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The Canada School Journal.

VOL. VIII. TORONTO, JUNE, 1883. No. 72.

The Canada School Journal

IS PUBLISHED THE FIRST OF EACH MONTH AT

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

Subscription $1.00 per year, payable in advance.

Address—W. J. GAGE & CO., Toronto.

CANADA SCHOOL JOURNAL HAS RECEIVED

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

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

REPORT OF THE MINISTER OF EDUCATION.

We observe that four county model schools were closed during 1882, leaving 46 in operation. From our point of view, this is a step onward, provided the same sum be still spent by the Government on the remainder. If the present grant were given to 25 schools centrally located, thoroughly equipped with men and appliances, and kept constantly in operation, the country would receive more value for its expenditure, and the cause of professional training would be better served than at present. When students have to leave home, a difference of 20 or 50 miles' travelling is a matter of small importance, while the power and unity gained by combining several counties are of first-rate importance. As it is, however, these schools in training about 7,000 teachers in six years have accomplished a great work whose effect would be felt for a generation even were the schools now suddenly discontinued. Perhaps no other educationists on this continent have been more severely overworked and more generally underpaid than the head-masters of our county model schools. In only six schools were they fully relieved of their ordinary classes, in a few they received assistance for two hours each day, and in 24 schools the lecturing and criticising were done after regular school hours. This is an evil of great magnitude, as the inspectors emphatically point out. The proposals to hold an institute for model school masters, and to review literary subjects during the model school course, is impracticable until all the schools provide adequate assistance for the whole session. The qualifications of the masters have advanced rapidly, and they ought to receive every encouragement possible. Better salaries, more assistance, and improved accommodation are evidently called for.

The first report of the inspector of R. C. separate schools contains some interesting items. The total attendance at these schools was 24,819 for 1882, with an average of a little over 13,000. The total receipts for 1882 were over $137,000; the amount paid to 105 male and 269 female teachers was $75,860. Of the 374 teachers, 10 hold first class, 49 second class, and 99 third class Ontario certificates; 34 teachers hold Quebec certificates which the inspector wishes no longer to recognize, the remainder are members of religious communities. Inspector White estimates that about 56,500 of the 85,000 Catholic children in this province attend the public schools. He mentions great lack of uniformity in text-books, "readers of half a dozen kinds, four or five grammars, as many geographies, and so on through the entire list." Mr. White deprecates this confusion, and invites the Department to extinguish the evil. The body of the report contains a few good hints on the teaching of reading, grammar, and history.

The special report of Dr. McLellan is the *piece de resistance*, and is full of instruction and suggestion. We get from it an insight into the working of seven of the leading normal schools in Mass., Conn., and New York. It furnishes the conclusions of an enthusiastic educationist of well known acuteness and ability. As every teacher will peruse it *in extenso*, we need not attempt to summarize, where it will be more profitable to discuss.

Normal schools ought to confine their attention principally to professional training. Dr. McLellan reaches this conclusion from the grounds of expediency and economy, and not from theory and ideal perfection. At the same time he recommends thorough reviews to supplement, methodise, and mature the students' knowledge of the subjects he is to teach. Some of his trenchant remarks cleave down through the incubus that has long obstructed normal school progress in this province. The line of march is clearly indicated, the imperative demand of this province for "strong and cultured men" to train our teachers is distinctly voiced.

In the Boston Normal School students "are taught to observe"—they cannot escape, even if they would, with a mere looking on. They are required to report just what they see and hear in the lesson given by the regular teacher. There is always one at least of the normal school teachers present during the "training lesson." This report is oral, made to the teacher accompanying them, and is merely an orderly statement of what is done and said in the room visited, the teacher filling up the statement, and giving emphasis to points of excellence. This must have as high an educative value as a branch of experimental science.

In our humble opinion this plan of observation and induction will do student-teachers more practical good than cart-loads of dry homilies dictated piecemeal, more good than

tomes or tabulated reports with a score of points differentiated and averaged. Trained teachers are not to be ciphered into existence by filling up blank forms; they will not spring forth as the result of petty hypercriticism and constant nagging; nor will they be produced by the 'everlasting nay,' thou shalt NOT. The student needs encouragement and help in self-development, rather than repression and a constant fire of little irritating snubs well calculated to spoil his temper and disgust him with professional training. Instead of scribbling notes, he should be carefully observing and telling the results of his observation; should be freely discussing methods, his teacher directing the discussion. His energies should have free play, and he should be led up to a thorough grasp of great general principles, by the free force of his own fresh observations, wisely directed, rather than by scraps of other men's opinions collected from the four winds, undigested and indigestible.

How many teachers do we now turn out fully permeated with the dignity of educational work, fired with enthusiasm, filled with professional *esprit de corps*, heart and soul devoted to the great work of fighting the powers of darkness and ignorance? How many do we send out without any comprehensive grasp of the true meaning of education, knowing only blind rules, and practising only mechanical drill?

