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The Canada School Journal.

Vol. IX.

TORONTO, FEBRUARY, 1884.

No. 2.

WILLIAM CROCKET, A.M.

CHIEF SUPERINTENDENT OF EDUCATION FOR NEW BRUNSWICK.

As previously intimated in the JOURNAL there has been a change in the Chief Superintendency of Education in New Brunswick. Dr. Rand, the late able Superintendent, has become Professor of the Principles and Practice of Education in Acadia College. He was succeeded in November last by William Crockett, A.M., late principal of the Provincial Normal School at Fredericton. Thus we have the almost simultaneous appointment of two practical educationists to the head of educational affairs in New Brunswick and in Ontario. This is surely a good omen for the future of this Dominion.

Mr. Crockett's career is so well known to our readers that it is only necessary to refer to it very briefly. He was born in Forfarshire, Scotland, and attended the grammar school there until his matriculation at Aberdeen in his sixteenth year. He spent two years at King's College then, and subsequently completed his collegiate course at the University of Glasgow, taking a creditable rank in classics and mathematics throughout his university course. He was early engaged both



as private tutor and in the parochial schools, and took the full two years' course at the Established Church Normal School in Glasgow. He came to Canada in 1856 to take charge of the Superior School at Campbelltown, N.B. Here he taught for five years, and was for one year Inspector of Schools for the county of Restigouche. In 1861 he was appointed principal of the Presbyterian Academy just established at Chatham, and remained there for the next nine years. Here he first became a teacher of teachers in a branch Training School which was established for the Northern Counties in 1867. In 1870 Mr. Mills resigned the principalship of the Provincial

Training School at St. John and Mr. Crockett was appointed principal of the Provincial Normal and Model Schools then established at Fredericton. In 1877 the school was removed into the spacious new buildings provided for its accommodation. In 1865 the University of New Brunswick conferred upon Mr. Crockett the Degree of A.M., and for ten years he has been one of the Examiners for Degrees in that institution.

Mr. Crockett unites in a remarkable degree the *sauviter in modo* with the *fortiter in re*, being possessed of winning manners and a pleasing address as well as vigorous, well-defined characteristics. Our readers are familiar with his style as a

writer on education. The following extracts from his address at the opening of the new Normal School at Fredericton give a fair sample of his tone and the spirit with which he enters upon the important work of his present office.

"The most earnest effort of the student-teacher should be directed, not to the solution of mathematical problems—though these are not by any means to be neglected—but to the study of the great principles of education and the methods of teaching most in harmony with these principles; to the study of how the native powers of the mind may be developed and its own inherent forces trained to assimilate the materials of its growth; how

the will, which is the force behind the scenes and the moving spring of all, may be stirred to action, governed and taught to govern itself. * * * * *

"But while much may be done to discipline and furnish the intellect, I hope that the great feature within these walls will be the influence upon character by developing and strengthening the true spirit of the teacher's work; by joining with broad views lofty and pure inspirations; by giving depth and fixedness to principles; by bringing conscience to bear upon the grand aims and the minute details of the teacher's vocation; by kindling in the heart that love and affection for the young,

which where'er the teacher goes,

'Will make a desert blossom as the rose.'

The appointment from their own ranks of such a competent man to the most responsible educational position in his province, will be a source of pride and gratification to every teacher on this continent.

COUNTY MODEL SCHOOLS.

Among our correspondence will be found a timely suggestion from Mr. Chadwick to which we respectfully invite the attention of the "powers that be." He proposes that a second session should be established at some of the centrally located model schools for the benefit of those candidates who may for various causes have been unable to attend the first session. We have held in these columns that a considerable reduction in the number of county model schools would be a decided advantage, provided the same sum were still spent on the remainder. The country would get a better return for its outlay, by selecting, say, twenty-five of the best schools and making them still more efficient than they are. The last Report gave 882 as the total number of Student Teachers in attendance for 1882. This would give an average of, say, thirty-five to each model school. If the sessions were still further lengthened, and these schools kept in operation from September to January and February to June, their training power would be greatly increased. In the meantime, the establishment of an extra session at a few of the schools would be a step in the right direction. Examiners would then have less hesitation in rejecting immature candidates, the strong schools would become stronger still, and the standard of requirements might without any injustice be kept "firm with an upward tendency." We notice that out of 6,807 candidates in six years only 317 were rejected, that the number of model schools has decreased from 52 to 46, and that only about 30 of these have complied with the requirements of the Department. We are not in favor of any sudden changes, but the "natural" tendency is a healthy one, and the slight departure indicated would serve as a valuable experiment. No one will deny the immense service these institutions have rendered during their short career, and we have always rendered them full credit for what they have accomplished. But we are far from believing that they have advanced to their final stage of development and reached their maximum efficiency in the brief period of seven short years. We should be glad to hear from Inspectors and Model School Masters the conclusions at which they have arrived, and the suggestions they may be able to make for the further improvement of these institutions.

THE UNIVERSITY QUESTION.

The question of further aid to University College continues to receive active attention from leading minds on both sides of the controversy. But the UNIVERSITY OF ONTARIO does not seem likely to receive birth from the throes of the present discussion. The first plank of a union platform has not yet been even rough-hewed. The representatives of some of the denominational colleges express themselves as ready to give careful

attention to any comprehensive scheme for university consolidation. But we have heard no such scheme propounded, and the sectarian college at Ottawa has maintained profound silence. We are unable to discern any indications of substantial agreement, and for the present we are reluctantly compelled to regard the consolidation of all the colleges under one university as merely a working theory, and outside the domain of present practical politics. The clash of interest and prejudice is still very great, and leaves little hope for an immediate solution to this important problem in higher education. The difficulties do not appear less on closer scrutiny as the discussion proceeds. It seems certain that for some years we must continue charitably to differ and leave the main question in abeyance. Perhaps the actual solution will be effected by men trained in our own secondary schools, less under the empire of foreign prejudices, less influenced by transatlantic ideals, and more united by thoroughly Canadian education and sentiment. Time must be allowed for so great a movement. If we have to wait another twenty-five years for the birth of a great university in this young country, we ought not to be impatient. It will probably live at least a thousand years; and we are already more mature in this respect than most of the states in the American Union who are our seniors by half a century.

Meantime it behooves the friends of higher education carefully to avoid the *role* of obstruction, and to view the question from the stand-point of national good. Higher education has only a few friends among the average citizens. A great majority look upon it as a luxury to be indulged in by the rich, and an actual necessity to the professional class only, a necessary preparation for bread-winning for which they should be willing to pay the full value. The average citizen measures utility by his own standard, which is usually the power of producing cash returns. If, therefore, internecine warfare breaks out between the colleges, the granger will hold the balance of power and the result will demonstrate the folly of parading our differences instead searching anxiously for points of agreement and standing in solid union for the common cause.

The higher education of the country must for some time proceed on the present lines, and we can only hope to pave the way to ultimate union. We are deeply impressed with the idea that reform and progress within Toronto University itself are essential factors of the desired result. She is not now what she was fifteen years ago. The development has been considerable and has strengthened her hold on the country. But bold steps must yet be taken if she is to attract the flower and blossom of our intellectual life to her bosom, and educate within her walls those who will otherwise seek over seas the advantages denied them in their native province. The experience of the United States in this respect is both instructive and warning.

Before the provincial university can properly consider itself the cope-stone of our national system, it must get itself as closely related to the high schools as the high schools are to the public schools of the country. It now holds practical con-

trol of the matriculation examination of every college in the province. But in that examination it has long refused to acknowledge Chemistry which is taught in every secondary school in the country. It has held itself aloof from the Education Department, and has refused to accept the educational tests of the Department *pro tanto*, though they have been as rigorous as its own, and have been taken at par elsewhere, both within and outside the province.

At the root of these and other ultra-conservative notions lies the constitution of the university senate. We mean no carping criticism, nor flippant fault-finding. We aim at the true interest of higher education. But we are compelled to say that if the high school masters had had four representatives on the senate during the last ten years instead of one, if the high school inspectors had also been on the senate during the same period, and if the powers of the Convocation of her twelve hundred graduates had been something more than the shadow of a shadow, we should to-day be much nearer the solution of present difficulties. Very little pains have been taken to place the university senate in vital connection with the national system of the province, hence the Education Department and the Senate have been frequently playing at cross-purposes. Upper Canada College has had more influence in the senate than the hundred high schools, while the Education Department has been practically unrepresented.

We need not further pursue the subject. An instalment of reform is necessary to popularize the senate, to bring the national university into perfect accord with the whole national system, and enlist the wealth and talents of all her sons in her loyal service. She has done a noble work for the province in setting up a high standard of attainment which has indirectly benefited every other institution of learning in the Dominion. Her mission still lies before her, and the pecuniary means for fulfilling it will certainly be forthcoming. If the present agitation does not lead to substantial improvements we shall almost lose confidence in the ministry of pain.

NOTES AND COMMENTS.

A Committee has issued a circular to Editors, County, and Township Municipal Officers, and all patriotic Ontario Canadians, especially the descendants of U. E. Loyalists in all parts of the country inviting their co-operation in promoting the Centennial Celebration of the First Settlement of Upper Canada by the U. E. Loyalists. It is proposed to combine this demonstration with the Semi-Centennial ceremonies of Toronto to be held in June next—Thursday the 19th of June is the day set apart for this purpose in the Celebration week. All interested should communicate at once with the secretaries—George T. Denison, C. E. Ryerson, D. B. Reed, and W. Withrow.

In confirmation of our view of the proper method of beginning the teaching of History in elementary classes as expressed in our last number we find an English Inspector of Schools, writing as follows:—

"If history must be taught to children, it would be more

practical, if not more sensible, to begin with the reign of Queen Victoria, and go backwards, according to periods. About three-fourths of our children leave school under the impression that English history ceased either at the date of the battle of Hastings or at the end of the Wars of the Roses. The effort (to teach History on this plan) amounts to a *reductio ad absurdum*."

We find another of H. M. Inspectors, who has made a thorough study of Methods and is acknowledged as one of the highest authorities, putting himself on record in the following words:—

"He (the teacher) is by no means bound to follow blindly the course prescribed by the text-book. On the contrary it will be far better to fix upon the most characteristic periods, to cause them to be studied with fulness and exactness, and to reserve the chronicle of the less notable reigns until afterwards. For all the higher purposes contemplated in the study, a thorough acquaintance with the state of England in one or two of the most eventful periods is of far more value than a superficial knowledge of the entire history. The latter may be forgotten. There is no germinating power in it; it will neither grow when the pupil carries it with him into the world of books, and of news, and of conversation; nor furnish material for reflection in solitary hours. But the former serves as a nucleus for future acquirement. A learner who has been led to pay special attention to one period and to master all its *differentia*, carries away with him from school not only a fund of knowledge which will hold together and retain its place in the mind, but also right notions of what historical investigation really is, and of the manner in which the annals of a period should hereafter be studied. In short, . . . a taste for historical reading, . . . both the power and the disposition to study the subject systematically for himself. . . . is far more likely to be obtained by judiciously selecting and dwelling on the important epochs than by the ordinary routine method."

Down with the ancient Britons, away with genealogies and lists of sovereigns, bury the skeleton theory, the bird's-eye view hypothesis, and the great land-mark doctrine in one grave. Let us begin to teach history by teaching *history*. We ask those who do not see the matter in this light to solve the conundrums—Why did the University and the Education Department abandon the bird's-eye plan of teaching English Literature? Why would it be impossible now to persuade them to go back to the good old plan?

We take the following from an exchange:—

"A school teacher at Irkulsh, named Neoustroieff, was recently thrown into prison for alleged manifestations of sympathy with political exiles, and for disseminating political ideas among his pupils. The prison was visited by General Anoutchine, Governor-general of Eastern Siberia, who had Neoustroieff brought before him and upbraided for his imprudent conduct in very forcible language. Neoustroieff, enraged at this, struck the Governor in the face, before he could be prevented by the warders. The Governor-general had the man tried and shot within twenty-four hours. Certainly, we cannot regard Russia as an educational paradise, if this is a fair specimen of the way in which teachers are treated."

What would the Russians do with Ontario teachers who often take the stump during election contests? Imagination folds her wearied pinions without reaching the conception.

An assistant master in London has discovered a new way of using the strap. He was summoned before the Thames Police

Court for having punished a boy much given to talking, by fastening a strap round his tongue and tying it by a string to a chair. The magistrate decided that no defence was necessary. The master had merely wished to degrade his pupil—the same as by putting a fool's cap on a boy's head, or tying the arms of a boy given to fighting. The case was dismissed, but the teacher was not allowed costs, whereupon a leading educational paper takes the magistrate severely to task, and seems to think the teacher received scant justice. The incident affords a curious little glimpse at the low state of English opinion and practice in the matter of discipline. If an Ontario teacher were to follow this precedent he would find himself more famous than he desired, and would probably be heavily fined and perhaps dismissed from the profession.

The following story from the *Illinois School Journal* shows how a little good humoured tact enables a teacher not only to overcome difficulties but to make people laugh with him and enter into sympathy with his work. We have room for about 7,000 such teachers in Ontario, and as many more in the other provinces:—

"A certain teacher, who is well known in at least one county in the State, was troubled by the over-crowded condition of his school-room. Appeals for additional seats were disregarded by his directors. He at last determined to accomplish by indirect what he had been unable to effect by ordinary means, so one day, when all the available seating facilities were in use, and a boy was ensconced in the teacher's chair and a few more on the floor, he sent for his Board. Mr. A. came in and was warmly received by the teacher. He looked about somewhat hesitatingly and said, 'Well, Mr. A., I should be glad to give you a chair, if I had one, but I am just out. Make yourself at home; sit down on the stove.' Mr. A. to the amusement of the pupils, awkwardly bestrode the "warmer," which the favorable weather had not yet brought into active operations. Shortly after, director number two appeared. He was received with equal cordiality by the teacher, and, from necessity, took his position with number one. Number three put in an appearance a little later, and was offered a place by the side of his official colleagues. But about that time it began to dawn upon the minds of the triumvirate that the teacher was less innocent than his "childlike and blank" countenance indicated. The president called him one side with, "Mr. R., I am a little busy, and will call again. How many do you need?" It is needless to say that an adequate supply of desks, with all the modern improvements, were on hand in the shortest possible time."

The Southern Illinois State Normal University was destroyed by fire in December last. While the flames were yet roaring and surging, a call was issued for a mass meeting of the people of Carbondale. Steps were taken the same evening to repair the damage, and \$3,000 subscribed on the spot to erect a temporary building until the former beautiful edifice can be restored. Dr. Allyn, President, announced:—"School will be called at the usual hour to-morrow morning at the M. E. Church. The University will not lose a single day!" That is characteristic western pluck and energy. The library of 8,000 volumes was saved by the coolness and determination of one of the professors.

At the Annual Convention of Protestant Teachers in Quebec held at Lachute, Oct. 25th, Principal McCabe of the Ottawa Normal school, delivered a lecture on *English Grammar Teaching*. In the course of an address to the Convention, he considered the question that faced every teacher when he took a new pupil, namely, "What shall I do for him?"—

"First then, the teacher has to give him his outfit for the work of life. Secondly, he must teach what he has to teach so as to train the pupil's mind. There is no finality in education, and the true test of an education is the development of the pupil after he leaves school. All a teacher has to do is to impart to his pupils a desire for knowledge. The teacher has minds to deal with, and he must understand fully what the mind is. The mind develops slowly, and a teacher makes a mistake if he appeals to mental powers not yet fully awakened. No opportunity should be omitted of awakening in young pupils the observing powers, by means of drawing, object lessons, and music. If this part is well done, the hardest part of the work is accomplished. It is from this point of view that it is necessary to be careful about the use of text-books which cramp the powers of observation while appealing to the memory.

In an article in the *Educational Record* Mr. Rexford recommends the following books for teachers which may serve to supplement the list we recently gave in these columns:—

"Skeat's *Etymological Dictionary*, Morrison's *School Management*, Emberson's *Art of Teaching*, Hughes *Mistakes in Teaching*, Parker's *Talks on Teaching*, *Methods of Teaching Geography*, by Lucretia Crocker (30 cts.), *Graded Instruction in English for the use of Teachers*, by Mr. O. T. Bright, Chicago, *Elementary Lessons in English*, Gage & Co., edited by Principal McCabe, *Primer of Politeness*, by Alex. M. Gow, Drysdale & Co., Montreal."

The young teacher who means to master his profession, must have such books even if minor luxuries have to be dispensed with.

It seems probable that the Nova Scotia Legislature at its approaching session will take steps, in accordance with the urgent representations of the Superintendent of Education, Dr. Allison, to put the matter of intermediate education on a better footing. Nova Scotia has good elementary schools, and a very superior Normal School; but she needs for the symmetrical completeness of her educational system a series of well equipped and efficiently sustained High Schools. Of such at present she has but a limited number.

The wave of agitation respecting classical studies started by Mr. Charles Francis Adams's noted address has not yet entirely subsided in the United States. To say nothing of Lord Coleridge's emphatic utterances at Yale, the soundness of Mr. Adams's destructive criticism has been called in question by Dr. Porter, President of Yale College, Dr. Peabody, of Harvard, and Dr. Seelye, of Amherst. Mr. Adams, however, can console himself with the fact that a large part of the daily press has expressed substantial concurrence with his views. The discussion is pretty sure to lead to advantageous modifications of prevalent methods of teaching classics.

Mr. Mundella, the English Minister of Education, distributed the prizes at St. Katherine's College, Tottenham, Dec. 7th.

