could shape;
He bravely confronted that dangerous smile,
And coolly continued his sermon awhile,
Till at length without showing the least agitation,
He rallied himself for a final quotation:

"The rendering here is decidedly wrong,
Quite different thoughts to the Chaldee belong;"
Then Welshman in pulpit to Welshman in pew,
In the barbarous dialect they alone knew,

Cried "Friend! By the land of our fathers, I pray,
As you hope for salvation, *don't give me away!*"
The joke was so rich, the old Welshman kept still;
And the classical parson is preaching there still.

There is a singular house in Southern California. It has been built inside of a tree. The tree is an immense one, doors and windows have been put in the hollowed out inside, and the house is eight stories high, about as high as some of the New York private houses will probably get to be by-and-by. The door to this straight up and down house is a ladder, and so is each pair of stairs; and outside of the top room is a balcony, shaded by the tree's leaves.

REVIEWS.

RECEPTION DAY, No. 3. *New York: E. L. Kellogg & Co.* 30 cents
The third number of this quarterly issue confirms the impression of it thorough practical value. It contains fresh and original dialogues, recitations, declamations, and short pieces in poetry and prose, to meet the constantly recurring needs of schools and gatherings of any sort public or private. All the selections are easily committed to memory—simple, without being childish. It is of excellent moral tone, and calculated to be an immense help in school work. The dialogues are readily managed as regards accessories, requiring little or no stage furniture. The requirements of both young and older pupils are provided for, and the work is suitable either for public or private schools. The outward appearance of the book is most attractive, being tastefully bound in paper covers printed in two colors. It is fortunate for teachers that a fresh supply of such good material may be obtained quarterly at the small cost of 30 cents a number.

PLANT ANALYSIS; OR BOOK OF PLANT DESCRIPTIONS: By GEORGE G. GROFF, M.D. *Science and Health Publishing Co.; Lewisburgh, Pa.*
This little publication consists chiefly of a number of sets of blank forms bound together in convenient shape for use by botanical students. Each form when filled up will contain a full description of a single plant, the description embracing particulars regarding the root, stem, leaf, inflorescence, calyx, corolla, stamens, anthers, pistil, fruit, and seed. There are also hints to the teacher and the pupil on the proper method of pursuing botanical studies; a handy list of botanical terms in common use; and a list of subjects suitable for essays. The book will doubtless be found a useful adjunct in every botanical class where real work is being done.

THOMPSON'S GREEK SYNTAX; a Syntax of Attic Greek, by F. E. THOMPSON, M.A., Assistant Master at Marlborough College. *Livington, 1883.* On first thought one is tempted to anathematize the author of a new book on Greek Syntax: we may, however, console ourselves with the consideration that since "in the making of (bad) books there is no end," the producer of a good book is beyond the pale of reproach, though it cover the well trod ground of Greek Syntax. We have had many treatises on this subject since the days of Dionysius Thrax, and it is far from probable that the one before us will be the last. To the difficult task of making an old friend welcome in a new guise, Mr. Thompson has brought not only sound and ripe scholarship, but also class-room experience. And his class-room experience has apparently taught him that, so far as boys are concerned at least, it is advisable to divorce Grammar from Metaphysics. Metaphysics and theoretical grammar are inseparable; but theoretical grammar involves comparative grammar, and the study of comparative grammar implies a more than passing acquaintance with the results of philological research, but the average school life of our boys is too short to admit of their becoming experts in philology. Accordingly we think that Mr. Thompson has displayed great wisdom in approaching and elucidating the difficulties of Greek Syntax from the practical side. He has indeed given us a practical book, and one which we can heartily recommend as a thoroughly reliable *route maeum* through the intricacies of the most rhythmical and flexible language the world has known. Our sole regret is that "want of space" prevented our Author from treating of the Particles; had he dealt with them as he has dealt with the Prepositions, his work would have been beyond criticism.

MAGAZINES.

THE NORTH AMERICAN REVIEW for March, contains the following articles:—Is our Civilization Perishable, by Judge J. A. Jameson; Agricultural Politics in England, by William E. Bear; A Defenceless Sea board, by Gen. H. A. Smailey; Neither Genius nor Martyr, by Alice Hyneman Rhine; The Story of a Nomination, by W. O. Stoddard; Literary Resurrectionists, by Charles T. Congdon; How to Improve the Mississippi, by Robert S. Taylor, and the Constitutionality of Repudiation, by D. H. Chamberlain and John S. Wise, M.C. Nearly all these titles explain themselves. Mrs. Rhine's contribution and Mr. Congdon's are able and interesting additions to the vast body of magazine literature that has been evoked by the publication of the lives of the Carlysles. Mr. Stoddard's paper gives a valuable account of Lincoln's nomination.