"I saw lessons given in reading, number, color, form, measure, and all were given with the educative power of the true teacher. The fundamental maxims of education . . . had entered thoroughly into the teacher's conception . . . and spontaneously governed every act and element of her teaching. She did not 'communicate' knowledge; she helped her pupils to acquire knowledge. . . The discipline was admirable. . . . The teacher never went beyond the 'fatigue point.' . . . I am not sure that the entire discipline would have been quite satisfactory to the martinet of the new school, whose ideas of order and attention are centered in the rectilineal attitude, the metallic rigidity of limb and feature, the staring look, and the death-like silence of the prison-house where 'all the air a solemn stillness holds.' Here were rather the graceful posture, the bright, intelligent attention, the pleasant expectation of delightful things to come—the free, natural movement of the little child, . . . guided by the hand of Love along the pleasant ways that lead to strong and cultured life." This passage of the report fairly represents the spirit and tone of the whole. To every "gerund-grinder" and purblind drill-sergeant it echoes the words of Froude, "Meditate, O owl, meditate!"

In the special report of Mr. J. L. Hughes on *The Kindergarten System* we get valuable information respecting its aims and its progress in St. Louis. Mr. Hughes recommends the introduction into our schools of so much of the system as seems most likely to be generally useful. We sincerely wish to see the exercise songs, the plays, the marching, and the drawing in every primary department of every school. In the fine weather many of these exercises might be conducted out of doors. They would communicate brightness and interest, spirit and life,—yes, joy and sweetness, to which many schools are total strangers. If kindergartens are established at each of the provincial model schools, the system will soon find its way through this open door to every part of the province. We believe that educative power and living interest are eternally connected. Children are very fond of these exercises, which may thus be effectively used to lay the foundation of primary education. Only those who have seen the system in actual operation can realize its importance and power, and in Mr. Hughes we have a specialist who has taken great pains to investigate it thoroughly, who is now its earnest advocate. Let every teacher aim at assimilating Froebel's principles and incorporating them in his practice.

OVER-WORK.

A considerable percentage of our very best teachers and leaders of educational thought break down after a comparatively short term of service. The love of play, the inherent laziness of the average school boy, the number of hours spent each day in the open air at games and sports, the perfect freedom from corroding care, the elastic buoyancy of spirits natural to healthy, hopeful childhood, the cheerful society of companions, the general light-hearted thoughtlessness of youth—these combined are in the main sufficient safeguards against overwork by the great mass of public school pupils. Notwithstanding all that has been said anent over-drill, over-teaching, and endless ranges of examinations of more than Alpine difficulty, the slaughter of the innocents by over-work goes on very slowly indeed, and the greater part of what is written concerning cramming and examining to death has really no foundation in the actual facts of life in public schools.

We admit that in certain exceptional cases excessive school work, sanguine, excitable temperament, indulgent parents, improper food, foul air, thin shoes, dime novels, hereditary disease, and other similar concurrent causes hasten the death of a few delicate and precocious children. It is admitted also that the danger to the average girl is somewhat greater than that incurred by her male analagon, but chiefly because her amusements are too much confined within doors.

The nervous strain required day after day by the intensity of the highest style of teaching is enormous; and we use the word guardedly. We say *enormous*, for how otherwise can we account for the multitude of premature deaths of those who enter the ranks in rosy health and youthful vigor, rejoicing in their strength and wholly unaware until the irreparable mischief is done of the tremendous demands to be made daily on their energies. "Death loves a shining mark." The most active minds, the most vivacious dispositions, the greatest and most earnest souls, in one word, the very best teachers run by far the greatest risk. How often in this province, during the last twenty-five years, has prolonged overwork in the school-room and in the study proved the self-destruction of brilliant genius! These graves opened, alas, too soon; they hold some of the most excellent of the earth.

Let no drone, who hopes for salvation by laziness, venture into a profession demanding an enormous daily expenditure of nerve force which sooner or later tells on the general health, and almost inevitably shatters a delicate constitution. The life of an earnest teacher is hard and wearing, and under present conditions of ventilation, etc., his profession is most unmistakeably an unhealthy one. Quite contrary to the impulses of his pupils who rush out to play, the whole tendency of the teacher's work leads him to seek seclusion, and the more he suffers from over-work the stronger is the effort required to give sufficient muscular exercise to the body, change of occupation, and relaxation of the tension to the overwrought brain.