The following extract from a report of his address shows the intelligence and sympathy which he throws into the great work he is carrying out:—

"After dealing with the danger of overwork to the female pupil teachers in schools, he spoke of his efforts to protect them by the introduction of the twenty-five hours per week rule. He next spoke of the advantages those enjoyed whose circumstances enable them to obtain the two years' training given in such colleges as this. There are now about 60,000 young teachers growing up in the country, and to provide training colleges for all would be to incur an enormous expense; while to insist upon all going through this course of training would be to place a serious hindrance on the learning power of many whose parents were not in a position to bear the charge of providing for their support. Addressing the young teachers before him, and those more particularly about to enter upon life as schoolmistresses, he warned them against the danger of unduly stinting their diet and of overworking themselves, insisting upon the importance of health as an element of success in teaching, while at the same time he begged them to continue their studies after leaving college, because, as Professor Huxley had recently said at Liverpool, those who were to impart elementary information must themselves be saturated with and soaked in knowledge of the subject they had to teach. He would, too, beg them to be thrifty. There were some 20,000 or 30,000 women engaged in teaching in the public schools in France, and she must be a woman of high attainments among them who could earn the salary of £80 a year, with which the young teachers leaving this college would, as they had just heard, begin life. He understood that the French schoolmistresses were as civil servants entitled to pensions, and that to meet the charge of the pension a deduction of 5 per cent. was made from their salaries. He would strongly recommend his young hearers to make it an inviolable rule to lay by against a rainy day something more than 5 per cent. of their earnings. Commenting on provisions of the Code, he reminded them that they were not, as in France, the slaves of any minister, nor were they compelled to take up in their schools every subject prescribed in the Code. On the contrary, great freedom was allowed them, and the Minister of Education in this country was advised by a number of considerate and sympathetic men who knew the work both teachers and pupils could do, and who would take care that too much was not required from them. If the Department should err in any direction, they were not too proud to retrace their steps. They had the courage to take the line they believed most in the interest of education and of the children. The schools, it must not be forgotten, were not made for the teachers; on the contrary, teachers, inspectors, and Ministers of Education were appointed for the benefit of the scholars, and the first consideration must be the good of the children. But, having done the best that could be done for the children, the Committee of Council on Education would do the best they could adequately to reward and to show due consideration for the teachers. He believed the public of this country was never before so disposed to promote education. Every year he had to make increased demands upon the Treasury on this account, and the money thus expended was the best spent money the Government laid out. With respect to the duties they were about to undertake, he wished to remark that there was scarcely a Board school in this country in which they would not be required to give religious instruction. They might exercise a potent influence with regard to one of the greatest social problems of the day. The outcasts, not only of London, but of Great Britain, would come under their direct control, and it would depend very much upon the influence exercised by the teachers of the country whether we should have outcasts in the next generation or not. Without setting up educational culture as a specific

for all the evils of life, he agreed with a great thinker who had written on the subject that the first great attempt to reach the profound misery of our great cities, and especially of London, was to get all the children into schools. It was the first attempt to bring civilisation to the outcasts, and to place them in contact with Christian men and women."

Mr. Mundella's speech was listened to with great interest by a large assemblage of visitors, and many of the points were received by the students with the greatest enthusiasm."

Mathematical Department.

SCIENCE AND ART DEPARTMENT, ENGLAND.

Examiners.—REV. J. F. TWISDEN, M.A., AND A. R. WILLIS, Esq.,
M.A., B.Sc

FIRST STAGE.

(Three Hours are allowed for this Paper.)

SECTION A.—ARITHMETIC.

1. What is a decimal fraction? What is a recurring decimal? Express $\frac{1}{9}$ as a recurring decimal, and $0.0173535\dots$ as a vulgar fraction.
2. Show that the square root of 0.37 exceeds the cube root of 0.217 by a difference which very nearly equals $\frac{1}{18}$.
3. A publisher sells books to a retail dealer at 6s. a copy, but allows 25 copies to count as 24; if the retailer sells each of the 25 copies for 6s. 9d., what profit per cent. does he make?
4. In building a wall, 22,500 bricks are used at £1 12s. a thousand, 135 bushels of lime at 1s. 4½d. a bushel, 16½ loads of sand at 3s. 6d. a load; the labor is reckoned at 9s. 6d. per thousand bricks laid; and 300 coping stones are used at 1s. 7½d. apiece, including cost of laying. Make out the above in the form of a bill, and find the amount after deducting 7½ per cent. for prompt payment.
5. The capital of a trading company consists of 4,000 *A* shares of £80 each and 1,000 *B* shares of £25 each; in dividing the profits 5 per cent. of the amount of each share is first paid, and then the remainder, if any, is divided equally amongst the shareholders. The profits of the undertaking in one year were £34,853 12s. 6½d.; how much would be paid to the holder of an *A* share, and how much to the holder of a *B* share?
6. An imperial gallon is 277.274 cubic inches; a Winchester bushel 2150.42 cubic inches. How many Winchester bushels are equal to 100 imperial bushels?

SECTION B.—GEOMETRY.

7. Draw a straight line perpendicular to a given straight line of an unlimited length, from a given point without it.
Let *AB* be drawn at right angles to *CD* and meet it in *B*, join *AC*, *CD*; if *BC* is greater than *BD*, show that *AC* is greater than *AD*.
8. In any triangle (*ABC*) show that, if the angle *A* is greater than the angle *B*, the side *BC* will be greater than the side *CA*.
Let *ABC* be an equilateral triangle, and let a point *Q* be taken in *BC* produced (in the direction *B* to *C*); show that *Q* is nearer to *A* than it is to *B*.
9. If a straight line falling on two other straight lines makes the interior angles on the same side together equal to two right angles, the two straight lines are parallel to each other.
If *A*, *B*, *C*, *D* are the angular points of a quadrilateral taken in order, and, if the angles at *A* and *B* are together equal to those at *C* and *D*, show that two sides of the quadrilateral are parallel to each other.
10. Equal triangles on the same base and on the same side of it are between the same parallels.
If a quadrilateral is divided into four equal triangles by its diagonals, show that it is a parallelogram.
11. Draw a triangle *ABC*, and through *A* draw a line parallel to *BC*; show how to draw through *B* a line cutting *AC* in *P*, and the above-mentioned parallel in *Q*, so that *BP* shall be one-third of *PQ*.
12. If one diagonal (*AC*) of a quadrilateral bisects the other diagonal (*BD*), show that *AC* also bisects the quadrilateral itself.

SECTION C.—ALGEBRA.

13. Explain why the product is a^{12} when a^3 is multiplied by a^4 , and why the quotient is a^5 when a^8 is divided by a^3 .

14. Obtain $(x^2 + 7x + 15)^2 - (x^2 - 3x + 15)^2$ in its simplest form, and find its value when $2x = -5$.

15. Simplify the expressions:—

$$(a) \frac{x-a}{a-b} \times \frac{a-b}{1-x}$$

$$(b) \left(\frac{1}{2} + \frac{1}{3}\right) \div \left(9x - \frac{4}{x}\right)$$

16. Find the greatest common measure of $x^4 - 5x^3 - 6x^2 + 36x - 7$ and $3x^3 - 13x^2 + 43x - 8$, and write down these expressions in factors.

17. Solve the equations:—

$$(a) x - \frac{2x-0.3}{0.7} = \frac{5-x}{0.35}$$

$$(b) \frac{2y}{4} - \frac{2x}{5} = \frac{13}{5}, \quad \frac{x}{4} + \frac{y}{5} = \frac{19}{12}$$

18. A sum of £23 14s. is to be divided between A, B, and C; if B gets 20 per cent. more than A and 25 per cent. more than C, how much does each get?

SECOND STAGE.

(Three Hours are allowed for this Paper.)

SECTION A.—ARITHMETIC AND ALGEBRA.

21. Find the value of

$$\left(x + \frac{a}{b}\right) \left(x + \frac{b}{a}\right) - \left(x - \frac{a}{b}\right) \left(x - \frac{b}{a}\right)$$

when $x = \frac{1}{a^2 + b^2}$.

22. Reduce the following expression to its simplest form:—

$$\left(\frac{a-b}{a+b}\right) - \left(\frac{a}{a-b} + \frac{b}{b-a}\right)^2$$

and find its value expressed as a decimal when

$$a = 2 \text{ and } b = \sqrt{5} = 2.23607.$$

23. Find all the values of x or of x and y which satisfy the following equations:—

$$(a) \frac{9}{x} + \frac{25x}{x-1} + 9 = 9.$$

$$(b) (x^2 - 4x + 3)^2 - 8(x^2 - 4x + 3) + 0.$$

$$(c) 4(x^2 - y^2) = 35, \quad x - 2y = 2.$$

24. The first of two pictures is 1 ft. 6 in. by 2 ft., the second 2 ft. by 2 ft. 6 in.; they are to be framed in the same way; if the glass and frame of the former cost 7s. 6d. and that of the latter 11s. 2d., what is the price of the glass per square foot, and of the frame per foot of length?

25. Find the first five terms of the square root of $1+x$, and by means of them show that $\sqrt{101} = 10.0498756$.

26. A racecourse is 3,000 ft. long; A gives B a start of 50 ft. (so that B has to run 2,950 ft.), and loses the race by a certain number of seconds; if the course had been 6,000 ft. long, and they had both kept up the same speed as in the actual race, A would have won by the same number of seconds. Compare A's speed with B's.

SECTION B.—GEOMETRY.

27. If a straight line be bisected and produced to any point, the rectangle contained by the whole line thus produced and the part produced, together with the square on half the line bisected, is equal to the square on the straight line made up of the half and the part produced.

In the triangle ABC let AB equal AC, produce BC to D, join AD; show that the square on AD exceeds the square on AB by the rectangle BD, DC.

28. If an angle at the centre of a circle, and another at the circumference stand on the same part of the circumference, show that the former angle is double the latter. Only one case need be proved.

Draw a straight line which shall divide a given circle into two segments, such that the angle in the one shall be three times the angle in the other.

29. Show that the angle in a semicircle is a right angle. If the diagonals of a quadrilateral are equal, and bisect each other, show that the quadrilateral is a rectangle.

30. Construct a square equal to one-third of a given square.

31. Describe three circles of given radii such that two shall touch each other externally and the third internally. What relation must exist between the radii if the construction is to be possible?

32. Let PA and PD be two lines of given length inclined at any angle; in PA take any point B; find a point C in PD (or PD produced) such that the rectangle AP, PB shall equal the rectangle CP, PD. How could you tell by merely considering the angles PAD and PDB, whether C falls in PD, at D, or in PD produced?

THIRD STAGE.

SECTION A.—MISCELLANEOUS.

41. Find all the values of x and y that satisfy the equations

$$\frac{x-y+1}{x+y+2} + \frac{x-y+1}{x+y} = 4.$$

$$9 + \frac{16}{x-y+1} + \frac{4}{a+y} = 0.$$

42. Show how to find the number of homogeneous products of r dimensions, which can be formed of powers of n letters a, b, c, \dots .

How many sets of positive integral values of u, v, y , and z , satisfy the equation

$$u + v + y + z = 12.$$

N.B.—Zero (0) is to be reckoned a positive integral value of u, x, y , or z .

43. If a and b are any two numbers, and A, G, H three other numbers, such that a, b, A are in arithmetical progression, a, b, G in geometrical progression, and a, b, H in harmonical progression, show that

$$4H(A-G)(G-H) = G(A-H)^2.$$

44. If two parallelograms have a common diagonal, show that the straight lines joining the angular points on one side of the diagonal is parallel to the straight line joining the angular points on the other side of the diagonal.

45. Let two circles touch internally at A, and let the radius of the one be equal to the diameter of the other circle; draw AB the diameter of the larger circle passing through A, and BP to touch the smaller circle in P; join AP; show that the square on BP is three times the square on AP.

46. Show how to construct a rhombus, having given its angles, and the radius of its inscribed circle.

HONORS EXAMINATION.

You may not answer more than ten questions.

The value attached to each question is 50.

Three hours are allowed for this paper.

61. If x', x'', y', y'' are the values of x and y , which satisfy the equations

$$ax + by + c = 0, \\ lx^2 + my^2 + n = 0.$$

Show that $a^2(m+n) + b^2(n+l) + c^2(l+m) = 0$ provided

$$x'x'' + y'y'' + 1 = 0.$$

62. There are n things, p of one sort, q of another sort, r of a third sort, and so on; find the number of combinations that can be formed of them, taken m at a time.

Two counters are marked A, three B, five C, and two D; how many different combinations can be formed of the counters taken five at a time.

63. When m and n are small compared with x show that—

$$\log(x-m) - \log x = \frac{m}{x} \left(1 + \frac{n-m}{2x}\right) (\log(x+n) - \log x) \text{ approximately.}$$

Given $\log 1.01 = 0.0043214$, calculate $\log 1.0075$.

64. Sum the following series:—

$$(a) \frac{1}{p(p+1)} + \frac{1}{(p+1)(p+2)} + \frac{1}{(p+2)(p+3)} + \dots \text{ad. inf.}$$

$$(b) 3 \times 5 + 5 \times 7 + 7 \times 9 + \dots + (2n+1)(2n+3).$$

$$(c) 3m + 5(m-1) + 7(m-2) + \dots + (3+2(m-1)) \cdot 1.$$

65. ABCD is a quadrilateral, having the sides AB and DC parallel to each other, and together equal to the side BC; show that the straight lines, which bisect the angles B and C, intersect in AD.

66. Given two opposite sides of a quadrilateral capable of being inscribed in a given circle, and the sum of the other two sides; describe the quadrilateral. To what extent is the solution ambiguous?

67. Take a point P outside a given circle whose centre is C ; a circle is drawn through P cutting PC at an angle α , and touching the given circle externally; show that its diameter equals

$$(2rh + h^2) \div \{r + (r + h)\cos(90 \pm \alpha)\}.$$

when r denotes the radius of the given circle, and $r + h$ the line CP . Find under what circumstances the contact may be internal, and the value of the diameter in that case.

68. Show how to construct a triangle, having given the base, the vertical angle, and the length of the line drawn from the vertex to the base, and bisecting the vertical angle.

69. Find a formula for all the angles which have a given sine.

If $\cos \theta = \frac{1}{2}$, it follows, of course, that $\sin \frac{\theta}{2} = \pm \frac{1}{2}$; show that

the series of values of θ derived from the first equation is the same as that derived from the second equation.

70. Find the values of θ which satisfy the equation

$$2 \tan \theta + \frac{1}{\tan \theta + 4 \tan \theta} + \frac{1}{\tan \theta + 4 \tan \theta} + \frac{1}{\tan \theta + 4 \tan \theta} + \dots = 2\sqrt{3} \cos 2\theta.$$

71. If two triangles ABC , $A'B'C'$ have a common angle A , and the same described circle within the angle A , show that

$$\frac{r_1}{r} = \frac{\tan \frac{B}{2} \tan \frac{C}{2}}{\tan \frac{B'}{2} \tan \frac{C'}{2}}$$

where r and r_1 are the radii of the circles inscribed in the triangles ABC and $A'B'C'$.

72. If α and β are the roots of the equation $x^2 - x + \sqrt{3} - 1 = 0$, show that $\tan^{-1}(\alpha^2) \times \tan^{-1}(\beta^2) = n\pi + \frac{3\pi}{4}$.

73. Show how to expand $\sin \theta$ in ascending powers of θ . Show that for angles less than $26' 30''$, $\sin \theta \div \theta$ differs from unity by less than the one hundred-thousandth part of unity.

74. Establish the formula $\cot a \sin b \cot A \sin U + \cos b \cos C$.

Find what property of a plane triangle can be deduced from this formula by supposing the radius of the sphere on which the triangle is described to become indefinitely larger than the sides.

75. Show how to determine the relative positions on the surface of a sphere of the four angular points of a regular tetrahedron inscribed in the sphere.

If B, C are two of the angular points, compare the length of the arc of the great circle joining them, with the length of the arc BC of the small circle, in which the plane of one of the faces containing BC cuts the sphere.

76. If A is an angle and a a side of a regular spherical quadrilateral show that $\cos A + \tan^2 \frac{a}{2} = 0$.

If each side of the quadrilateral is an arc of 60° , show that its area is very nearly $\frac{1}{4}$ ths of the surface of the sphere.

Correspondence.

To the Editor of the CANADA SCHOOL JOURNAL.

DEAR SIR,—In reply to the question concerning whispering, asked by "Lennox Teacher" in the December number of the SCHOOL JOURNAL, I would offer the following:—

First, I think that pupils who sit together and who are at the same work, ought to be allowed to compare notes occasionally. Of course if the two are so unequal in attainments that the one continually interrupts the other's work in order to have this or that done for him, the effect is injurious; but if the whole class are prepared (as they should be) for the work assigned, I see no objection to allowing pupils at the same desk to work together. On the contrary, I think it would be an advantage; for each would stimulate the other to greater industry and interest in the work, while the contact of one mind with the other would quicken the

reception of both by awakening them to increased activity. Besides, it would be almost too much to expect of a pupil who has just mastered, say a difficult problem in Arithmetic, to refrain from giving vent to his pleasure by communicating the fact to his seat-mate.

In the second place, while I do not object to communications to a limited extent between those at the same desk, I would allow no whispering from one desk to another without permission from the teacher. This rule is necessary to prevent disorder.

To check conversation between pupils on subjects aside from their studies it is necessary to supply them with plenty of work, and to get them thoroughly interested in it. It would be wise, also, for the teacher to keep a sharp lookout against general conversation among the less studious pupils, treating every such case as a breach of order.

The teacher who follows this plan must not, of course, look for perfection of order all at once. It takes time to arouse the pupils to such an interest in their work that they will be always busy; and even then, pupils so busy and so interested will, occasionally, for want of thought, interfere with the schoolroom work by making unnecessary noise. But by patient, persevering effort on the teacher's part, this tendency may be almost entirely overcome. On the whole, the adoption of such a plan will more than repay the teacher in the amount of work done, for whatever sacrifice of perfect quietness it may involve.

I am, yours truly,

BRANT TEACHER.