On the other hand, incaution and ignorance are far more fatal than actual work. Close confinement indoors, a constantly vitiated atmosphere, enormous strain, etc., imperatively demand extreme caution to counteract their bad effects. The daily bath, four hours' exercise in the open air, with proper diet and sleep, will generally suffice. Happy is the teacher who enjoys unbroken health. Let him not tamper with it, lest those fiends, horrible dyspepsia and dreadful neuralgia, suddenly seize him. Let every teacher religiously practise the gospel of relaxation during the coming holidays. Off to lake and mountain, fling books to the winds, and care to the hurricane; now for a reserve fund of health and animal spirits!

DEATH OF MR. DIXON.

We chronicle with deep regret the death of John Dixon, B.A., late head master of Peterboro' collegiate institute. Mr. Dixon was a man filled with the spirit of the true teacher. After obtaining a first-class certificate at the Toronto normal school, he taught in the vicinity of St. Mary's and prepared himself to enter on a university course. He graduated in '76 as an honor man in mathematics, and was for a short time assistant master in the Dundas Institute, whence he removed to Peterboro' as mathematical master in the collegiate institute. On the retirement of Mr. Jeffers from the head mastership Mr. Dixon was promoted to the position which he held until failing health compelled him a few months ago to seek rest. He was still in the prime of life being not much past thirty five. He leaves to mourn his loss, a wife and children, who will receive the heartfelt sympathy of the whole teaching profession.

THE STUDY OF ENGLISH.

It is frankly admitted on all hands that Dr. McLellan has accomplished a complete change in the style of mathematical teaching throughout this province since he became Inspector of high schools. This improvement began at the top, but it has at length extended to the very base of our school system. We have noted during the past year that in his official reports and lectures before conventions, the senior Inspector seems to have set before himself the task of doing for English the same great work that he has already done for mathematics. A medallist in mathematics and in metaphysics at his university, he was also an honor man in English, and one of the most successful teachers of it on the continent. We therefore feel encouraged to hope that his well-known energy and enthusiasm will in the course of a few years produce their usual effect, and that the vernacular language will soon be taught as well and thoroughly as classics and mathematics. The JOURNAL has faithfully attempted to give English studies due prominence, and gladly welcomes the assistance of a powerful ally in the good work.

"The pupil cannot see with your eyes, nor generalize with your conceptive faculty, nor imagine with your imagination, nor reason with your reason. You may lead a horse to the water, but you cannot make him drink. So with the child. We learn only what we teach ourselves. Overdo your part as a teacher, and you rob your pupils of opportunities for mental training, and the knowledge you imagine you have communicated to them is illusory. Let children collect facts for themselves; let them classify facts for themselves; let them name them for themselves; let them frame their own definitions; let them draw their own inferences; let them make their own applications. Think *with* them, not *for* them. *Watch* them, but do not *carry* them. He cannot evolve out of his inner consciousness the facts of history, but he can bring to their elucidation the world around him, and be can use them in their turn to interpret the present. If, in some subjects, he cannot collect the facts for himself, he can at least arrange them when they are collected; he can compare them with facts with which he is already familiar; he can reason from them, and apply the truths they teach in new combinations of his own." The above admirable remarks are condensed from Canon Daniel's lecture on "Locke as an Educationist," delivered before the English College of Preceptors in April. Locke's *Thoughts* is one of the most suggestive books in the language, and should be digested by all who wish to grasp the principles of education. Prof. Fowler ranks it next the *Essay*, or even higher.

"The education of the freedmen at the South is the greater American revolution. The marvellous change from the days before the war when it was a penal offence to teach a colored man to read, to the present time with its numerous colleges and universities, its thousands of colored schools, and noble army of teachers, is certainly a revolution of the first magnitude. The correspondence of a Canadian lady, who is now travelling through the old slave states, reveals a most encouraging educational and social progress made by the ex-slaves during less than twenty years of freedom. The old caste feeling among the whites still smoulders, but it is slowly expiring; and, although "nigger teachers" are rigorously ostracised from southern white society, and the odious chain-gang is still in existence with its blood-hounds and cruel treatment, the negroes are developing intelligence, acquiring property, and steadily increasing in number and influence. The Commissioner's last report puts the colored school population of the

sixteen southern states at 1,803,257, of whom 784,709 are enrolled at the schools. In Louisiana the colored people pay taxes on $30,000,000 out of a total of $250,000,000 in the state.

Dr. Abbott, author of *How to Parse*, *How to Write Clearly*, etc., gives, in his *Hints on Home Teaching*, the constructive method of teaching Latin composition. He directs teachers to select some of the longest and most difficult sentences from the author the pupil is translating. These sentences are to be taken to pieces, and each part mastered separately by the learner. "Then by degrees put the pieces together, and make the boys help you in building up the complete sentence." Dr. Abbott's plan could be easily adapted to the teaching of English composition. We now waste time by giving analysis of sentences more than its fair share of attention, while the synthesis of sentences is almost ignored, and consequently the pupil's constructive power lies unused and undeveloped.

Quite a breezy debate took place in the Nova Scotia legislature over a bill to secure better attendance at the public schools. As we, at this distance, understand the measure, its provisions for fining parents and guardians, whose children may not attend school the required minimum of days, are moderate and guarded. The opposition came from two quarters—from those who are conscientiously opposed to all compulsion, and from others who feared that the proposed machinery would induce litigation and ill-feeling, without being powerful enough to effect, to any marked extent, the object aimed at.

The following from an English exchange gives a bird's-eye view of educational progress in the mother land. Incidentally it gives a severe rebuke to the few grumblers in Canada who are continually bewailing the expense of public education :—

"A very interesting return has been prepared by the Education Department, in answer to an address of the House of Commons brought forward by Mr. Fowler. It supplies information for the last twenty years regarding the following subjects in connection with schools under inspection in England and Wales: The accommodation; number and ages of the scholars on the registers; in average attendance; examined by the Inspectors; and presented in standards suited to their age; with the average cost of their instruction; the income from subscriptions; rates; school fees; and from all other sources; and the annual grants made by the Education Department. Its array of figures is most interesting, and we can see at a glance how the elementary school system has been developing since 1862. In that year there was accommodation for 1,264,146; in 1872 it had risen to 2,295,894; while in 1882 it had increased to 4,538,329. In 1862 the numbers in average attendance were 799,158; in 1872, 1,336,158; and in 1882, 3,015,161. More striking still are the figures which represent the numbers who were examined in standards. In 1862 there were 180,005; in 1872, 661,580; and in 1882, 2,110,374. The examination of children in the upper standards has been gradually extending since 1872, the first year in which a record was kept. In that year 17 per cent. were examined in Standards IV.-VI.; but in 1882 the percentage had increased to 28 The average cost of instruction was only 19s. 10½d. in 1862. In 1872 it had risen to £1 7s. 5d., while in 1882 it was £1 16s. 8½d., a decline of twopence for each pupil compared with 1881. The income from subscriptions in 1862 amounted to £254,164, and in 1882 to £724,846. This shows a great amount of liberality in the cause of education, but there has been a steady decline since 1877, when the total was £786,245. The rates, on the other hand, have been rising rapidly, and the total from this source of income in 1882 was £808,121. The school fees also have been leaping upwards at the rate of £100,000 yearly, the total in 1882 being £1,585,928. The advocates of free schools may take the last bit of information into their serious consideration, and while they are pondering over the matter they may remember that the Government grants for the last year were £2,393,364. It is seldom that a document which costs only a halfpenny represents such an amount of information as will be found crowded together in the return from which we have been quoting. It gives a bird's-eye view of the onward march of the army of light, and is well worth more than a passing moment's consideration.

SUPERANNUATED TEACHERS.

Q. Is it necessary for a retired teacher, deriving benefit from the superannuation fund, to reside in Canada, or Ontario?

A. No.

Q. Can a teacher's superannuation allowance be garnisheed for debt?

A. This question has never been formally decided, but we learn that the Department pays the money to the teacher and to no one else.

Mathematical Department.

ARITHMETIC.—I.

1. Define involution, multiple, and *ad valorem* duty.

2. What is the shortest length of a rope which can be cut exactly into pieces 15, 18, 20, or 21 feet long?

Ans.—The L.C.M. of 15, 18, 20, and 21, which is 1260 feet.

3. A man bought a rectangular farm 140 rd. long and 40 rd. wide, at $40 per acre. What did it cost?

Sol.—140 rd. × 40 rd. = 5600 sq. rd. ÷ 160 = 35a. × 40 = $1500. State points in which the above process is incorrect. Write the work correctly.

Ans.—(1) The statement is illogical in arrangement; (2) In the attempt to multiply rods by rods; (2) In the result. 140 rd. × 40 = 5600 sq. rd.; 5600 sq. rd ÷ 160 = 35 A.; $40 × 35 = $1400.

4. How many pump logs, each 12 feet long, will it take to bring water to my house from a spring 1·375 miles distant?

Ans.—We have 5280 ft. × 1.395 = 5260 ft.; 7260 ÷ 12 = 605 logs.

5. Two ships sail at the same time from the same place; the one due north 8 miles an hour, the other due east 6 miles an hour; how far apart are they in 5 hours?

Ans.—The ships sail at right angles to each other; of the triangle thus formed we may consider 5 times 8 = 40 miles the perpendicular, and 5 times 6 = 30 miles the base; the hypotenuse = $\sqrt{(40^2 + 30^2)}$ = 50 miles, the required distance.

6. What are the contents of a cone whose altitude is 27 feet, and diameter of the base 20 feet?

Ans.—Area of base is $20^2 \times .7854 = 314{\cdot}16$ sq.ft.; $(314{\cdot}16 \times 27) \div 3 = 2827{\cdot}44$ cu.ft.