January 2nd, 1884.

THE RECENT EXAMINATIONS AND THE STUDY OF HISTORY.

To the Editor of the CANADA SCHOOL JOURNAL.

DEAR SIR,—I would like to call attention, through the medium of your Journal, to a feeling of dissatisfaction which exists among the teachers and students of Ontario, with regard to the style of questions set for the history examination.

It has always been the custom of the examiner—and we find the same fault in our authorized text books—to deal too largely in dry facts. Like *Mr. Gradgrind* they seem to think that education consists in well storing the mind with facts; in other words, to make it a species of lumber room, which it is the teacher's duty to fill during the year and the pupil's to empty at the annual examinations. The majority of teachers throughout the province clearly understand, that the practice of paying too much attention to individual events, and neglecting to inquire into causes, and the social results that spring therefrom, is totally at variance with all philosophical teaching, yet they are compelled to follow the system in order to pass their pupils through the examinations set for them.

The study of history should be a study of national life, and not a biography of kings, not a record of isolated events; yet, year after year, we see the students closely questioned on the earlier centuries, while those great social struggles, which took place but a short time ago, and whose effects are yet visible, are comparatively neglected.

An object to be constantly kept in view by the instructor, is the development of the reflective faculties of his pupils; and there is no subject which affords a better training for these mental powers than history, if judiciously handled. It should be remembered that those faces, which appear every day in the school-room, belong to those who may eventually fill our legislative halls; and they will be men who will need to profit by the experience of their predecessors, and should have an intelligent knowledge of history.

With a change in the style of questions will come a change in the methods of teaching; and the first necessity will be a suitable text book; for not one of the volumes now authorized is fit for common school or intermediate work.

There is yet another point worthy of notice, and that is the prominence given to English and Roman history as compared with our own. There is now being developed throughout the Dominion a national spirit which it is the teacher's duty to foster; and yet we find that in the examinations for common school teachers, Roman history is placed on a par with that of Canada. It is only during the last couple of years that Canadian History has been allowed even that position. In the past students expected only a question or two at the close of the paper and very often never pretended to read the subject. Should this be? Should the history of an empire which passed out of existence fourteen hundred years ago be placed upon an equal footing with that of our own living, flourishing Dominion.

Hoping that I have not trespassed too largely upon your space, I have the honor to be, Sir,

Yours obediently,

T. H. M.

To the Editor of the CANADA SCHOOL JOURNAL.

DEAR SIR,—I had given up all hopes of a reply to those remarks of mine, which appeared in your Journal, last summer, concerning Mr. W. M. Leigh's article on the Subjunctive Mood. I was glad to see Mr. Leigh's reply, even after the lapse of so long a time, and to know that he had the magnanimity not to treat my enquiry with "silent contempt." I will have the further condescension to throw some more light upon the mysterious resemblance between his article and that of Mr. Stewart's. Since Mr. Leigh repudiates the charge of plagiarism (with which I did not charge him) I am yet at a loss to account for the sameness of thought and expression of the two articles in question. I said before, and I say so again, that the whole handling of the subject is the same in both, and in several cases the ideas are expressed in the same language. As I have both articles in my possession, I will give a few quotations for the benefit of those interested, to compare. Mr. Stewart, near the beginning of his article, says:—"The real source of difficulty is that, in former treatises on English Grammar, we were taught to determine moods mechanically. Hence, when an author who desires us 'to emancipate ourselves from the tyranny of names' gives a logical presentation of previously unobservable peculiarities in the conjugation of verbs, teachers whose possession of more than ordinary intelligence and no mean literary culture cannot be disputed, but whose minds have been vitiated by the unphilosophical teachings of grammarians of the old school, if I may so speak, at first fail to perceive many nice and valuable distinctions in thought, to express which our noble tongue is so admirably fitted."

Mr. Leigh says:—"The real source of difficulty with which I had to contend, and with which those who have experienced the difficulty also had to struggle, was the way in which we were taught to distinguish moods. The method was purely mechanical. Now, when Mason wishes us to free ourselves from a tyranny of names, and presents peculiarities, hitherto unnoticed, in a logical manner, we, as teachers who possess more than ordinary intelligence and literary culture, but whose minds have become vitiated by the teachings we received from the older grammars and older teachers, at first do not perceive the distinctions in thought, to express which the English language is so admirably fitted."

In another place Mr. Stewart says:—"The question was not, what does language, what does use, 'national, modern and reputable,' as laid down by the illustrious Campbell, 'teach'? The

great question in grammatical enquiry was 'what does the authorized text book teach'? The doom of this vicious system, fortunately for the English studies of our youth, has been sealed. A spirit of true philosophical research has been extended to all departments of English grammar which may, and not with irony, innocently severe, as in former works, be defined to be 'a science and an art.'"

Mr. Leigh says:—"The question was not: What does language teach? What does use teach? But the great question in grammatical enquiry was, What does the authorized text-book teach? The doom of this system has, fortunately for the studies of our youth, been sealed. Research to all the departments of English grammar, has been extended, and it may now with truth, and not with irony, be called a science and an art."

Again, Mr. Stewart says:—"With the desire to be practical, I have simply attempted to indicate, in terms as plain as possible, the plan that I have found to be most successful in getting students to master this difficulty. When the use of the present indicative in hypothetical clauses is thoroughly understood, little difficulty will be experienced where to use the present subjunctive."

Mr. Leigh says:—"With the desire to be practical, I have simply attempted to indicate, in terms as plain as possible, the plan with which I have been most successful in getting my pupils to master the Subjunctive mood. When the use of the present indicative in hypothetical clauses is fully understood, little difficulty will be experienced in determining when to use the present subjunctive."

If that is not similarity of thought and expression, I should like to know what is. A preacher in Chicago was accused of preaching another man's sermon. In reply to the charge, he said that he had admired the sermon so much, and studied it so deeply, that he had become saturated with it, and delivered it unconsciously. Whether Mr. Leigh has become "saturated" with Mr. Stewart's article or not, "we, as teachers (of West Huron) who possess more than ordinary intelligence and a little literary culture," should like to know. I bear no ill-will to Mr. Leigh, and have no wish to persecute him. All I want is the truth, and if, when told, it should not redound to his credit, I should be one of the first to say "go, and sin no more." I only ask a satisfactory explanation, and teachers and conventions would be lax in their duty, did they not insist upon having one in such cases.

I do not think it necessary to give my name. I will just say that I am one of those whom Mr. Leigh compliments so highly in regard to literary culture, etc., and will sign myself as before,

ENQUIRER.

West Huron, Jan. 5th, 1884.

[We have compared the two articles referred to—see CANADA SCHOOL JOURNAL for September 1879 and for May 1883. The exact coincidence of both thought and phraseology is easily observable from paragraph to paragraph. Both essays, however, profess to be drawn from the same sources. Perhaps it would be well for the writer to "give a full account of the whole matter."—ED.]

To the Editor of the CANADA SCHOOL JOURNAL.

DEAR SIR,—Do you not think that a second session should be established in some central model school for the benefit of those who could not attend the first session? Many "appeals" are sustained each year, and it is often so late before a decision is arrived at that the candidates cannot attend an M. S. for that year. Some candidates through sickness cannot attend, and others who fail at the first session think it a hardship to be compelled to wait a year before they can attend again. Now, if the government would make a grant to some central school to enable the Board to meet the extra outlay, I think it would be money

well spent. Stratford Model School has all the necessary equipments for a second session. Can you help it on in the JOURNAL?

Yours very sincerely,

C. M. CHADWICK.

M. STANLEY, PETERBORO, asks: 1. What Poets you class among the Subjective? 2. The meaning of word as applied to Poets? 3. What treatise contains a full account of different "Schools of Poets"?

He will find satisfactory answers in Collier's *English Literature*, pp. 361, 352; Angus's *Handbook of English Literature*, pp. 99-107. Shaw's *Manual of English Literature* is the best general text-book for students.

D. H. BURBIDGE, Halifax, asks for information about the Teachers' Superannuation Fund in Ontario. He wishes to see the substance of Mr. Jenkins' paper at the North Huron Teachers' Association, as well as selections from other papers read at Ontario Associations, "especially those on History, and Mr. Harstone's on 'Euclid to Beginners.'" He continues:—"I feel almost envious of the spirit and advantages which your teachers seem to enjoy. In this province, associations of teachers seem to be at a discount. True, we have the provincial and a few county associations once a year, but in this city where there are over 100 teachers, there is neither an institution nor an association, and that *esprit de corps*, so necessary in any professional calling, is truly an unknown quantity.

I must not forget to mention that I am well pleased with the JOURNAL, and I wish it were a little more Nova Scotian. Being printed so far from us, it does not seem to belong to us. This is the only complaint I have heard, "too much Ontario," but I am of the opinion, that those who complain, do not read very much educational literature.

As a teacher, I thank you for your invitation to send along "items." I have often been tempted to write to you, but feeling that perhaps you had your "specials" by the seaside, I did not like to interfere. Were my letter not already too long, I would answer "Lennox Teacher's" questions (*vide* Dec. No., '83, page 253) but I think he will find it answered in Dec. No. page 259, under the heading "Extremes in School Management."

GRAMMATICAL CRITICISMS.

DEAR SIR,—Do you consider these two extracts specimens of slipshod English, and are my corrections any improvement on them?—

1. "The possibilities of revolution—any change occurring in this country depends on two circumstances: the collapse of our trade, and a consequent condition of general famine and high prices of food, and the breaking up of our parliamentary system." *Marquis of Blandford in Fortnightly Review for July, 1883, page 26 S.S. Lib. Ed.*

In the first clause of this sentence the writer states that the possibilities of revolutionary change depend on two circumstances, and in the second clause he goes on to specify these two depending circumstances. When reading the latter clause, however, the reader's attention is arrested by three circumstances which the writer really specifies; and it is only after that he has stopped to weigh the meaning of the writer, the reader perceives that the two first circumstances specified in the second clause, viz., *collapse of trade*, and *general famine and high prices*, co-existing in the relationship of cause and effect, constituted the first circumstance referred to in the first clause, while the breaking-

up of our parliamentary system" was the second. If this was the purpose of the writer, of which there can be no doubt, in order to avoid any ambiguity of expression, or to prevent hesitancy on the part of the reader, it would have been better to have modified the last clause of the sentence in some way similar to the following; viz., "the collapse of our trade resulting in a condition of general famine and high prices of food, and the breaking up of our parliamentary system," or "a condition of general famine and high prices of food consequent on a general collapse of trade, and the breaking up of our parliamentary system."

2. "In the German army the system of food supply is excellent, and though in France the number of men to be supplied numbered about fifty times as many as the British forces in the Crimea, yet no hitch occurred and no undue strain or anxiety was thrown upon general officers." *Nineteenth Century for August, '83, page 9.* What is meant by the words "and though in France the number of men to be supplied" in the sentence is not very clear. Whether it was the number of men in the German army, or the number of Frenchmen in France, to be supplied with food, that was about fifty times as great as the number of the British forces in the Crimea, the reader is not especially told; but most probably the following is what was intended by the writer: "In the German army the system of food supply is excellent. Though in numbers the German forces which had to be supplied when in France were about fifty times as great as the British forces in the Crimea, yet no hitch occurred nor were the general officers subjected to any undue strain or anxiety."

W. N. WATSON.

Special Articles.

NOTES OF TALKS ON TEACHING.*

TALK II.—READING.

In the teaching of any subject it is of great importance that we have a clear definition of what we teach. Not a definition in words alone, but a definition in thought that comprehends what we teach in the most definite manner. The question before us is, What is reading? The answer to this question that I shall give is, Reading is getting thought by means of written or printed words arranged in sentences. Thought may be defined as ideas in relation. Ideas are either sense products, or derivations from sense products. We get thought, first, by seeing objects in their relations; second, by thinking of things in their relations without their presence; third, by seeing pictures or drawings of objects in their relations; and fourth, by language. We get thought by language in two ways. First, by the spoken language, and, second, by the written or printed language. To illustrate, I put this hat upon the table. Here you see the relation of two objects, and you think *The hat is on the table*. I draw or sketch the hat on the table, and it brings to your mind the thought *The hat is on the table*. I say, "The hat is on the table," and you think the same. I write on the board the sentence, *The hat is on the table*, and that conveys to your mind the same ideas in their relations. Thus we get the same thought in four ways; the only difference in the result is, that the thought gained from seeing objects in their relations is generally clearer.

Hearing language is getting thought by means of spoken words arranged in sentences. Reading, as I have said, is getting thought by means of written or printed words arranged in sentences. It would be well for us to examine these two operations, hearing

* Notes of Talks on Teaching, given by Francis W. Parker, at the Martha's Vineyard Summer Institute, July 17 to August 19, 1887.

language, and reading, in order to see in what they are alike, and in what they differ. The arrangement of words in sentences, that is the idioms, are precisely alike. The thought in the mind, gained either from hearing language or reading, is identical. The only difference lies, then in the fact, that in one case the word is spoken, and in the other it is written or printed. I am sure you have said, as I have given my definition, that reading is the oral expression of thought. That is oral reading. But you will see at once that we may get thought—and by far the greater part of reading is confined to this process—and not give it to others by means of the voice. If we comprehend oral reading in our definition, we should say that reading is the getting and giving of thought by means of words arranged in sentences.

Not less in importance to the definition of reading, is the thorough knowledge of the preparation a child has made for learning to read, how he has made it, and exactly what is to be done in learning to read. This may be briefly stated thus: First, a child has acquired ideas from the external world by means of his senses. Second, he knows the ideas in their relations, that is, he has thoughts. Third, the child has associated spoken words with these ideas. Fourth, he has associated idioms or forms of sentences with his thoughts. Fifth, he has learned to utter these words and idioms in order to express his thoughts. This is a brief summary of the process of learning to talk. How he has done this will be discussed in another place. Exactly what the child has to do in order to learn to read may be clearly stated thus: The ideas that he has associated with spoken words are to be associated with written or printed words. If I am not mistaken, this is the sum and substance of learning to read.

Oral reading may be further defined as the vocal expression of thought that is gained by written or printed words. A child has already learned to express thought orally, by means of five or six years' continual practice. The emphasis, inflection, and melody of most children's voices can rarely be improved. The child should be trained in no new way, then, of expressing thought in oral reading. Unfortunately the beauty and strength of what the child has already gained is entirely ignored, and a new and very painful process of oral expression initiated. What is the use of oral reading? Talking enables us to see the thought in the child's mind; oral reading to the teacher has no other use. Oral reading, then, enables the teacher to know whether the thought is in the child's mind in its fulness, strength and intensity. If, however, the long preparation of the child in talking is overlooked, and a new and stumbling process of slowly pronouncing words is begun, the indispensable function of oral reading is entirely destroyed. The thought may or may not be in the child's mind, his half-groaning utterances never reveal the fact.

What is the use of reading? We return to our definition: reading is getting thought by means of written or printed words arranged in sentences. Comprehensively stated, reading opens to the mind all the learning and erudition of the past. To the teacher, however, it is of the utmost importance, for reading is thinking, and thinking is the mind's mode of action; and all mental development is rightly directed toward action. Study of text books, then, if it differ from reading, the difference may be found simply and solely in intensity. In study the thought gained, may be clearer and more complete than in mere reading. You can judge for yourselves then, fellow teachers, of what immense importance it is for the little child to form correct habits of reading; and you know by experience how easily incorrect habits may be cultivated, habits that will dishearten a child in his attempts to read, and make words, instead of being clear mediums of getting thought, actual barriers to the truth they were intended to convey.

TALK III. READING.—THE WORD.

The child at five years of age has acquired ideas in their relations, has associated spoken words with these ideas, and idioms with the thoughts or related ideas. The process of learning to read, then, must consist of learning to use the written and printed word precisely as he has used the spoken words. Learning to read is learning a vocabulary of written and printed words, so that the child may get thought through the eye as he has done through the ear. It is a matter of great interest to the teacher of little ones to know just how the child acquires the spoken words. The process is a very simple one; an object is presented and the word spoken. That is, the idea produced by the object and the spoken word are associated in one act of the mind, which we call an act of association. We all know that only by means of a mysterious mental law, called the law of association, are we enabled to recollect anything. Words are used under this law to recall ideas. The word recalls an idea after a certain number of repetitions of these acts of association. In the same way related ideas are associated with idioms or sentence forms.

Every act of the mind is affected by some stimulus or mental excitement coming either from without or within the mind. As a rule, the greater the stimulus the more effective the act. The little child, for instance, sees an elephant for the first time. The sight of the huge, strange beast stimulates the mental action of the child to an unwonted degree. The perpetual question of the little one, "What is that?" comes to his lips with great fervor. The answer, "The elephant, my child," will be likely to remain in his mind forever. The spoken word, then, is acquired by repeated acts of association. The number of these acts necessarily depends in a great degree upon the stimulus of each act. For instance, the greater the stimulus the less the number of acts of association required, and vice versa. What we have said of words may also be applied to the learning of idioms.

Now, the question is, in learning the new means of recalling ideas by means of the written words, should there be the slightest change in the general method? A word is used simply and solely to recall an idea. It has no other use. It can be learned only by association with the idea recalled; and the sole question for the teacher is, to know how best to associate words with ideas. I think we can lay down this one rule as fundamental: in all the teaching and the study of the art of teaching little children to read, that which aids directly in acts of association of words with their appropriate ideas, aids the child in learning to read, and any other method, detail of method or device that does not aid the mind in these acts, hinders the child in learning to read. To this one rule, then, all our discussion of the art of teaching reading must return. Everything must be reconciled with this or it is wrong.