7. Add 55 ten-thousandths, $8\frac{1001}{11000}$, $183\frac{3}{80}$, $\frac{13}{25}$, and 81319 hundredths.

Ans.—By reduction we have $.0055 + 3{\cdot}007 + 183{\cdot}0375 + .76 + 813{\cdot}19 = 1000$.

8. If I pay $1200 for a 60-day draft, when the exchange is ½% premium and rate of discount 9%, what is the face of the draft?

Ans.—The discount on $1 = $.09 × $\frac{63}{360}$ = $.01575. $1 + .005 - .01575 = $.98925, the cost of $1. $1200 ÷ .98925 = $1213·04+, the face of draft.

6. If an article had cost 20% more, the gain would have been 25% less; what was the gain per cent?

Ans.—The second cost is 120% of the first cost, and hence on it the amount will be ⅝ as great a rate per cent. as on the first cost;

therefore, $\frac{3}{8}-\frac{2}{8}$, or $\frac{1}{8}=25\%$ the difference in the rates. Hence, $\frac{2}{8}=150\%$, rate at first cost, and the gain 50%.

10. If a person spends $\frac{3}{4}$ of his money, and \$20 more than $\frac{1}{5}$ of the remainder less \$20, and has \$28 left, how much had he at the beginning?

ANS.—Had he spent $\frac{1}{5}$ of the remainder less \$20, he would have had \$20+\$28=\$48 left; hence $\frac{4}{5}$ of the remainder less \$20=\$48, and $\frac{5}{4}$ of \$48=\$216=the remainder less \$20. Therefore the remainder was \$216+\$20=\$236, which was $\frac{1}{4}$ of his money at first. Hence he had $\frac{3}{4}$ of \$236=\$413.

11. *A* has 50 per cent. more property than *B*, and *B* has 50 per cent. more than *C*; how much per cent. more has *A* than *C*? How much per cent. less has *C* than *A*?

SOL.—Let 100% = *C*'s property; then 150% = *B*'s, and 150%+50% of 150%=215%=*A*'s. Hence *A* has 125% more property than *C*. Since 100% = $\frac{100}{225}$ of 225% = $44\frac{4}{9}\%$ of 225%, *C* has $55\frac{5}{9}\%$ less property than *A*.

12. *A* bought an organ from *B* Jan. 1, 1882, agreeing to pay \$160 for it in semi-annual instalments of \$10 each; the first payment due July 1, 1882. *A* finding himself full of money on figuring up, proposes to pay down at once. Money being considered worth 10% per annum, what must he pay?

SOL.—The final value of \$10 placed at 10%, compound interest, at the end of every 6 months for 8 years is—

$$10[(1\cdot10)^7\times1\cdot05+(1\cdot10)^7+(1\cdot10)^6\times1\cdot05+(1\cdot10)^6+\ldots+1\cdot05+1]$$
$$=20\cdot50[(1\cdot10)^7+(1\cdot10)^6+\ldots+1]$$
$$=20\cdot50[(1\cdot10)^8-1]\div(1\cdot10-1)=205[(1\cdot10)^8-1]$$

A must pay the present worth of this amount, which is

$$205[(1\cdot10)^8-1]\div(1\cdot10)^8=205-205\div2\cdot14357821=\$109\cdot87.$$

12. Four notes, one of 150 dollars payable in 10 months, one of 110 dollars payable in 8 months, one of 75 dollars payable in 6 months, and one of 50 dollars payable in 3 months, were discounted for 12 dollars. At what rate of interest were they discounted allowing true discount?

SOL.—Let x=rate of interest. The sum of the present worth of the several notes=\$373. Represented in terms of x give

$$\frac{150}{1+\frac{8}{3}x}+\frac{110}{1+\frac{2}{3}x}+\frac{75}{1+\frac{1}{2}x}+\frac{50}{1+\frac{1}{4}x}=373.$$

Cleared, condensed, and arranged

$$3730x^4+25501x^3+52169x^2+31872x=1729.$$

By the rule for numerical solution of Higher Equation,

$$x=\cdot050021835652.$$

14. Prove that $\sqrt{\left(\frac{\sqrt{(2-\sqrt{3})}}{\sqrt{(2+\sqrt{3})}}\right)}=\frac{\sqrt{2}}{1+\sqrt{3}}$.

SOLUTION—

$$\frac{2-\sqrt{3}}{2+\sqrt{3}}=\frac{1}{(2+\sqrt{3})^2}. \quad \therefore \frac{\sqrt{(2-\sqrt{3})}}{\sqrt{(2+\sqrt{3})}}=\frac{1}{2+\sqrt{3}}=\frac{2}{4+2\sqrt{3}}=\frac{2}{1+2\sqrt{3}+3}$$

$$\sqrt{\left(\frac{2}{1+2\sqrt{3}+3}\right)}=\frac{\sqrt{2}}{1+\sqrt{3}}. \quad \therefore \sqrt{\left(\frac{\sqrt{(2-\sqrt{3})}}{\sqrt{(2+\sqrt{3})}}\right)}=\frac{\sqrt{2}}{1+\sqrt{3}}. \quad Q.\ E.\ D.$$

ARITHMETIC.—II.

1. *A* and *B* hired a carriage to drive 42 miles and back, for which they agree to pay \$42. After driving 12 miles they take in *C* and consent to bring him back with them. At the end of 12 miles more they pick up *D* and promise similarly to him. Find each man's share of the expense.

ANS.—*A* and *B* \$2.22$\frac{2}{11}$ each, *C* \$1.59$\frac{1}{11}$, and *D* \$0.95$\frac{5}{11}$.

N.B.—The expense is proportionate to the distance, not to the number of people carried, otherwise the shares would be *A* and *B* \$2.41$\frac{2}{3}$, *C* \$1.41$\frac{2}{3}$, and *D* \$0.75.

2. *A* and *B* take a contract for \$90 and promise to finish it in 5 days, knowing that *A* could do it alone in 9 days. But during the last 2 days they have to hire *C*, consequently *B* gets \$3.75 less than he expected. Find *B*'s wages per day had he done the work alone.

SOL.—*A*'s power of work is $\frac{1}{9}$ of work per day and is certain. The failure must have been due to *B*, and his short-coming cost him \$3.75 or $\frac{1}{24}$ of whole price; *i.e.* he did $\frac{1}{24}$ of work less than he expected to do. He should have done $\frac{2}{3}$ work, but only did $(\frac{2}{3}-\frac{1}{24})=\frac{22}{360}$ work in 5 days. Hence wages per day=\$12$\frac{12}{22}$. If we attribute the failure to *A* and *B* *jointly*, B's time=15 days for whole work, but the solution cannot easily be effected without algebra.

3. A farm is worth 4% less than a block of houses, and the houses 16% more than a corner lot. By exchanging the lot for the farm the owner of the lot loses \$103; find the value of the houses,

4. *A*, *B*, and *C* can do a piece of work separately in 48, 36, and 24 hours respectively. *A* sets to, and works 10 hours alone, then *B* joins him, and in 6 hours more *C* falls in to help till the work is done. They receive \$5 for the job; divide the money equitably.

5. The population of Canada is five millions. The annual deaths are 1 out of every 70, the births 1 to every 60; find the population in 300 years, neglecting immigration and "the exodus."

6. Bought \$7000 worth of bonds paying 7%, payable semi-annually, and due in 20 years so as to yield 8%, payable semi-annually. Find the rate of purchase.

ALGEBRA.

1. (*a*) Multiply $3+\cdot01x$ by $1-x$ and find the value of the product when $x=1$. ANS. ·0009.

(*b*) Divide by Horner's method, $2\cdot091x^3+9\cdot22x^2+3.694x-1\cdot2$ by $1\cdot02x+4$. ANS. $2\cdot05x^2+x-3$.

(*c*) Divide $a^2(b+c-a)^2+b^2(c+a-b)^2+c^2(a+b-c)^2$ by $(a-b)^2-2(a+b)c+c^2$. ANS. $-c^2+c^2(a+b)+c(a^2-4ab+b^2)-(a+b)(a-b)^2$.

2. Resolve into elementary factors—

(*a*) $2a^2b^2+2a^2c^2+2b^2c^2-a^4-b^4-c^4$.

ANS. $(a+b+c)(a+b-c)(a-b+c)(b+c-a)$.

(*b*) $21(x^2+2xy+2y^2)^2-6(x^2-2xy+2y^2)^2-5(x^4+4y^4)$.

ANS. $2(5x^2+4xy+10y^2)(x^2+10xy+2y^2)$

(*c*) $2x^3y+2bx^4-bx^2y+4abx^2y-x^2y^2+4axy^2-2abxy^2-2ay^3$.

ANS. $(y+bx)(2x^2-x^2y+4axy-2ay^2)$.

3. (*a*) If $2s=a+b+c$, and $2m^2=a^2+b^2+c^2$, show that $(m^2-a^2)(m^2-b^2)+(m^2-b^2)(m^2-c^2)+(m^2-a^2)(m^2-c^2)=4s(s-a)(s-b)(s-c)$.

(*b*) If $2s=a+b+c+d$, express $16(s-a)(s-b)(s-c)(s-d)$ in terms of a, b, c, d.

ANS. $(a+b+c-d)(a+b+d-c)(a+c+d-b)(b+c+d-a)$.