The first question, then, is, What is the best way of bringing about the acts of association with the best possible stimulus? It is plain common-sense to continue the method that has developed a fixed and powerful habit of learning new words, namely, the presentation of objects as the highest and best stimulus to acts of association. This is strikingly true in teaching the first few words. The written or printed word is a new, strange object. It repels rather than attracts. No stimulus, then, can be found in the strange hieroglyphics that look more mysterious to the child than Hebrew or Sanscrit do to us. Tide the child over his first difficulties by using the active energy of a fixed habit. Simply repeat that which has been repeated thousands of times, present the object (a favorite one of the child's), and say the word, not with the lips but with the chalk. The child's consciousness is filled with interest for the object, leaving just room enough for the new form to find a

resting-place. On the other hand, try to fill the child's mind with the word itself, and you fill his soul with disgust.

The spoken word has been learned as a whole. It is more complex, and therefore more difficult to learn than the written word. Every spoken word is learned as a whole, and we have no reason to believe that the child has the slightest consciousness that the spoken word has any elementary parts. The attempt to teach him the elementary parts of a spoken word, while he is learning to talk, would prove disastrous. Why, then, should not the written word be learned as a whole? Why introduce a new process, when the old one has been so effectual? Indeed, there is no doubt that any attempt to separate the written word into parts, or to combine the parts of a word into a whole, directly and effectually hinders the acts of association, and therefore obstructs the action of the child's mind in learning to read. The tendency of unscientific teaching has set steadily and strongly for the last thirty years toward woful and useless complications in details of instruction. The return to real teaching is signalized by a strong leaning toward simplicity. The height of the art of teaching, as in all other lesser arts, is found in simplicity. Hold up the object and write the name. Say just enough to lead to the proper mental action and no more. The fewer words the better. Begin with objects. Select those objects most interesting to the child.

Next to objects I shall place sketches upon the blackboard, done in the presence of the child, so they may be associated with the names of the things drawn, and the sentences that express the relations of the objects. Third, pictures may be used effectively. Fourth, conversations of the teacher that will bring the ideas to be associated with words vividly into the child's consciousness. Fifth, stories may be told with the same result. How long should objects be used? Until the child will actively associate new words with ideas without the presence of the objects or pictures of the objects that produced the ideas. No teacher who watches the faces of her little ones will fail to note when this time has fully come.

If the principles that I have here given are true, then you will have a basis of truth for the discussion of the art of teaching little children to read. This method, to use a popular but not a correct term, may be called the associative or objective method. Learning the word as a whole, without trying to fix the child's attention upon its parts before it becomes a clear object in the mind, is called the "word method."

The question, no doubt, will arise in your minds, if the old alphabet method is entirely laid aside and the phonic method is not used at the outset for the analysis of words: How is the form of the word fixed in the mind? The answer is a simple one: The best way to fix any form in the mind is to draw it.

(To be continued.)

PRACTICAL EDUCATION.*

There is, perhaps, in no other profession so much room for diversity of opinion as in that of teaching. Nearly every teacher has his own method of doing his work, and holds that method to be the best. Nearly every educationalist has some theory to advance which he imagines should be received without hesitation by all. And when controversies occur, and disputes arise, we generally find that the result is the same: each man is so wrapped up in the littleness of his own egotism that he cannot entertain any ideas except his own.

It is no wonder, then, that in this country we should find a difference of opinion prevailing in regard to educational affairs, and

we are not surprised when we meet with those who find fault with our programme of study, and, in fact, the whole educational system. There may be some things in the system that, perhaps, are not so perfect as they might be, and we honor those persons who, by calling attention to these things, and offering suggestions in a proper spirit, are endeavoring to improve the state of affairs; but we have no patience with those crotchety grumblers who find fault because they have not had a hand in framing the programme, or who, filled with the immensity of their own importance, delight to hear themselves speak, and who are never satisfied unless they are creating disturbance or discovering errors, acting on the motto that they are "nothing if not critical."

Now, among those who are decrying our school system, there is a class of persons who demand what they term a practical education, but what might be more properly styled a limited education. We believe that these people sincerely desire to do good by drawing attention to the style of instruction given in our schools, but cannot help feeling that they take an extremely narrow view of the case, and in the desire to be practical lose sight of the great aim of a public school education.

Man owes duties, not to himself alone, but to his family, to his friends, to society, and to his God; and an education that fits him only to look out for No. 1, and fails to make him a more useful member in society and in the world, is not worthy of the name of an education. Practical education should not mean a business education, and if men will twist it to mean such, then we say away with your practical education, for our object in teaching is to prepare our boys, not for one part of their after lives, but for all. Practical education includes a training that will aid in the business of after life, but it means much more. That discipline, which builds up one's mind or body, that discipline which makes a man make the most of himself in every way, is what we call practical, and we hope the day is far distant when the people of Manitoba will be led into the same error as some of those across the border, who think that when their sons are taught how to make money that are taught all. It is one of the greatest curses of America to-day that its men live with the one object in view of amassing wealth. Valuing not the comforts of the fireside, not taking advantage of the opportunities for self-enjoyment and mental and moral improvement that society offers, engrossed in the one idea of becoming rich, they not only hinder the true progress of the country and establish a wrong basis upon which they build the whole fabric of society, but convert themselves into mere machines of labor and smother out all the finer feelings and generous impulses of their nature, acting, not as beings with minds and souls, beings with duties to God and duties to mankind, but as selfish and miserly creatures who live for their own gratification.

Call English society rotten if you will, and denounce aristocracy if you please, but it is a better system of gradation for society than where money is the basis of classification. And if we educate our sons to think that the whole object of life is to make money, how can we expect this state of affairs to be remedied?

"Mind and moral: on nature's plan
Are the genuine tests of a gentleman."

Then let us educate our children so that when they grow up they shall pay as much attention to the cultivation of the mind, and the heavenly graces as they do to personal grandeur and the emolument of wealth. Let them be men in the full sense of the word—physically, morally, and intellectually, and do not cramp them in mind, body, and spirit by having them wrap themselves up in business. It seems to me that men now-a-days, and especially men in this country, need more to learn the lesson of how to act honestly than how to make money, and I certainly think that if all our citizens

* A Paper read before the Manitoba Teachers' Association, August, 1888, by W. A. McIntyre, Esq., Principal Boys' Central School, Winnipeg.

were as well educated in morality as they are in the art of money-making, we would hear less grumbling from those who are barely able to earn their bread. It is very easy to find fault with the curriculum, but let those who criticize beware, lest in criticising they advocate something neither half so practical nor rational.

Now, I do not stand up as a champion of our programme of study, but when I look at it carefully I must say that there does not appear to be so much wrong in it after all. It recognizes the fact that up to a certain point in the education of children, the instruction must be the same, but beyond that the training must differ, just as does the occupation of the children in after years. But when children reach that stage of advancement when they are able to take a particular course of study, the programme distinctly makes provision for the same. Those desiring a commercial training can have it, those wishing to enter the professions can study such subjects as bear directly on their work. Those wishing to prepare for University find a distinct course laid out for them, and so it is for all. A general education up to a certain point, and then a special training during the rest of school life—such is the course adopted, and what can be more reasonable or better suit the wants of the people? The course of study is broad enough to meet the demands of all, and does not limit the advantages of an education to any one class. It is thorough, it is complete, and if there is any fault in the education of our children we must look elsewhere for it.

And, unfortunately, there is much fault to be found with the education given to the boys and girls of to-day, but we must be careful lest we place the blame at the wrong door. I know full well how frequently boys come forth from our schools with what is termed a good education, and yet are unable in the great battle of life to stand their ground and fight for themselves, but I do not blame our programme of study and our text books for it all, but, on the contrary, consider that they have very little to do in the matter. We can account for it in other ways. We have in the teaching profession many inexperienced and inefficient members, just as in the other professions there are many who are incompetent to do their work. Under such teachers the time of the pupils is wasted—even worse than wasted—for bad habits are formed that in after years show themselves very strongly. Persons with no knowledge of the world outside of that obtained through reading, and with no understanding as to the nature of children; unable to discriminate as to how each child should be dealt with, and dealing with all in exactly the same way, considering the chief end of education to consist in preparing children for an examination instead of fitting them for the active duties of after life; looking at the intellect of the child as the only part of its being that needs to be developed, and forgetting that moral and physical culture are equally necessary; possessing no other qualification than that they have passed a sufficiently difficult examination to be classed as teachers. Persons of this kind often take charge of the children of our land, and under their fostering care what would you expect the result to be? Can you expect lazy teachers to turn out smart pupils? Can you expect teachers who know nothing of commercial life to teach their children the laws which govern the commercial world? Can you expect teachers with slovenly, careless habits to have their children in "apple pie" order? or can you expect teachers with corrupted morals and filthy tongues to have their pupils grow up as models in their behavior and conversation? If there is anything wrong in child education of the day as far as the educational authorities are concerned, it is right here—sufficient attention is not given to the moral and practical fitness of those entrusted to the care of children; and if the education is useless it is not because what is assigned on the programme as a study is useless, but because the teachers know not how to teach their children what is placed on the programme.

And again, we hear many men grumble about the way they were taught at school, and say that half they learnt was of no earthly use. Now if this condemns any one it condemns the grumbler, for if the education was useless why did he study so much? In nine cases out of ten these very people who grumble so much went to school and spent their whole time there, without considering what they were going to do when they left. The result is that in trying to learn everything they learnt nothing; whereas if they had decided what their course in after life was to be, and had taken a special training on that direction, they would have had all the education they desired, and would not be now complaining at the non-practical school training. If people would only use a little common sense in these matters they would perhaps lay the blame a little nearer home than the teaching they received at school. Let boys decide as early in life as possible what they are going to be, and let them study and work with that object in view, and they will find the education practical enough. But when a boy comes to school and passes through the whole course of study, without knowing or caring what he is going to do afterwards, then how can he expect that when he does turn his attention in a particular direction all he has ever learned is going to be of practical use?

And again, we might assign another reason why the education given in our schools is not as useful as it should be. Some persons imagine that when they have left school their education is completed, and forget that they have just made a beginning of it. Generally speaking, the information received in a public school is of little value; the discipline which the mind undergoes in obtaining the information is of much more account. If children leave school without knowing how to prosecute their studies independently, then their education has been a failure; for after all true education is obtained more after one leaves school than during the school period. School education may do much for a man but it will never make him a successful merchant. He may learn all the commercial arithmetic possible, and receive endless sound business advice, but the practical training is obtained only in the counting-house, and in associating with business men. Those who imagine that public schools can turn out first-class ready-made or made-to-order business men, have greatly mistaken the idea of a common school education. As well ask us to turn out full fledged lawyers or physicians. All we can do is to discipline the mind, to teach correct habits of order and neatness, to inculcate principles of morality and aid in developing the physical powers, and besides this give a little—only very little—general information. We place the children on the right track, give them directions as how they are to proceed, show as well as we can why others have gone astray, and tell them what dangers to avoid; we then wish them God speed and let them travel on alone. Yet some lazy and unreasonable creatures no sooner leave our school than they say in action if not in words,—“Now I have a pretty good education and therefore should be able to get along in the world without any further exertion on my part. If an education is any good at all it will make me get along all right.” Yes, my easy going friend your school education will help you, if you only apply it properly, but if you fail to put into practice the teaching you have received, then you need not expect it to aid you in the practical duties of life. You blame the style of education because you haven't succeeded in life; turn round and blame yourself first, for not having put that education to its own proper use.

And how many parents, by their actions towards their children destroy the good effects of a sound common school education. While we educate the children to work, for work is man's grandest employment—the parents teach them to do nothing. At school all are treated alike and the rich child stands in the same relation to

his fellows as the poor one but at home every wish is gratified, and every whim satisfied, and children with rich or aristocratic(?) parents are taught to despise and keep aloof from those of the poorer classes. We encourage independent labor, but some of these parents don't allow their children to think of such a thing. In such a case as this where an evil home training counteracts any good training in school, who is to blame? If your child turns out to be a useless ignorant tyrant why turn round and blame the school education? Nor is this all. We may look somewhere else for the cause of the failures in life. All men are not of the equal ability, and it is wonderful to note how fertile in excuses are those people who do not seem to prosper as well as their neighbors. They never imagine that they are not as smart, or that they may possibly have chosen the wrong vocation but hunt round for an excuse and very frequently end up with, "Well I hadn't a proper education." The best education in the world wouldn't make some men smart, nor fit them for a position which nature never intended them to fill. There is unfortunately, a tendency now-a-days for most of our young men to run into the professions without considering whether nature intended them for such positions or not. These professions are honorable they think, therefore they will join the ranks. They turn out failures and blame their early training of course. It is surely time that some of our men who have proved themselves failures have found out where to place the blame, and it is surely time that men were beginning to understand that "man makes the business honorable" instead of the "business making the man honorable," that to be an able and efficient hod-carrier is better than a sickly, incompetent, one-horsed member of the legal or medical profession. We can perhaps account for more failures in life through indiscretion in choosing a profession than in any other way.

Then away with this cant, about our education of to-day not suiting the wants of the people. Place the fault of failures where it should be in the majority of cases, with the people themselves, and do not rave at our educational system and programme of study. Let our teachers know how to impart what they know and know what to impart; let them be practically qualified for their positions, having in every case received a thorough professional training before entering on their work; let them be men and women that are able to understand children and able to guide them; in short, let them be persons that nature and education have fitted for the position. Let parents exercise a little more care in the home training of their children, for home influence is always more telling than that of the teacher, let them use a little common sense and discretion in educating their children, and not treat them when in their "teens" as babies of a larger growth. Let our boys decide early in life what their course is to be and let them use all their energies in that direction: let them consider carefully before entering on any course, and choose that which nature has intended them for; let them consider that school and college education never yet made and never will make a thoroughly educated man, that these are only means to an end. Let all these things be attended to, and I feel confident there will not then be as much fault found with our programme of study and system of education.

There is one point more on which I would like to say a word or two, and that as briefly as possible. There has been much said lately as to the style of teaching particular subjects, especially grammar, arithmetic, composition, and history, and there is much ground for some of the complaints made if the complaints were only based on fact. But they are not in the majority of cases, for persons looking at the style of instruction twenty years ago, when they went to school, and supposing that of to-day to be precisely the same, of course make many suggestions that are good, forgetting, however, that educationists have discovered these errors before

them, and have rectified them; forgetting that the style of teaching of this day is in many respects superior to that of their day, and that as great progress has been made in the science of education lately as has been made in most other things.

You say, "There is too much manual labor in arithmetic." We say, "You are right," and you will notice how mental calculation is encouraged by every live teacher. You say, "There is too much time devoted to this subject." We say, "The time may be wasted sometimes, but it certainly takes longer to teach an ordinary child the elements of arithmetic than it does the elements of grammar or history. He can study the last two subjects unaided, the former he can't."

You tell us our grammar is not practical enough, and does not teach children how to express themselves properly in speaking and writing. There may be much truth in the statement, but it would never do to restrict grammar to mere correction of false syntax. We believe it is wrong to place a text-book on this subject in a child's hand until he can consider the subject philosophically, but it should be taught from the very beginning of school life in connection with composition, object lessons, etc., where children are supposed to express themselves. But grammar, as a study for advanced pupils, gives, we consider, better exercise for the reasoning powers than any other subject, arithmetic and Euclid not excepted. And this is one reason we would advance in favor of the teaching of philosophic grammar; but we would not mean by that to throw overboard the grammars teaching the subject practically. The proper school should be a grammar class all the time in one sense, because mistakes in expression should always be noticed, and if the subject were taught in that way it would do much more good than placing a text-book of any kind in the hands of the pupils. We cannot expect rapid improvement in the mode of expression used by our children, because home influence and the company of play mates often undo what teachers have done in this matter.

Promotion Examinations.

GEOGRAPHY.

CLASS III.

1. Draw an outline of Lake Ontario and mark the ports on the Canadian side and the mouths of all the rivers that empty into the lake.
2. How do villages, cities, and towns differ? About how many of each are in Ontario?
3. Trace the course of a vessel from Duluth to Halifax.
4. Which is the wealthiest and most intellectual province in Canada? Give reasons for your answer.
5. By the use of a drawing show that you know the position of the cities of Ontario and the railroads connecting them.
6. What are the principal natural products and industries of each of the provinces of Canada?
7. Draw a line indicating the boundary between Canada and the United States.
8. Give the State and part of the State in which each of any fifteen cities is situated.
9. Trace the course of the Grand River from its source to its mouth. Where do the railroads cross it? Mention the uses of this river.

ARITHMETIC.

CLASS III.

1. How are fractions reduced to a common denominator? Reduce $\frac{2}{3}$, $\frac{1}{5}$, and $\frac{1}{2}$ to equal fractions having the same numerator.
2. Divide \$13 $\frac{1}{2}$ between two boys, so that one may have \$2.50 more than the other.
3. John can do a piece of work in $5\frac{1}{2}$ days, James can do it in $3\frac{1}{2}$ days; in what time can both do it?

4. Find the five smallest numbers that will exactly contain the sum of $2\frac{1}{2}$, $3\frac{1}{2}$, and $4\frac{1}{2}$.
5. How does least common multiple differ from highest common factor? Show that we cannot find the highest common multiple of two or more numbers.
6. If \$197 $\frac{1}{2}$ be divided by the sum of \$7 $\frac{1}{2}$ and \$8 $\frac{1}{2}$, how many cents will be left?
7. A grocer sells 14 $\frac{1}{2}$ oz. for a lb.; how much must he apparently sell to cheat his customers 21lbs.?
8. Ten pounds of coffee are worth 5 $\frac{1}{2}$ lbs. of tea; how many lbs. of tea are value for 30 lbs. of coffee?
9. $\frac{2}{3}$ of John's money is equal to $\frac{1}{3}$ of Henry's; both have \$1,000; how much has each?

LITERATURE.

CLASS III.