(*c*) Without expansion, show that $(a+b+c+d)^4-(a^4+b^4+c^4+d^4)-(a+b+d)^4-(a+c+d)^4-(a+b+c)^4-(b+c+d)^4+(a+b)^4+(b+c)^4+(c+d)^4+(a+d)^4+(b+d)^4+(a+c)^4=24abcd$.

4. (*a*) Prove that $(a^{n-1}-b^{n-1})(a^n-b^n)(a^{n+1}-b^{n+1})$ is always divisible by $(a-b)(a^2-b^2)(a^3-b^3)$, whether n is even or odd and a positive integer.

(*b*) Arrange $x^6+5x^5+6x^4+5x^2+1$ in descending powers of x^2+2.

ANS. $(x^2+2)^4-3(x^2+2)^3+9(x^2+2)-9$.

(*c*) What is the criterion for knowing by inspection whether a regular polynomial with integral coefficients is divisible by (1) $x+1$, (2) $x-1$? Illustrate by the example $x^5+3x^4-x^3-x^2-2$.

5. State and prove the fundamental principle of the common rule for finding the H.C.F. of two or more expressions.

(*a*) Find the H.C.F. of $x^3+y^3+z^3$ and $x^5+y^5+z^5$, when $x+y+z=0$. ANS. xyz.

(*b*) Find the H.C.F. of $x^5+3x^4-8x^2-9x-3$ and $x^5-2x^4-6x^3+4x^2+13x+6$. ANS. $(x+1)^3$.

(*c*) If $(x-a)^2$ is a meas. of x^3+qx+r, find the relation between q and r. ANS. $\frac{r^2}{4}+\frac{q^3}{27}=0$.

3. Reduce to its simplest form—

(*a*) $\frac{(2b-c-a)^3-(2c-a-b)^3}{(c-a)^3-(a-b)^3}$ ANS. $\frac{9(b-c)}{b+c-2a}$

(*b*) $\left\{\frac{1+x}{1-x}+\frac{4x}{1+x^2}+\frac{8x}{1-x^4}-\frac{1-x}{1+x}\right\}\div\left\{\frac{1+x^2}{1-x^2}+\frac{4x^2}{1+x^4}-\frac{1-x^2}{1+x^2}\right\}$

ANS. $\frac{2}{x^2}$.

(*c*) If $\frac{x}{b-c}=\frac{y}{c-a}=\frac{z}{a-b}$, show that $ax+by+cz=0$.

7. (*a*) Show that if a^2x^2+bx+c is a perfect square,

then $x=\frac{m^2-cn^2}{bn^2-2amn}$.

(*b*) Find the sq. rt. of $x^2-2xy+4y^2$ in terms of a and b when $x=9a^2+12ab$ and $y=2b^2+6ab$. ANS. $9a^2+6ab+4b^2$.

(*c*) Find the cube root of $\frac{a^6}{8}-\frac{8}{27a^6}+\frac{2}{3a^2}-\frac{1}{2}$. ANS. $\frac{a}{2}-\frac{2}{3a^2}$.

8. Solve—

(1) $(x+1)(x+2)(x+3)=(x-1)(x-2)(x-3)+3(4x-1)(x+1)$.

ANS. $x=1\frac{1}{3}$.

(2) $(a+x)^3+(b+x)^3+(c+x)^3=3(a+x)(b+x)(c+x)$.

ANS. $\frac{1}{2}(a+b+c)$.

(3) $a_1x+b_1y=c_1$, $a_2x+b_2y=c_2$, What form do the values of x and y take when $\frac{a_1}{a_2}=\frac{b_1}{b_2}=\frac{c_1}{c_2}$, and what does it indicate?

9. Solve—

(a) $ax^{2m}+bx^m+c=0$.

(b) $x+4+\left(\frac{x+4}{x-4}\right)^{\frac{1}{2}}=\frac{12}{x-4}$.

(c) $2x^3-13x^2+27x-18=0$.

10. Find two numbers whose product is equal to the difference of their squares, and the sum of their squares to the difference of their cubes. Ans. $\frac{1}{2}(5\pm\sqrt{5})$ and $\pm\frac{1}{2}\sqrt{6}$.

N.B.—The preceding papers are a little longer and somewhat more difficult than the intermediate. We have compiled them as a test by which our friends may measure themselves in anticipation of the approaching examination. As far as they go, the last few questions of each will serve the same purpose for first class grade C.

TORONTO UNIVERSITY EXAMINATIONS, 1882.

Junior Matriculation.

ALGEBRA.—Honors.

Examiner—A. K. Blackadar, B.A.