1. Tell in your own words the story of 'Grace Darling.' How was she led to believe she had done something wonderful?
2. What steps were taken to overcome John Adams' dislike for Latin? Mention what you think admirable in John's conduct.
3. Give the meanings of the words, hero and heroine. Name as many as you can from the Third Book, and in each case tell how the name is deserved.
4. Write some verses that are hard to understand from the 'Moose's Petition.' What is the meaning of the one beginning with the line, 'Beware lest in the worm you crush.'
5. Some words are pronounced alike but spelled differently; give from your reading lesson ten pairs of such words.
6. Mention instances of sagacity in animals. Do animals reason? If you think they do, cite an example. Show by an example that you can reason.
7. From some lesson in the Third Book show that one person's conduct influences that of another.
8. Explain the word 'fidelity.' Give in your own words the substance of the lesson headed 'Fidelity.'
9. By examples show that you understand the use of these marks used in your reading lessons—? ! " " " —.

COMMON THINGS.

CLASS III. AND IV.

(These questions are for discussion by the teacher and pupils.)

1. Why can a boy throw a stone farther than he can throw a straw?
2. The rain falls and a balloon rises. Give the reasons.
3. Trace the course of hail, rain, and snow from large bodies of water till they fall on the other.
4. Why does sprinkling cold water on a floor make the air of a room cooler? Would warm water do the same?
5. As we go up it gets colder; as we go down it gets warmer; give the cause. What is meant by the words cause and effect?
6. Tell why a boy's sleigh has iron shoes on it. Why has his wagon iron tires?
7. Iron sinks in water, some wood will not do this. Give the reasons.
8. Which is the better time to get your lessons, the morning or the evening?
9. Name a few common occurrences which you do not understand.

LITERATURE.

CLASS IV.

1. State the position of the government of Peru on the approach of the Spaniards.
2. Draw a map of the north-western part of South America and mark on it Quito, Caxamalca, and Cuzco.
3. Give Pizarro's plan for getting possession of Peru. State the circumstances which were favorable to his success.
4. What is a Dominican friar? Detail the part taken by a friar in the defeat of the Inca.
5. How do you account for the slaughter of so many Peruvians while only one Spaniard was injured?
6. Account for the enormous amount of gold and silver secured by the Spaniards.
7. By what means did Pizarro try to govern Peru? What opposition finally destroyed him?

8. The people of South America are principally Roman Catholics; how do you explain this?
9. Give the meanings of—dexterous, audacity, remorseless cruelty, descendants of the Sun, simultaneous discharge, incredulous, ransom, assassinated, revenge, rebellion, and insurrection.

HISTORY.

CLASS IV.

1. Give instances from English history of eminent persons being guilty of treason. State as fully as you can those offences which are called treason.
2. Detail the steps taken by Britain to acquire one or more of her colonies. Mention any advantage it is to Canada to belong to Britain.
3. Rebellions are often followed by concessions. Cite instances to prove the truth of this statement.
4. If you can, show that some monarchs had both a parliamentary and hereditary right to the throne of England. In case of conflict discuss which right should prevail.
5. What is the nature of the troubles now disturbing Ireland? What remedies have been proposed? Give as well as you can the cause of Irish distress.
6. State the cause of the recent Egyptian war. Was it just or unjust? Why did Bright withdraw from the Cabinet during the war?
7. Name some of the leaders of political thought in Canada. What is the difference between a Conservative and a Reformer?
8. Tell what you know about the causes of the American Revolution.
9. Why are there better scholars in Britain than in Canada? Mention some of the leading scholars of Canada.

GEOGRAPHY.

CLASS IV.

1. The discharge of rivers nearly measures the amount of evaporation; explain this statement.
2. Why is it colder the higher we ascend? Are houses constructed to keep the heat in or the cold out? Give reasons for your answers.
3. Give reasons for thinking the Frigid Zones are colder than the Temperate. Account for the lines that bound the zones.
4. At one place it is 9 a.m., at another it is 10:30 a.m.; how can this be? Find how far they are apart, and why one is farther east than the other.
5. Which is ice or water the heavier? State reasons for your answer. Which would ice or water the better protect a substance easily frozen?
6. By means of a diagram show that we cannot see a ship because there is water between our eye and the ship. State why you think the surface of water is round.
7. Tell all you know about the formation of coal. Mention the principal places in which it is found. Show that coal and iron are often found near each other.
8. Mention some of the forms of water. Is there any water in vinegar, molasses, cider, blood, mercury? Give reason for your answer.
9. Why is it healthier to live in the west than in the east of a town or city? Which is the north or south of a town or city the healthier?

ARITHMETIC.

CLASS IV.

1. John can do as much work in $4\frac{1}{2}$ days as James can do in 3 $\frac{1}{2}$ days; together they complete a job worth \$21; How should the money be divided?
2. A man pays $5\frac{1}{2}$ cents out of every \$3 $\frac{1}{2}$, and by so doing his money is diminished by \$25; how much had he at first?
3. Find the interest on \$39.60 for 89 days, when the interest on \$150 for nine months is \$11.25.
4. An acid is composed of hydrogen, sulphur, and oxygen, there being respectively 2 parts, 32 parts, and 64 parts of each in its composition; find the weight of each in a ton of the acid.
5. Divide \$7,000 dollars among three men so that the first may have twice as much as the other two, and the third \$80 more than the second.

6. A roller is 10 feet long and 12 feet in circumference; how many times will it turn while rolling a field containing nine acres?
7. By selling $37\frac{1}{2}$ inches for a yard, I lose \$40; the cloth being worth 80 cents per yard; how many yards did I sell?
8. What is the smallest number that can be added to $189\frac{1}{2}$ so that the sum may exactly contain $12\frac{1}{2}$?
9. What is the difference between $7\frac{1}{2}$ sq. ft., and $7\frac{1}{2}$ ft. square?

GRAMMAR.

CLASS IV.

1. Compose sentences to show you understand the use of the comma, period, exclamation mark, and point of interrogation.
2. By means of examples show that the same word may be used as different parts of speech. What is meant by a part of speech?
3. Write a list of words having silent letters. How do we know when a letter is silent?
4. Give examples of the following sentences: (a) Compound; (b) Complex; (c) Simple; (d) Ambiguous; (e) Affirmative; (f) Negative.
5. Name the moods. Illustrate each by an example. What is the difference in meaning between: "If I was there" and "If I were there"?
6. Analyze: "*Mankind can hardly be too often reminded that there was once a man named Socrates, between whom and the legal authorities and public opinion of his time, there took place a memorable collision.*"
7. Parse the italicized words. Rewrite, changing the voices of the verbs. Give meanings of all the words having three or more syllables.
8. How do you know when analyzing what should go in the completion and extension?
9. Carefully write six common rules of Syntax. Explain how each may be violated.

DRAWING.

CLASS IV.

1. Classify angles and triangles. Draw one of each and write its name opposite.
2. Name the different kinds of four-sided figures. Illustrate and define each.
3. Define radii, diameter, circle, circumference, chord, arc. Make a drawing and write the name of each of these terms on the part that explains the term.
4. Make all the letters of the alphabet that can be made without the use of curved lines.
5. How do the diameters of an ellipse differ from those of a circle? Tell how to lay out an elliptical plot in the garden.
6. Draw a right angled triangle. On one side describe a square; on another, an oblong; on the other, an isosceles triangle.
7. Show by diagram that you understand the division of the earth into zones.
8. What is the difference between the curve of a circle and that of an ellipse?
9. Give an example of one or more of those forms that you think the prettiest.

A good story is told concerning the first nomination of Col. Pickett as State Supt. of Schools of Kentucky, near the close of a long nominating convention for State officers. Gen. Breckenridge, a leader in State politics, rose, under the five-minute rule, and said: "During the late war there was a chaplain in one of our regiments who distinguished himself by great self-sacrifice and self-forgetfulness. I have seen him with my own eyes care for the wounded, administer medicines and comforts to the sick and suffering, and consolations to the dying. On one occasion I saw him aid a Northern soldier, and he actually took the shoes and socks from his own feet and put them on the feet of a suffering and needy enemy. In view of such noble action to friend and foe, I take pleasure in nominating J. Desha Pickett, the chaplain to whom I have referred, for the office of State Supt. of Public Instruction." The speech was electric, and when Adams Co. was called, the chairman of the delegation arose and announced, "Adams Co. gives thirteen votes for 'Old Socks,'" and the whole convention followed with a burst of applause that was unprecedented, even in the enthusiastic Democratic State of Kentucky. It is needless to say that "Old Socks" was elected, and still holds the educational fort.—*New England Journal of Education.*

Sing on I we sing in glorious weather,
Fall one step over the tiny strand;
So narrow, in sooth, that still together,
On either brink we go hand in hand.

Jean Ingelow.

Practical Department.

ARTIFICIAL STUPIDITY.

Stupidity is of many kinds, and springs from a variety of causes. There is a stupidity which manifests itself in general intellectual incapacity; there are special forms of stupidity showing themselves in particular directions, but quite compatible with great intellectual ability in other respects. Stupidity, both general and special, is, in some cases, natural; in others it is artificial. Natural stupidity runs in particular families and races; it seems to go with certain bodily characteristics, and to be developed by certain physical environments. Thus the Bœotians had a bad repute for intelligence among the quick-witted Athenians, though opinion has been divided as to the cause of their stupidity, some referring it to the sensuality induced by the extraordinary fertility of their country, others to the dampness and thickness of their atmosphere. Every country has within its own limits certain districts that have a similar ill-repute. It would be invidious, perhaps, to name districts in our own country famous for the stupidity of the inhabitants, but familiar instances will doubtless occur to most of our readers. Happily there is no form of stupidity which does not yield to judicious treatment. Some of the most illustrious men and women the world has ever seen were notoriously dull and stupid as children.

It is a serious matter, however, to reflect that large numbers of children, naturally sharp and clever, are rendered stupid by bad teaching and bad training. It is marvellous what the least promising children learn, with no other books than dolls and balls and pebbles, and other such unpromising manuals, and with no other instructors than ignorant servants and little brothers and sisters. They acquire a considerable knowledge of the external world: they learn how to use their own bodily powers; they pick up a language which they use with the greatest fluency; they show an intelligent interest in the rudimentary stages of literature, science, and art; they are most eager after information, and sometimes risk the pains of martyrdom to acquire it. Well might fond parents be astonished, as they almost invariably are, at the precocity of their children, and anticipate for the most hopeless of them an extraordinary future. The most dispassionate observer might be led, by what children learn in the first three years of their lives, to expect that they would become prodigies of learning and ability by the time they reached maturity.

But a curious change frequently happens as soon as the child is sent to school. His mental activity is at once arrested; his curiosity abates; his powers of acquisition fall off; he becomes dull and heavy and slow of apprehension. The budding genius has, somehow been converted into something very much like a dunce.

It will not be unprofitable to inquire into the cause of this deterioration. If the effort of school education be to repress those powers that it is supposed to call out, it would surely be better to leave children to the teaching of Nature, who, as we have seen, makes something out of the dullest of her pupils, and that in the pleasantest fashion. The most obvious cause of the failure of formal education is the neglect of natural laws. We are in too much of a hurry. Instead of adapting our teaching, as Nature does, to the child's developing powers and growing needs, we ply our little pupils with knowledge about which they do not and cannot care, with the inevitable effect of disgusting them with learning and delaying their mental development. We fly at once to a book as the instrument of education, and the first thing we do with the poor little child, who has hitherto taught himself from the illuminated pages of his daily surroundings, is to set him learning certain cabalistic signs which represent no ideas, and in which it is im-

possible for him to find any intrinsic interest. As soon as he has mastered the symbols which represent words we set him to acquire all sorts of second-hand knowledge; we give him oral lessons, in which we too frequently throw away every opportunity for developing his intelligence; we collect his facts for him; we classify them for him; we name them for him; we define for him the names we employ; we reason from the facts for him; in short, we do everything that is likely to render him stupid for life. It would be quite as reasonable to expect that he would grow physically strong, if we ate and drank and took exercise for him, while he looked quietly on. We got rid of his brains, as somebody said, to make room for his learning; we crush out his native intelligence under pretence of developing it; we load him with knowledge, but prevent him from acquiring the power of making a wise use of it.

The transition from the school of Nature to our so-called schools is at present too abrupt. The infants' school teacher should pay greater attention to children's instincts and natural tastes, and use them to a much larger extent as instruments of education. Children learn more from things than from words, and should obviously be first taught through things; they learn more quickly by doing things than by hearing about them, and action should enter, therefore, very largely into their school occupations. Kindergarten enthusiasts would not allow children to learn to read and write until they were seven or eight years of age. We would not wait so long as that; but we are confident that children would gain in intelligence, in the long run, if we were not in such a hurry to teach them the three R's.

Children are made stupid in the later stages of education by burdening their memory with knowledge which they have never digested, and are consequently unable to assimilate. Knowledge of some sort must, of course, be acquired in school; but it should be mainly such knowledge as will be instrumental in acquiring more, when the mind will be riper to receive it, and the value of it will be more keenly appreciated. The new code will confer no greater benefit upon the rising generation than that which is involved in the increased importance it attaches to intelligence; but it is useless to insist on intelligence so long as demands are made for indigestible knowledge that stifles intelligence. If our children are to retain the spontaneous mental activity of infancy; if their school life is to be bright, joyous and natural; if they are to escape becoming "bookful blockheads," we must care less for what they know, than for what they can do; we must be content to wait till they have reached a suitable age before we impart to them knowledge which at present only serves to render them more stupid. Childhood is the age for acquiring mental tools and learning how to use them, for forming healthy tastes and learning how they are to be gratified. It is not without its appetite for knowledge; and we are far from suggesting that this appetite should not be ministered to; but let us supply it with the kind of knowledge it spontaneously asks for; when it asks for bread, let us not give it a stone; and let us not forget that mental development is of far greater importance than mere knowledge. Knowledge may be forgotten; all knowledge acquired in early life, unless it be constantly used, is almost sure to be forgotten; but intellectual power is a possession that cannot be lost. Nay it will go on increasing.—*The School Guardian* (Eng.)

At the semi-annual meeting of the N. E. Assoc. of Supts., held in Boston, Friday, May 25th., the subject of arithmetic in Grammar Schools was discussed by Supt. G. T. Fletcher, of Maine, as follows:—

"The average American citizen needs to understand thoroughly the application of notation, numeration, addition, subtraction,

multiplication, and division, to integers, decimals, and common fractions, to be familiar with the processes of reduction and mensuration, and the application of the principles of percentage to business transactions. These subjects comprehend nearly all that is of practical use in arithmetic. For mental discipline the proportions and roots may be studied. A large percentage of our pupils go from the grammar school directly to life's duties; hence, what is there learned should be well learned. Many subjects treated in arithmetical text-books are of no practicable value to most pupils. Non-essentials should be eliminated, and what remains be mastered. Arithmetic is valuable for mental discipline, but this can be secured only through work. The blackboard has wrought some harm as well as much good. There is too much *chalk-work* and too little *brain-work*. The pupil should be taught to *think* before doing, and to prove his work. The tendency of answers, printed with the problems, is to destroy the pupil's confidence in his own work outside of the book. More attention must be given to clear analysis, and mental arithmetic should be taken with written. Much that is well taught will be held as mere facts in memory, but, if thoroughly learned, it can be used in practice, and as the pupil's mental powers mature it will be understood. The reasoning powers cannot be forced. There must be persistent drill in the fundamental rules. Fractions should be presented by illustration, and the terms, relations, and changes in form and values made clear. Many problems should be given,—first, to illustrate principle, second, to afford the practice necessary to impress the principles and methods upon the mind. They should not be too complex, confusing the mind. Reduce the subject matter of most of the text-books from a third to a half; select wisely, and teach thoroughly, keeping these objects in view as the objects to be attained,—to obtain a knowledge of the properties of numbers; to secure skill in their application to business; to give practice in mathematical reasoning; and to attain precision in the use of language."

ARITHMETICAL MATCHES.

The September number of the *Journal* contained an interesting article from the *Pacific School Journal*, describing an *adding match*. Such exercises tend to secure *accuracy* and *celerity* in arithmetical work, as forty-five years of school-room experience has proved to the writer of this article. The boys sometimes call them "single skull races."

An example of work in multiplying that many of my pupils have worked correctly, with as much alacrity as they would play a game of ball, is to find the product of—

	9,582,653,477,982,169
Multiplied by	8,795,631,824,673,912

The ans'r is f'nd to be 84,285,491,895,672,114,131,600,175,475,128

The practical worth of such work is more that the oral reciting of the *multiplication table* as many times as there are units in the product.

Another good example for a multiplying match is to find the twenty-seventh power of 8. Surely a boy or girl, with slate and pencil, can do what Daniel McCartney, who was almost blind, did mentally. He found the required power to be—

2,417,851,639,229,258,349,412,352.

Pupils who know all about cube root will like to find the cube root of—

123,456,789,123,456,789,123,456,789.

It will be interesting to know if the number 216,895,848,347 is prime, or if compound, what are all the factors?—N. B. WEBSTER, in *Virginia Educational Journal*.

SCRIPT OR PRINTING, WHICH?

The question as to whether primary children shall be taught script from the first is frequently asked and variously answered. A few years ago printing was the universal rule, and in many schools it was continued up to and through the Third Reader grade. The time which the printing was practised before the change to script writing was made, gradually grew less, until now it is altogether omitted in many schools.

The strong tendency now is, in many of the best schools, to begin with the script at once. Good primary teachers who have tried the plan of printing for a few months and then changing to the script, and also the plan of beginning with the script at once, are uniform in their testimony in favor of the latter method. They testify that the script form is much more easily made, and that there is little or no difficulty arising from the fact that the child is at the same time learning to recognize the printed form from the chart or primer.

Why is there a script form at all? Why not conform all writing to the printed form, and thus have but one? The answer is that the script forms are much more simple, and more easily and rapidly made, and save time.

What is true of grown people is true of children. Should not the simplest form be given to the child, and does it not need to economize its time? The arguments seem overwhelming in favor of script from the beginning, and script only.

In the Indianapolis schools, Supt. Tarbell has given orders that in the "first year" all writing shall be done with slate pencils, and that the stress of the instruction shall be upon *form* of letters, little attention being given to the manner of holding the pencil. At the beginning of the "second year" the children begin to write with pen and ink, using tracing books, and the chief attention is given to "position" and the proper holding of the pen. The lead pencil is used only for drawing. By the use of the tracing book and the "form" already determined, the child can give its entire attention to the position of hand and body, and can easily be drilled into good habits. By discarding the use of the lead pencil for writing purposes, the difficulties of too great pressure and cramped position of fingers are largely avoided. The transition from the slate pencil to the pen is great, and the child feels that it is entering upon a new study, and is ready to cheerfully conform to all requirements.—*Indiana School Journal*.

Some recent experiences have brought us in contact with several young "lady teachers," of considerable acquirement and fair capacity for successful work, who seem never to have heard of any superior method of instruction, or only heard of it as a mischievous whim to be ridiculed and resisted. Our most accomplished principals and superintendents perhaps find the most serious obstacles in these inexperienced subordinates, who having no intention of making school-teaching a profession, resist or avoid all decisive effort to grasp the secret of their difficult work, or from "experienced teachers" as fully resolved not to be coaxed or driven out of the little comfortable corner of routine work which they have come to regard as their special preserve during their own good pleasure. All this is a very different thing from that genuine independence which insists on seeing its own way, and being forced into no dealing with a child for which it cannot discover a good reason. Such independence should be encouraged, especially when joined to persistent effort at improvement and thorough consecration of purpose. But the kind of resistance we indicate has no claim to respect or toleration, and is always a sufficient cause for a change in the teaching-force of any school.

HER SPECIALTY.

"What is your specialty?" said I, the other day, looking out over the top of my spectacles in a mildly-wise way at a fair young teacher who sat in authority over forty or fifty mischief-loving boys and girls, ranging from seven to ten years of age.

"Good manners," said she, promptly, smiling back at me in a way that made her remark a perfectly pleasant one. "At least, that is what they say, here in the building."

"Do you find the practical working of it brings about good results at the end of the year?"

"As good as the average and sometimes better. I hope I can teach something else, but I am willing to confess I give much of my time to my pet hobby, and find it helps me greatly in my regular school work. Would you like to look at my reports for the last few years?"

"You do not believe in corporal punishment, I see," said I, pointing to a column with no entries for several months.

"When positively necessary," said she; "but for three years I have not had a case of whipping in my room."

"And to what do you lay this?"

"I think I can venture to say—politeness, supplemented by unvarying kindness and patience."

Just then she was called out of the room for a few minutes. I am always fond of getting opinions of pupils themselves, on various subjects connected with their school-life; not because they are generally correct,—do not imagine that for a moment,—but one can often draw an inference and strike a pretty fair average by hearing all sides. So, as soon as she left, I pointed to a rough-looking little fellow near the front row and said,—

"What kind of a school do you think this is, my boy? A pretty good one?"

"It's the politest one in town," answered he, promptly, "and we've got the politest teacher, too."

Several heads, round about, nodded approval.

"Good sentiment," said I, "but poor grammar. Well, what makes it such a polite school? Can any one tell?"

Silence for a moment, then another little chap, in the next row said naturally enough:

"Guess it must be teacher."

"How does she do it?" asked I. "Does she make you mind pretty well?"

"Oh, she don't boss us around, you know. She always says 'please' and 'thank you', and a fellow don't mind doing things when he ain't got to, unless he has a mind to."

Commend me to ignorant and unthinking childhood for discovering the underlying motive that governs much of the conduct of mankind! I had discovered the secret force of this teacher, and saw that her school could be said almost to govern itself.

After the close of the session, I noticed a sulky, disagreeable looking boy who remained at the desk after the others had passed out. The teacher went over to him, and I could hear some low, earnest words from her and a few short answers from the boy. Presently he took up his book and slate and went to work with a will.

"I have conquered him," she said smilingly, as she came back to me. "He has been idle and sulky all the afternoon."

"What did you do?" asked I.

"I left him alone until all the others were gone; then I asked him if I had ever been unkind to him. He said 'No.' Had I ever done a rude thing to him? 'No.' Then why should he be both unkind and impolite to me? I showed how he had displayed such feelings towards me by refusing to do what I thought a proper amount of work. He is both ashamed and repentant now."

On my way out, I passed a group of boys playing marbles. I stopped to watch the game, and fell into conversation with one little fellow, whose face I thought I recognized. He talked with me about the game for a moment, and then, as if a sudden thought struck him, pulled off his cap.

"What made you do that?" said I.

"Teacher says we always must, to old people." I would willingly have been twice as gray as I was, to hear that remark, and to see such a result of some one's good work.

"Have I seen you before, this afternoon?" asked I.

"Yes, sir. You have just come from my room."

So the good seed is bearing fruit already, thought I.

I afterwards learned, from frequent visiting in the building, that this teacher had so established the pleasant reputation of her room that children from lower grades looked forward to it as a sort of Mecca, in their pilgrimage through the course. I give the incident and experience for the help of young teachers, and I pray for the increase of such a spirit of kindly and beneficent rule in our schools.—A. N. Everett in *The American Teacher*.

THE BEST METHODS OF PUNISHMENT.

After the reading of the minutes, and other business, Mr. Taylor, from Battersea Training College, proceeded to read his paper on "The Best Methods of Punishment." He said that the methods of punishment in general use had of late years improved most wonderfully, the only punishment used to be that of the cane, sharp indiscriminate, unbounded. Now gentle measures were much more common. The objects of punishment were threefold: (1) the vindication of a broken law; (2) the preventing others from following a bad example; and (3), the reformation of the offender. The first of these should have no weight attached to it. The second was a sound reason, but, by itself, inefficient; the third, however, was a matter of very vital importance. The first two reasons were apt to make us always use the same punishment for the same offence, a thing which the third would not allow us to do—for the physician did not always cure the same complaint with the same dose. He would be thought clumsy if he tried to do so. In the same way the schoolmaster would not get on if he tried to correct the faults of very different characters by always using the same means. Offences might be classified into four divisions, which, indeed, overlapped and ran very much one into another: (1) Offences of carelessness, restlessness, listlessness, and trifling; (2) habitual forms of the former division; (3) such offences as wilful disobedience and damage to property; (4) grave offences, such as lying, thieving, indecency in word or deed. These offences must be dealt with, as had been said, with a view to the reformation of the offender, the other two objects of punishment might be left to take care of themselves. The best forms of punishment then were those which must reform the character. For the first division of offences, the ordinary rules of class management would be enough, and for these, and indeed for most of the others, indirect punishment—the word, the look, the loss of some little privilege, even the privilege which gives a good deal of trouble—were extremely valuable for some natures, and were most readily adjusted to the different characters we might have to deal with. Punishments were generally good when they followed naturally from the offences. A child ten minutes late might fairly be kept in ten minutes after school, a carelessly written copy should be re-written in play hours; but this general principle was not always true. A child irreverent at prayers must not be made to kneel down for a certain time; a child must not be made to hate his poetry by having an immoderate quantity given him to learn. A

system of marks and prizes had helped him marvellously in avoiding punishment, the only drawback being the trouble; but every form of punishment except the rod gave trouble, and the marks only took five minutes each Friday. Mr. Taylor concluded by referring once more to the cane. He did not mean that it could be entirely dispensed with, but the less it was used the better would be the discipline. It should be kept only for the gravest offences and the worst cases.—*School Guardian*.

The Teacher MUST:—

1. Keep good hours.
2. Have plenty of sleep.
3. Walk, or take other out-door exercise.
4. Take this exercise regularly every day.
5. Laugh and be cheerful.
6. Avoid fretting over school troubles.
7. Devote at least one night per week to social duties.
8. Have variety, both of work and of recreation.
9. Wear loosely-fitting garments.
10. Avoid drafts of cold air and wet feet.
11. See that his sleeping-room (as well as his school-room) is ventilated daily.
12. Protect and preserve the eyesight.
13. Have shade over lamp or gas-jet at night.
14. Be clean.
15. Neither sit nor stand too much during school-hours.
16. Avoid round shoulders and expand the chest by the use of dumb bells, calisthenics, etc.
17. Sit and walk upright.
18. Take care of the teeth.
19. Eat plain nutritious food, and avoid pastry.
20. Have pure air, pure water, good food, light clothing, and moderate exercise.
21. Understand the functions of the different organs of the body, and not violate the laws of nature.

The Teacher MUST NOT:—

1. Eat too much.
2. Drink too much (avoid strong tea or coffee).
3. Smoke tobacco.
4. Drink intoxicating liquors.
5. Take drugs, and (so-called) "patent medicines."
6. Over-work either mind or body.
7. Read novels until 1 o'clock in the morning.
8. Keep school-room too hot or too cold (about 65° Fahr).
9. Take violent exercise immediately before or after meals.

—J. A. Wismer, H. M., M. S., Parkdale, Ont.

THE STUDY OF MENTAL ARITHMETIC.

The study of mental arithmetic, it seems to us, does not receive that degree of attention in our schools that its importance demands. There are many of our best schools in which this subject is not taught as a regular exercise in the grades above the primary. Why is this? Partly, no doubt, because it is crowded out. Teachers are obliged to use text-books of written arithmetic that have few or no mental problems, and neither they nor their pupils have hardly the time, it would seem, to take up a separate text-book on the subject. The result is, teachers content themselves with giving their pupils, from time to time, a few oral examples general exercises, etc.; and this is the amount of training pupils get.

Another reason why the study has been so largely discarded is to be found in the fact, that it has been so sadly mistaught by many teachers who persisted in loading down the solution of problems with long-drawn-out formulas and analysis that required minutes of dull repetition of verbiage, where seconds of brief but logical explanation would have sufficed far better.

Conducted in the old way the study became monotonous and tiresome to both teacher and pupils, and consequently both were glad to get rid of it. But, when properly conducted, there are certainly few exercises that pupils can engage in that are more stimulating to mental activity than mental arithmetic. It is a most excellent drill for obtaining fixedness of attention, both in the individual and in the class. It cultivates the memory, since the conditions of the problem and the practical results must held in the mind while the reasoning process and the calculation go on. It cultivates

accuracy, independence of thought, and that clear, logical analysis which is so desirable and useful an acquisition.

It educates the pupil in the exact use of language; and the habitual concentration of the mind upon a subject requiring close, accurate analysis develops in the pupil those habits of self-control and self-reliance, which are no insignificant part of a good education.

It has the advantages, also, of being a useful or *practical* study. In the ordinary affairs of life there is nothing except reading and writing that will be of more practical use to the pupil than readiness and skill in solving arithmetical problems mentally.

But shall we separate mental and written arithmetic and teach them independently? This need not be done. A separate textbook seems to be necessary, but the same subject may be taken up in each, and thereby each will assist the other.

Let it be remembered that it is not enough that teachers approve of this study; pupils must really do the work, must daily practice the analysis of examples, besides any oral work given to the school at large.—C. P. Cary, Hamlin, Kan., in *N. E. Journal of Education*.

SIX PRINCIPLES OF PEDAGOGY.

1. Education should proceed from the known to the unknown, both in the choice of subject and in the method of instruction. Lessons should start in the concrete and end in the abstract. Instruction should rise from particulars to generals.

2. As the blood is the life of the body, so memory is the life of the mind. It should be assisted by all possible means, and its worst abuse is to require pupils to memorize what they do not understand.

3. All mental development is an advance from vague conceptions to definite knowledge. Definite knowledge implies familiarity with the subject, and this familiarity comes of much repetition.

4. The chief office of instruction is not to impart knowledge, but to teach the pupil how to obtain it for himself. Books are supplementary. The process of self-development must be encouraged to the utmost.

5. Study must be made interesting either in its subject or its results. All subjects may be made interesting by emulation.

6. Order is a vital element of instruction, because it enables the teacher to concentrate all the educative agencies of the school without embarrassment or interruption.—E. S. Clark.

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 almost 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 will 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*.

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 could name 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 every new enterprise in those States aims at co-education.—*New Eng. and Jour. of Education*.

Notes and News.

ONTARIO.

The closing exercises of the Toronto Normal School were held in the theatre on the evening of Jan. 31st. Principal DAVIES presided with his usual felicity. The graduating students gave quite a rich treat to the audience in the form of well rendered music, under Mr. S. H. Preston as conductor, and a series of readings and recitations which were all creditable and some of first-rate quality. Misses Alexander and P. C. Scott especially distinguished themselves by the grace, purity of utterance, refined taste, and fidelity to character with which they rendered some delightful passages from Shakespeare. Miss Henderson, and Messrs. Fry, O'Donnell, Chapple and McDowell also acquitted themselves in a manner which gave practical demonstration of the value of the training they had just undergone. Miss Lewis, the well-known elocutionist, gave an admirable recitation, near the close, which won her the hearty thanks of all present. Dr. J. A. McLellan in a short address referred to the spirit of discontent and ceaseless faultfinding abroad among teachers. He pointed to the proceedings of the last Provincial Association as a good illustration, and put the young teachers on their guard against the spirit of petty, earning criticism. He went on to show the immense progress made in educational affairs during the last thirty years, and claimed for the Ontario system in all matters of vital importance, a place in advance of any other system among the English-speaking peoples. He recommended the students to hold no mean opinion of our system which was furnishing a model to New England school authorities. The Doctor next directed attention to the educative power contained in literature and cautioned them against the supreme absurdity of turning the study of literature into "grammatical hair-splitting," the uses of "buts and as-es," and a round of mechanical analysis of sentences, placing the *disjecta membra* of the mangled sentence in the rectangular schemes prepared for them. He was in favor of rational analysis, but said that these schemes were of no educational value, but quite the reverse, for the pupil must understand the *real* analysis before he could make any use of these mechanical and useless schemes. In the course of his remarks he gave some amusing glimpses of his own early life, and closed with a fine illustration of the imperial power of sympathy and a telling appeal to those who were just stepping out into the great educational vineyard, to carry with them pure hearts and the magic of human kindness and sympathy. Dr. S. P. May also addressed the graduating class with special reference to the study of art in connection with the Mechanics' Institutes, and intimated that the Minister had under consideration a scheme for bringing these institutions to a higher state of efficiency through the medium of teachers trained at the School of Art. It was hoped in this way to benefit the teachers both aesthetically and financially. There were two things which would have given greater *eclat* to the proceedings, the presence of the Minister of Education whose duties in the House prevented him from attending these exercises, and the presence of a larger audience, such as would gladly have attended had the proper publicity been given to the event. We hope this will be remedied on future occasions. The class just graduating has left a red line under its name by kindling a literary society within the sombre walls and cloister-like solemnity of the Normal School. It is to be hoped that their successors will keep the sacred light well trimmed and never allow it to die out.

STRATHROY HIGH SCHOOL.—The attendance at the Strathroy High School this week is 171, being the highest number ever recorded. The rooms are now overcrowded, and the trustees at their next meeting will have to arrange for the putting in of more seats, or enlarge the school building. The amount of fees already collected from pupils, is about \$500. The excellent teaching staff engaged has had a tendency to bring pupils from far and near to the High School, and from present appearances we believe that both teachers and pupils will give a good account of themselves.—*"Strathroy Age," Jan. 17th, 1884.*

The Principal of the Listowel Public Schools, Mr. Rothwell, is now a veteran teacher. He has served in Listowel about 20 years, and was never more popular.

With a view to making courses at the Normal Schools identical, Mr. McEaul and Mr. Whale will, we understand, prepare a detailed plan of the work to be done by the students during each session.

John McBride B. A., late headmaster of Port Rowan, high school succeeds Wm. McBride M. A., as headmaster of Richmond Hill high school.

Mr. W. R. Miller has resigned his position as headmaster of the Goderich Model School and has embarked in the insurance business. He is succeeded by Mr. Embury of Brockville.

Mr. Whale, late teacher of drawing in Brantford Collegiate Institute has been appointed Drawing Master in the Ottawa Normal School. He received his professional training in England and enters on his duties under favorable auspices.

An investigation was commenced yesterday at Barrie by Dr. Hodgins into the rumoured frauds in connection with the High school examinations, and the evidence clearly established the fact that candidates had been supplied with the questions previous to the examinations.—*Mail, Jan. 4th.*

At the Canadian Institute Feb. 2, Prof. G. P. Young spoke on the interpretation of imaginary quantities in mathematics. He showed that all imaginary quantities have a real interpretation and a real existence. It is pleasing to see the veteran professor returning to the love of his youth.

The attendance at the Public and High Schools of Napanee has increased so largely that additions to the teaching staff have been found necessary. A fourth teacher has been added to the High School staff, and in all likelihood the Public Schools will speedily obtain one or two additional teachers.

The teachers and pupils of the Normal and Model Schools, and a few friends, presented Miss Hunt with a purse containing \$150. Miss Hunt was an efficient teacher and is held in high esteem by her pupils and fellow-teachers. She retires from the position of teacher of the third division of the Girls' Model School on account of failing health.

In the Provincial Model School at Toronto Miss Scott, of the Ottawa Ladies' College succeeds Mrs. Cullen as head mistress. Mrs. Cullen resigned on account of serious illness after twenty-two years' faithful service in the school. Mr. J. H. McFaul, late Inspector of St. Catherines' public schools, succeeds W. Armstrong, C. E., who has been Drawing Master in the Normal and Model Schools for over twenty-five years. Sergeant Parr also takes the place of Major Dearnally as Drill Instructor.

The Renfrew school has had several changes on its staff of teachers, some of them caused by the teachers receiving better offers elsewhere. The staff for 1884 will be:—High School, Messrs. McDowell and Kemp; Model School, Mr. Boag and Misses Mills, Mitchell and Smallfield; Separate School, Mr. Berry and Miss Morgan. The Board refused to allow Mr. Kemp to accept a higher salary in Pembroke, as his agreement was for a year, but Miss Reynolds left for Arnprior at an advance of \$50.

Mr. J. H. McFaul, the Drawing Master lately appointed in the Toronto Normal School, has had over twenty years' experience in Canadian Schools. He received his training at the Toronto Normal School in 1866, and has held important positions as teacher in the public, high, and model schools respectively and has latterly been a public school inspector. He has all his life made a specialty of penmanship and drawing, and has undergone special training in drawing under eminent American and English professors.

From a recent report by Inspector Scarlett we learn that the average attendance for the Counties of Northumberland and Durham is 43% of the number on the roll. The Inspector says: "One great drawback in connection with the progress of primary education in this Province is irregularity of attendance..... The average cost per pupil, including local section and county tax is \$5.70, while each criminal prosecuted in these united counties costs considerably more than fifteen times that amount.... Too many of our schools are under the control of boys and girls accustomed to routine drill, who would do excellent work in the primary departments of a graded school under the supervision of a first-class teacher, but as yet have neither the maturity of mind, nor the professional experience to form habits of thought, and lay the foundation of character in our children.... In very many ways the child mind is too often subjected to mere experiment. Too often any apprentice who "hires cheap" is permitted to operate. This is why I favor the employment of an experienced teacher in any school section in which circumstances are at all favorable."

The Council has granted funds to carry on the promotion examinations in answer to a petition from the Teachers' Association.

Rev. Ed. Blair, M.A., Inspector of schools in Grenville, while one of the oldest is yet one of the most active inspectors in Ontario. He retains his physical vigor to such an extent as to prefer to walk from school to school when performing his official duties. Mr. Blair was educated at St. Andrew's University in Scotland.

The experience of many teachers will no doubt enable them to corroborate more or less fully what the Superintendent of the Columbus schools says with reference to the children of rich parents. "The children most difficult to control come from well-to-do and wealthy families. They are not vicious, disrespectful, or impolite, but are indolent and averse to doing anything contrary to their own sweet wills. The reason is evident. So long as the teacher can disguise the work as play, all is well; but when it becomes plain, hard, and continuous work, and a little compulsion becomes necessary, trouble begins. Sometimes, in order to avoid trouble, teachers do the work for these pupils. The result in all such cases is the acquisition of some knowledge by the cramming process, but no increase in mental power. These pupils study only when under the eye of the teacher. This may do in the primary grades, but those pupils in the high and grammar grades should daily devote from one to two hours to uninterrupted study out of school. When children arrive at the age of twelve years they should have acquired a power of application and attention, have formed a habit of regular and systematic work, and have self-control enough to force themselves to the performance of unpleasant duties."

At the close of the Port Hope High School for the Christmas holidays the pupils presented Dr. Purslow, the head master, with an address filled with expressions of appreciation and good feeling towards him. It was accompanied with a library set of Vienna manufacture, consisting of six pieces in a handsome case. In the course of his reply Dr. Purslow said that it wanted only a month of being a quarter of a century since he first became connected with the school, that he looked back with the greatest pleasure to occasions like the present when he had received assurances of his pupils' esteem. These times were oases in the desert of hard and weary work which every conscientious teacher had to traverse. He went on to compliment the pupils on the good, healthy, moral tone that pervaded the school, and thought no school was more easily managed than this, and the secret was that he had confidence in them, and they had confidence in him and in each other. He had always found the heart of the school, as a whole, in the right place. He had to look for it sometimes under a big heap of mischief and fun, but there it was, leaping warily on the side of truth and right, as many a test had shown. He again thanked them for this expression of their confidence and good-will, and reciprocated with all his heart their good wishes for his future happiness and welfare.

The *Bruce Telescope* says:—"It is really time that teachers should also establish a trade union. At present they are entirely at the mercy of their employers, the school trustees. The wages of teachers are coming down. They will come down still lower unless steps are instantly taken to arrest the down slide. The seventy-five mills that are manufacturing teachers since 1874 have produced a plethora. The supply should be checked in some way. The engagement of teachers for schools should be regulated upon a different system from that at present adopted. It is unseemly and disgraceful to see the way teachers will degrade themselves by applying for schools advertised in the newspapers. There is no country, at present, in the world in which such a system is adopted. Take up the American newspapers. Will any one see teachers advertised for in the same shameless manner as it is done in Canada? A council employed by a union of teachers would correct this and other abuses. The modest and friendless teacher would get a chance. The pushing, the turbulent, the pretentious and the scheming, would not have it all their own way. It behoves teachers who intend to make teaching a business for life to unite for the protection of a noble profession. It is now very low. Thirty-one thousand men and women have certificates—only about eight thousand can get employment. Five-sixths of the public schools of the country are conducted by boys and girls without experience. The result is that eighty per cent. of the school-going population leave school without aspiring even to go as far as the Fourth Book. The last report of the Minister of Education shows these results. Teachers, raise the standard of education—raise your status by uniting into a trade union."

THREE SCENES IN BROCKVILLE.

Scene I.—An Ex-Inspector selling tickets for a lottery to dispose of his own homestead.

Scene II.—Ex-Inspector paying down cheerfully the fine for violation of the statute.

Scene III.—The drawing. The Ex. strikes the luck, wins back his home, pockets the spoils. The curtain falls to the tune of "Yankee Doodle." Immense sensation.

The Legislative Committee of the Ontario Teachers' Association had a conference with the Minister of Education Jan. 11th. The following members of the committee were present:—Messrs. James L. Hughes, chairman; Wm. Carlyle and Wm. McIntosh, inspectors; H. B. Spotton, M.A., L. E. Embree, M.A., and A. McMurchy, M.A., High School masters, and S. McAllister and R. W. Doan, Public School masters. Among the questions discussed were:—1. Improvement in Model Schools. 2. Third-class teachers' certificates and permits. 3. Remuneration of examiners at High School entrance examinations. 4. Propriety of High School masters presiding at High School examinations. 5. Propriety of the same examiner preparing the papers on the same subject for all the departmental examinations during the current year. 6. Public School inspectors' certificates. 7. Success in teaching an element in awarding the grade of certificates. 8. A knowledge of science imperative in case of second-class certificate. 9. Fees for candidates at Public school teachers' examinations. 10. Increased efficiency in training of Normal schools. 11. New programme, 1882. 12. Teachers' associations. 13. One year's notice to be given of changes in the school programme. 14. High School fees. 15. English history text-books. 16. Bible reading in schools. 17. One series of readers. 18. Suggestions regarding entrance examinations. 19. Professional training for High School teachers. 20. Superannuation of teachers. 21. The advisability of abolishing the intermediate examination. 22. The propriety of conducting third-class examinations by County Boards, as formerly, and fees of examiners in case the old plan is adopted. 23. Should candidates be allowed to write for second-class certificates without previously obtaining third-class certificates? 24. Relative value of subjects at second-class examinations. With regard to Bible-reading in schools and 21, 22, and 23 of the questions discussed the Minister expressed his intention of taking immediate action. As to the Bible-reading, it is proposed that passages be selected, one for each day in the year, and that a circular containing these be sent to each teacher in the province.

The Committee appointed by the Board of Education at Gananoque in Dec. last to examine the two authorized series of readers reported as follows:—*To the Board of Education, Gananoque.*

Gentlemen,—Your Committee appointed to examine the two sets of readers authorized by the Government, beg to report as follows:—

1. The type of the Canadian series is larger and clearer than that of the Royal. This difference is very noticeable in the Primers. In these latter there is also a difference in the illustration—those in the Canadian series being more suitable for elementary instruction than those in the other series.

2. The Canadian series contains in the Primers a number of words and sentences in script which have already occurred in the preceding lessons for the pupils to imitate with slate and pencil. This appears to your Committee to be more practically useful than the imitation of the printed characters which are given for a similar purpose in the Royal series.

3. From the second to the fifth of the Canadian series the lessons are printed with spaces to indicate the rhetorical pauses. This is a feature not found in the Royal series.

4. Both series contain biographical sketches of authors, which are short but sufficiently long for the purpose intended.

5. The notes attached to the lessons in the Canadian series are fuller and more appropriate to school work than those in the Royal series. Further, the questions in the Canadian series can be answered from the lessons themselves, which is not always the case with the other series.

6. As a collection of literary selections the Royal series is decidedly superior, but with the accompanying drawback that the lessons are too long and the books too large for the time which pupils are expected to spend over them. Also the selections seem too difficult, in many cases, for the positions that they occupy in the series.

7. Both series contain passages which are not the finest examples of elegant English, but these are few, and in both may be found a sufficient number of masterpieces to cultivate the taste as far as the cultivation of a literary taste is possible in Public Schools.

8. The following points are noticeable in the Canadian series which are not found in the Royal: (a) The most difficult words in each lesson are defined in the 2nd, 3rd, 4th and 5th books. (b) Directions for composition based on the subject matter of the lessons. (c) Lists of prefixes and affixes, Latin roots, and a view of the foreign elements in English. (d) A list of words often incorrectly pronounced showing the correct

pronunciation and the most common error. (e) Rules for reading in general in the Sixth Book and hints attached to the majority of the lessons throughout the series, for the purpose of aiding pupils in reading the same. (f) Many of the lessons are summarized.

9. As far as can be learned, the Canadian series is cheaper than the Royal, but not so much as might be expected from the comparatively small size of the books.

After carefully considering these points obtained by a thorough examination of the books, your Committee beg to state that it is their decided opinion that the Canadian Series of Readers is better adapted to the wants of the Gananoque Schools than the Royal.

All which is respectfully submitted,

W. K. T. SMELLIE, B.A., H.M., H.S.

WM. SCOTT, B.A., A.M., H.S.

S. G. COOK, P.P.S.

On motion the report was received and placed on file without further action at present.—*Gananoque Reporter, Dec. 8, 1883.*

NOVA SCOTIA.

The *Acadian Science Club* is a recently formed organization aiming to awaken and foster an interest in scientific knowledge and to keep its members abreast of the scientific progress of the times. Its success so far has been quite marked. It publishes an excellent monthly, the *Acadian Scientist*, edited by Mr. A. J. Pines, the enthusiastic and accomplished secretary of the Club. The following is a complete list of the officers:

OFFICERS:

President—A. E. Coldwell, A.M., Instructor in Natural Science, Acadia College, Wolfville, N.S.

Directors:

Physiology—C. W. Roscoe, A.M., Inspector of Schools, Wolfville, N.S.

Geology—Alexander McKay, Esq., Supervisor of Halifax City Schools, Dartmouth, N.S.

Botany—A. H. McKay, A.B., B.Sc., Principal Pictou Academy, Pictou, N.S.

Astronomy—Prof. A. E. Coldwell, A.M., Wolfville, N.S.

Chemistry—J. F. Godfrey, Esq., Wolfville, N.S.

Zoology—A. J. Pines, A.B., Principal Wolfville High School, Wolfville, N.S.

Entomology—J. E. White, M.B., Toronto, Ont.

Mineralogy—S. K. Hitchings, B.Sc., State Assayer and Principal High School, Biddetford, Maine.

Natural Philosophy—Prof. F. H. Eaton, A.M., Provincial Normal School, Truro.

A. J. Denton, A.B., Halifax, N.S.; W. P. Shaffner, A.B., Kentville, N.S.; W. W. Saunders, Esq., Bridgetown, N. S., F. H. Schofill, A.B., Winnipeg, Manitoba.

Dr. Rand has entered upon his duties as Professor of History and Education in Acadia College.

Supervisor McKay (Halifax City) has recovered from a serious illness by which he was prostrated shortly after the beginning of the Christmas vacation.

Pictou Academy has an attendance of 170 students. Its staff now numbers four Provincial Grade A teachers, two of whom are also University Graduates. The Pictou "boys" met with their usual success at the various Matriculation examinations last autumn.

The Halifax City Council has adopted a resolution requesting the Council of Public Instruction to rescind the minute authorizing the Halifax Board of School Commissioners to establish separate schools for colored children, and (virtually) empowering them to exclude the latter from the ordinary schools. The resolution also asks the Commissioners to suspend action under the minute and to give colored children the same privileges as are accorded those of white citizens. It is not probable that the Council of Public Instruction will take action in the matter until the Commissioners, who are now considering the question, shall have announced their decision. The minute of council, whose abrogation is sought, is purely permissive, and was originally adopted in response to a petition from the colored citizens themselves.

Mr. G. W. Dill has resigned the Principalship of the County Academy, Kentville.

The appointment of Mr. Crockett to the Chief Superintendency of Education in New Brunswick is regarded with general approval by the teachers of Nova Scotia, to many of whom Mr. Crockett is known as an Educationist of exceptionally high attainments.

Readings and Recitations.

THE BOY'S COMPLAINT.

Here are questions in physics and grammar
That would puzzle you somewhat, I know;
Can you tell what is meant by inertia?
Can you clearly define rain and snow?

Do you know there's a valve in the bellows?
Can you tell why your clock is too slow?
Why the pendulum needs looking after?
Perhaps it is swinging too low.

"They was going up town in the evening;"
Do you call that bad grammar, I say?
I'm sure Mary Jones and her mother
Say worse things than that every day.

But I s'pose "was" should be in the plural,
To agree with its old subject "they,"
According to rule,—my! I've lost it,
There's two per cent. gone right away,

And now, only look at the parsing,
And it will surely take in every rule,
And, down at the end, more false syntax,
With authorities given "in full."

Arithmetic? my! how I hate it;
I'm stupid at that in the class;
So, how in the name of creation,
Can I be expected to pass?

Here's a ten-acre lot to be fenced in,
Here is a duty to find on some tea,
Here's a problem in old alligation,
And a monstrous square-root one I see.

Can you tell who defeated the Indians?
Do you know who was killed in a duel?
Do you know what the first tax was raised on?
And how some just thought it was cruel?

Perhaps I may pass on an average;
If three-fourths are right I'll get through;
But my teacher calls such things shabby,
So what is a poor boy to do?

SPEAKING TO THE POINT.

[An addition having been made to the jail in Paterson, New Jersey, at a cost of \$30,000, the county officers and contractor celebrated the event by a banquet in the building. There were liquors in great abundance. After a number of toasts had been drunk, the gentleman presiding, a judge, proposed "the temperance cause." It was probably done because they were getting pretty drunk. Mr. Bantram, a temperance man, was called on to respond, and did so in the following stinging speech:]

"I thank you for this invitation, and I recognize its fitness. You have assembled to celebrate the enlargement of this jail, rendered necessary by the use of strong drink, in which you are so freely indulging this day. Down stairs the cells and corridors are crowded with criminals who have but changed places. A few years ago they were respected citizens, some of them occupying as responsible positions as those now occupied by yourselves; but they commenced as you have commenced, and they continued as many of you are continuing, and to-day they are reaping the harvest in a career of crime, and paying the penalty with a period of punishment. I hear the popping of corks. I listen to the merry voices, and the praises you are singing to the infernal spirit of wine; but there comes to me the refrain from the prisoner's cell, where a man is shedding penitential tears over his folly, accompanied by the still sadder wail of anguish uttered by the broken-hearted wife, worse than widowed through the traffic in strong drink, which, as a judge in your courts said, 'is the great promoter of crime,' a traffic licensed by your votes, and sustained by the patronage you are this day giving it. It is with inexpressible sadness that I discover that there can be found in Passaic county so many men with hearts so hardened, feelings so calloused, sensibilities so blunted, that in a place like this, under circumstances like these, they dare raise to their lips that which depraves the citizen, and endangers the state. Thanking you, gentlemen, for this unexpected privilege, I take my seat, fully conscious that you will never again call on me under similar circumstances."

Teachers' Associations.

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

RENFREW.—Mr. Alford, the President, chose for the subject of his address, "The Discontent of Teachers," which arose, he thought, not from the worry of the work itself, but from the petty fault-finding of those who knew least about school matters, and from the poor salaries which teachers in general receive. He advocated the establishment of a Union, in which all should bind themselves not to teach for anything below a certain sum. Many teachers could not take the position which belonged to them and was open to them in the social ranks for want of money and fear of debt.—This matter was discussed at intervals during the Association, and the general idea seemed to be that the remedy rested with the teachers themselves, when they should cease to underbid one another. Mr. Raine, Principal of the Renfrew Model School, conducted a class in Fourth Book Literature, the selection being "The Burning of Moscow." The lesson was taken up in a conversational style. Mr. Campbell, of Arnprior, made a few remarks, and thought it was well to have the lesson read before taking up its literature. Mr. Kennedy, agent for Gage's Canadian Readers, spoke on the Reader question. He proceeded in a humorous and satirical style, drawing comparisons between the series in which he is interested and the Royal Readers. A committee was afterwards named, consisting of Messrs. Alford, Raine, Pounder and Dunn, and Misses Mitchell, Smallfield and Morgan, to look into the merits of the two series, and report next day. At the Arnprior meeting in May, Mr. W. B. C. Barclay gave notice of a motion to be introduced to fix the place for the holding of the Association meetings permanently at Renfrew, as they were always best attended there. In Mr. Barclay's absence, on Friday morning, Prof. Dawson made the motion and it was carried unanimously. Mr. Campbell suggested that the next meeting should be of an "Institute" character,—the teachers to form into classes and be questioned on selected subjects, as if they were pupils themselves. All were getting tired of the slow ways of the association, and wanted a change. Messrs. Raine and Dawson spoke in support of the idea, which was received with general favor. The teachers of the Renfrew schools were appointed a Committee of Management. The Reader Committee reported. They commended the literary excellence of the Royal Readers, but placed Gage's Canadian ahead of them for use in school-work. Mr. Ollum, headmaster of the Pembroke High School, on the subject of "Teaching Reading," laid particular stress on Articulation and Expression, and gave illustrations. The Secretary of the Association, Mr. A. D. Campbell, of Arnprior, for his efficient services extending over a period of two years and a half was voted the sum of \$25; and a resolution was passed to hereafter pay the Secretary \$10 a year. Mr. Corbett, of the Pembroke High School, then treated the subject of "Deductions Made Easy." He advocated synthetic solutions for beginners, with hints from the teacher; and then analytic, when harder problems were to be taken up. Mr. McDowell said that in his experience the synthetic was the method by which most deductions could be solved. In the afternoon, Mr. McDowell spoke on "Our Schools." His remarks were brief, yet they touched on many important points, and were the subject of considerable discussion. Of High Schools, he thought there should only be one in each county; he did not mean that there were too many teachers; but if all were gathered on one staff, work would be done much better. The present system of Model Schools was wrong,—it was an injury to the pupils. The Public and Model schools should be separate; or a separate room and additional teacher provided. The Model School training, however, was good. School Boards should engage teachers not for one year but for a term of years, for good conduct or till their usefulness was gone. Mr. Raine agreed with Mr. McDowell that a grouping of teachers in one place would make High Schools more efficient. Teachers could not better their positions so long as Inspectors granted permits. Inspectors should not have the power to grant permits because the people were too stingy to pay decent teachers. Mr. Ollum said that though some system of protection was needed in the matter of salaries, a County Union would be useless. Outsiders would underbid. Inspectors were powerless; for he believed some Boards would do without the grant or shut up the school rather than pay above a certain sum. Nothing can be done, unless there is legislation fixing a minimum rate. Teachers, however, could do some good for future generations of the profession by inculcating a spirit of liberality in the matter on the pupils of to-day. Prof. Dawson thought there should be a multiplicity of High Schools. It was not fair to make outside folks hewers of wood and drawers of water for favored or central sections. Teachers should cultivate an *esprit de corps*, and frown down upon any teacher underbidding another. Mr. Ollum, by request, read a couple of selections from one of the school books. He read with so much expression and impressiveness as to make some of his hearers sympathetically shudder during his rendering of portions of "Edinburgh after Flodden." Votes of thanks were given to

all who had contributed to the programme; and in closing the teachers' meeting, Mr. Alford thought that none of them would miss the small expenses out of their small salaries. Mr. A. A. Wright then addressed the Assembly, preparatory to presenting the High School Intermediate Medals to the successful candidates. As an old teacher himself, he gave some good advice as to the self-improvement of teachers while following their profession, and hoped to see the metallists and many of the other teachers return to the Renfrew High School, to prepare for higher certificates. As for the winners of the medals, they had secured them by fair and honest work, and he was only sorry that the presentation was not made more publicly. The School Board considering the metallists "our children," would always take a hearty interest in their welfare, and would help them to secure the best situations. He was able to announce an addition to the medals, Mr. D. Barr having decided to offer a gold medal to the first pupil of the Renfrew High School taking a first-class certificate. He then proceeded to present to Miss Jennie Wallace his own medal for General Proficiency; to Miss Minnie Gourlay, Mr. James Carswell's medal for French; and to Mr. Tinswood Burton, Mr. A. Barnett's medal for Mathematics. He drew attention to the large percentage made by Mr. Burton,—96 per cent. in Arithmetic; 78 in Euclid; and 72 in Algebra. He also mentioned that as yet, in three years, no Renfrew Village pupil had won any of the medals. Mr. Alford said Mr. Wright spoke as only an old teacher could speak; and he was glad to say Pembroke was following in Renfrew's wake, and now had two medals to offer—one for the Entrance and one for the Intermediate. Mr. Wright said that the four medals would of course continue to be an annual feature in connection with the Renfrew High School. The meeting then dispersed.

HALDIMAND.—The regular semi-annual meeting was held in the Public School, Cayuga, on the 9th and 10th November, 1883. After the reading of the minutes Mr. William Egbert, Principal of Dunnville Public School, was unanimously chosen President, in room of A. Nugent, B.A., who had left the county. Notice of motion was made by J. A. Murphy, "That in the opinion of the teachers of Haldimand, it is inexpedient, at the present time, to abolish the office of Minister of Education and substitute therefor the office of Superintendent of Education." This motion was subsequently carried after some discussion. "How to make Teachers' Association more useful" was then introduced by the County Inspector in a very able way. He suggested "that (1) the schools where the association was held should go on as usual for a half day and the whole association should be present, and criticise the good and bad features of what they saw, afterward; (2) that the teachers form themselves into a class in order to illustrate practically the teaching of some subject; (3) to have critics appointed to deal with the subjects as taken up; (4) that they read certain works between each meeting and have the said work criticised by the association or certain members thereof; (5) that the teachers give criticisms of schools visited; (6) and the inspector do likewise; (7) that there should be a greater and more regular attendance of teachers; (8) who should take an active part in the work, and (9) that parents and trustees should be present in larger numbers, and (10) that teachers name some subject for discussion at subsequent meetings. Messrs. Hume, Cheswright, Moran, Elliot, Egbert and Grier took an active part in discussing this paper. We regret that our paper prevents a more extended notice of most of these papers. The Vice-President, Miss Hiseler, then gave the opening address, in the absence of the President, Mr. Nugent, whom she complimented highly and deservedly, and then went on to speak of the high calling of the teacher, and the advancement made in the methods of teaching within a few years. She threw out valuable hints as regards school government and school-room education, and concluded by enumerating the advantages of the "Promotion Examinations" and the success of their introduction. Mr. J. Murphy, Principal of the Cayuga Public School, then taught a class in literature, and his manner of teaching was discussed by Messrs. Cheswright, Elliot, Moses, and Miss Harrison. Mr. J. Elliot, of Caledonia High School, followed with a valuable and interesting paper on "Common errors in Pronunciation." He referred to the difficulties of English pronunciation, and drew his illustrations from common mistakes made in ordinary conversation. He concluded by giving a list of miscellaneous words commonly mispronounced. The convention adjourned to meet again in the Court House, where a musical and literary entertainment was given in the evening, which was very largely attended by the members of the Convention and prominent citizens from different parts of the county. The programme was an extensive one, and consisted of choruses, songs, recitations, and readings, and judging from the frequent encores elicited from the audience, it was a decided success, every one seemingly having departed well satisfied. Among those who particularly pleased the audience were Messrs. R. Haddow, B.A., R. M. Hamilton, and McEachren, Mrs. Mitchell, Miss Bella Brown, Miss Isa Black, and Miss Flowers.

The chief point of interest, however, to the large audience present was the presentation to the popular and indefatigable County Inspector, Mr. Moses, of a beautiful gold watch, chain and seal, by the teachers of the county, as a slight token of their appreciation of his services. The watch bore suitable inscription, and was procured at the jewellery establishment of D. M. Turnbull, Caledonia, and reflects greatly to the credit of that gentleman and the stock carried by him. The chairman, J. Baxter, Esq., M.P.P., called on Mr. J. H. Elliot, the secretary of the Committee, to read the address, Miss Hiseler, Vice-President, presenting the watch at the proper time.

ADDRESS.

Clarke Moses, Esq., Public School Inspector, County of Haldimand:—

DEAR SIR,—We, the teachers of the County of Haldimand here assembled, take this opportunity of expressing to you the very high esteem in which we have held you, both in your official capacity as School Inspector as well as in that of a private friend to each and all of us. We fully recognize the arduous nature of your office—the tact, skill, patience, experience and labor requisite for successfully fighting against ignorance and prejudice, and at the same time utilizing to the utmost the knowledge and enterprise of the community at large in carrying out your measures for the well-being and advancement of the rising generation—aptly termed the "trustees of prosperity." We feel sure, too, from the manner in which your efforts in the past have been seconded by the people, that you have the esteem, good will and support of all the intelligent citizens in the county. We assure you, also, that the wise and kindly advice privately extended to us from time to time has been received in the spirit in which it was offered, and has tended not a little to lighten our labors, and render our efforts more beneficial to the young. Nor must we forget, also, to tender our most cordial thanks to Mrs. Moses for her courtesy and hospitality so willingly extended to us whenever opportunity offered. While congratulating you on the present prosperous and efficient state of the schools in the county, the merit of which is so largely due to yourself, and as a slight token of our appreciation of yourself and your efforts in our behalf, we beg your acceptance of this gold watch and chain; and although we know that this time-piece must of necessity mark for you many laborious hours, still we sincerely hope it may record them as happy and prosperous ones also, and that your hand and brain may long be spared to advance the educational interests of this country.

Signed on behalf of the Association, by

A. NUGENT, B.A.,
L. G. MORGAN, B.A.,
WM. EGBERT,
J. H. ELLIOT,
J. G. CARRUTHERS.

In reply to the Teachers' address, Mr. Moses spoke very feelingly and appropriately. He felt keenly the compliments paid him by the teachers, and was glad if his efforts to lighten their labors was in a measure successful, at the same time he thought a great part of his success was due to the wise and active course pursued by his predecessor, Mr. Harcourt, who had opened the way for him to follow. Any advice or assistance he had given without the hope of reward, beyond what the conscientious discharge of duty would bring. He thanked them most cordially for the sentiments contained in the address and for the beautiful gift that accompanied it, and referred among other things to the willingness of the people generally to carry out any suggestion in their power for the advancement of education. On Saturday morning, Mr. Cheswright took up the subject of fractions, so perplexing to young minds, and showed clearly how it could be made interesting and plain to them. It should be taught objectively by taking, for instance, an apple and cutting it in halves and quarters, and asking the children the names of these pieces, etc. Let them do the work and always think they were doing it themselves. There was a tendency to abolish all rules, and make the pupil deduce the rule, but this could only be done to a limited extent. Altogether the lesson was one of the best delivered in the county for a long time.

The Reader question was next taken up. Twenty-five minutes were allowed the agents of the different series of authorized Readers to address the Association, after which Mr. L. A. Kennedy, B.A., secretary of the committee appointed by the County Council, read the following report which was unanimously adopted by the association:

To the Teachers and Trustees of the County of Haldimand:—

We, the committee appointed by the Municipal Council of the county of Haldimand, for the purpose of examining the authorized series of school Readers with a view to having a uniform and the best series adopted for use in the public schools of the county of Haldimand, beg to report: That we have examined the authorized series; that we unanimously recommend the adoption of the Canadian Readers for the following reasons:—1st. They are better graded than either of the other series; 2nd. The Primers are better suited to beginners; 3rd. The type and illustrations are decidedly better; 4th. The notes are more conveniently arranged; 5th. Grammatical exercises and rhetorical pauses

are suitably introduced; 6th. They are the best series for the teaching of reading. All of which is respectfully submitted.

W. J. BURNS, M. D., *Chairman.*
L. A. KENNEDY, B. A., *Secretary.*
J. G. CARRUTHERS.
WM. EGBERT.
CHAS. STEVENS.
A. A. DAVIS.
DR. LANGRILL.
C. MOSES.
JOS. C. MANUEL.

Mr. Morgan took up the subject of the "Relation of Trustees and Parents to the School," and showed how one-half the teaching power was wasted, because the trustees and parents threw nearly the whole burden on the teachers, did not visit either the school or the teacher; in the majority of cases, had no personal acquaintance with him, and only got a one-sided exaggerated idea of what was going on in the school, and made other suggestions of a practical nature. Mr. L. A. Kennedy, M. A., Principal Caledonia High School, gave a very practical lesson on "How to Teach Reading." He gave illustrations of good and bad reading, which showed him well skilled in the art. His remarks were greeted with well deserved applause. A committee was then appointed to carry out a programme for the next meeting of the association, which will be held in Du. aville, due notice of which will be given. The committee consisted of Messrs. Kennedy, Moses, Hume, Carruthers, Alexander, Miss Davidson and Miss Flowers. Votes of thanks were rendered to the different parties who had read papers, delivered addresses, or taken part in the entertainment in the evening. The association adjourned after singing the National Anthem.

REVIEWS.

VOICES FOR THE SPEECHLESS, SELECTIONS FOR SCHOOLS AND PRIVATE READING, by Abraham Frith, Secretary of the American Humane Association which "plead the cause of those dumb mouths that have no speech." Boston: Houghton, Mifflin & Co. New York: 11 East Seventeenth Street. Under this title have been gathered from a great variety of sources poems and prose passages in which kindness to all animals is inculcated. Indeed, the book grew out of the public sentiment which formed the Society for the Prevention of Cruelty to Animals, which is one of the characteristic features of modern civilization. Many of the extracts of this book are from writers of the highest rank, and all of them are not only worth reading for the humane sentiments which they express, but for the excellence of their style. The book is admirably adapted for occasional use in schools, and also for Sunday Schools, to interest children in dumb animals, and to excite in them that sympathy and care which all should feel for our "marticulate brethren." The book (a 16mo) contains 256 pages, printed from good type, on good paper, and neatly bound in cloth. The "Contents by Titles"; the "Index of Subjects and Titles" (alphabetical), and the "Index of Authors" (alphabetical), add much to the usefulness of the book, and enable it to be studied in a variety of ways. Price 75 cents. Special terms will be made with Schools, Sunday Schools, and Bands of Mercy.

WORDS AND THEIR USES.—Past and Present. A study of the English Language. By Richard Grant White, New Edition. EVERY DAY ENGLISH.—A sequel to Words and their Uses. By Richard Grant White. Each vol. crown 8vo. \$2.00. Houghton, Mifflin & Co. Boston. These are two of the best books on practical English that have ever been published, and we add two of the most interesting. We sincerely trust that they will soon be found in the hands of every teacher and student of English in Ontario. There has been in this Province wherever the English language is spoken, too great a devotion to formal grammar. Boys and girls for a generation or more have been so worried with parsing and analysis that the study of the English language has come to be regarded with actual repulsion. Mechanical "forms for analysis," and multiplied "formulae for parsing," have been studied and used to the complete bewilderment of tens of thousands of English speaking youths, in the vain hope of learning to "speak and write the English language with propriety," and rare indeed are the instances in which this desirable end has been attained. Perhaps but few teachers will fully agree with Mr. White in his opinions as to the

"Grammarless Tongue," but all will agree as to the real usefulness of the work he has done for the English language and for those who study and teach it. These books are not dry and unattractive, nothing indeed, that comes out of Mr. White's hands can be so characterized on the contrary they are written, in an exceedingly attractive style, and will prove to most of our teachers and students, more interesting than a novel.

THE RIVERSIDE SHAKESPEARE—The complete works of William Shakespeare. Riverside Edition. Edited by Richard Grant White. With Glossarial, Historical, and Explanatory Notes. In three volumes, I. Comedies, II. Histories and Poems, III. Tragedies, with Portrait Crown 8vo, gilt top, the set, \$7.50; half calf \$15.00. Also the same in 6 vols. 8vo, printed on heavier paper, and beautifully bound; the set, cloth, in box \$15; half calf \$30; Houghton, Mifflin & Co, Boston. This is an entirely new edition of Shakespeare's Complete Works, and "combines the most authentic and carefully corrected text with foot-notes embodying in compact form the results of thorough study of the Elizabethian period and its drama. Mr. White's great reputation as a critic, and as a student of the English language and its literature guarantee the excellence of this Edition of the great dramatist. As for the workmanship, the publishers have succeeded in producing one of the handsomest editions ever published. Every private and School Library should have Richard Grant White's Edition of Shakespeare.

Wit is a magnet to find wit, and character to find character.—Emerson
Ah! have you yet to learn that the eye altering alters all; "that the world is an echo which returns to each of us what we say?"

Don't waste life in doubts and fears; spend yourself on the work before you, well assured that the right performance of this hour's duties will be the best preparation for the hours of age that follow it.—Emerson.

A wise man in our time caused to be written on his tomb, "Think on living." That inscription describes a progress in opinion. Cease from this ante-dating of your experience. Sufficient to-day are the duties of to-day.—Emerson.

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."

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 canals, weave cloth, grind corn, and bring all nations and continents into one small neighborhood.—Horace Mann.

The Survival of the Unfittest finds an example in those schools which are yet teaching permutations, progressions, circulating decimals, insurance, annuities, compound interest, English money, and the like, in arithmetic. Similar unpractical topics waste the pupils' time in other subjects. The amount of live practical matter at hand is so great that there is no excuse, except ignorance, for using such dead matter.—Minn. Journal of Education.

"To be intellectual, to write books, to do wonders in mental pyrotechny is not the chief end of man, nor can we make it so. This is, indeed, what we seem to be aiming at, but we shall fail; Nature will prove too strong for us here, and, if we persist, she will just smash us up, and replace us with a people not so tormentedly smart. It is to the weak, not the brilliant, that the possession of the earth is promised." We quote the above from the *Canada School Journal*, but it is not bad reading for this latitude. Young teachers, especially, are apt to forget that the moral is more than the intellectual; that to be honest is deserving of more praise than to be brilliant; and that the pure in heart, not the keen in mind, shall see God.—*New England Journal of Education*.

The time is past when a teacher can be carried along on the merit of his past success. It is as necessary that a teacher should constantly add to his store of knowledge and improve his methods in order to be a success in the work, as it is to change the water in a tank to keep it pure and fresh.

If a cask be filled with water and left for a time without adding a fresh supply, it will soon become stagnant and unfit for use. So it is with the teacher. He may be ever so well educated, and have good success for a time; but if he neglects to study and hold himself aloft from others of his profession, he will soon become like the water in the cask—unfit for use. Pebbles become polished and brightened by contact with each other; so do teachers. Teachers that attend institutes, take educational journals and are workers in the teachers' associations, are above comparison with those stagnant pools which are never refreshed; and school boards should take this in consideration when engaging builders to lay the foundation upon which their children are to build for life.—*The Moderator*.