1. Find the sum, the product, and the least common multiple of the fractions—

$$\frac{1+x\sqrt{2}}{2(1+x\sqrt{2}+x^2)},\quad \frac{1-x\sqrt{2}}{2(1-x\sqrt{2}+x^2)},\quad \frac{1+x^2}{1+x^4}.$$

2. If $2s=a+b+c$, show that $(c^2+a^2-b^2)(a^2+b^2-c^2)+(a^2+b^2-c^2)(b^2+c^2-a^2)+(b^2+c^2-a^2)(c^2+a^2-b^2)=16s(s-a)(s-b)(s-c)$.

Find the factors of $(x^2-1)(y^2-1)(z^2-1)-(xyz+1)(x^2+y^2+z^2+2xyz-1)$.

3. Given $3-\sqrt{5}$ as one root of the equation, $ax^2+bx+c=0$, prove that $3+\sqrt{5}$ will be the other root; and find the values of the roots of $cx^2+bx+a=0$.

4. Solve the equations—

(i) $10^{(x-1)(2-x)}=1000$

(ii) $\left.\begin{aligned}&\frac{1}{\sqrt{x-a}}-\frac{1}{\sqrt{y-b}}=\frac{1}{2ab}\\ &\sqrt{\frac{a-x}{c+x}}\times\sqrt{\frac{c+x}{b-y}}=\frac{b}{2a}\end{aligned}\right\}$

(iii) $\left.\begin{aligned}&x+y-z=0,\\ &x^2+y^2+z^2+2xy=8,\\ &xz-y^2=1.\end{aligned}\right\}$

5. If $\frac{a}{b}=\frac{c}{d}=\frac{e}{f}$, prove that each of these ratios $=\frac{a+c+e}{b+d+f}$

If $a=\left(\frac{1-e}{1+e}\right)^b$, then shall $\frac{1-a}{1+a}=\frac{e}{1+\sqrt{1-e^2}}$.

6. (a) Having given the first term (a), the last term (l), and the number of terms (n) of an arithmetical series, find the common difference and the sum of the series.

(b) If a=first term, r=common ratio, and S_n=sum of n terms of a geometrical series, find S_n, and prove that—

$$a\,S_{2n}=S_n(S_{n+1}-rS_{n-1}).$$

7. Sum to n terms and to infinity the series

(i) $1+(1-\sqrt{3})+(1-\sqrt{3})^2+(1-\sqrt{3})^3+\ldots$

(ii) $\frac{1}{\sqrt{3}(1+\sqrt{3})}+\frac{1}{(1+\sqrt{3})(2+\sqrt{3})}+\frac{1}{(2+\sqrt{3})(3+\sqrt{3})}+\ldots$.

8. The number of combinations of n things taken r together is the same as the number of combinations taken $n-r$ together.

In how many different ways can nine persons occupy four places at a round table?

9. Find the 8th term of $(1-5x)^{-\frac{1}{3}}$.

Show that $\frac{1+x}{(1-x)^3}=1+4x+9x^2+16x^3+\ldots$.

10. Lead weighs 11·324 times as heavy as water; cork weighs $\frac{6}{25}$, and fir $\frac{2}{10}$ respectively of the weight of an equal volume of water. How much cork and lead must be combined together, so that the mass may be equal to 80 pounds, the weight of a beam of fir timber of the same magnitude?

Solutions.

1. *Rationalising denominators of first and second we have—*

$$\frac{1-x^3+x^5\sqrt{2}}{2(1+x^4)},\quad \frac{1-x^3-x^5\sqrt{2}}{2(1+x^4)},\quad \text{and}\quad \frac{2(1+x^2)}{2(1+x^4)},$$

$$\therefore \text{sum}=\frac{3}{2(1+x^4)};\quad \text{product}=\frac{1-x^3-x^4-x^5-2x^5}{4(1+x^4)^3};$$

$$\text{and L.C.M.}=\frac{1-x^2-x^4-x^6-2x^5}{(1+x^4)}.$$

2. (a) If s is a factor, the expression will vanish when $s=0$, *i.e.* when $a+b+c=0$; i.e. when $a+b=-c$, or $c^2=(a+b)^2$. Writing this value for c^2 throughout, we have—

$2a(a+b)(-2ab)+(-2ab)(a+b)2b+2b(a+b)(a+b)2a$;

i.e. $4(a+b)\{-a^2b-ab^2+ab(a+b)\}$ which is $=0$; $\therefore s$ is a factor.

Similarly $s-a$ is a factor; $s-b$ and $s-c$ are factors;

i.e. $s(s-a)(s-b)(s-c)$ is a factor, and the expression is symmetrical and of only 4 dimensions and therefore can have no other factor unless it be numerical. *Put the expression* $=(N)s(s-a)(s-b)(s-c)$. Put $a=b=0$, $c=2$; $s=1$, and we have $(4)(-4)+(-4)(4)+(4)(4)-16=N(1)(1)(1)(-1)$; $\therefore N=16$.

See McLellan's Handbook, (New Edition), p. 85.

(b) Given $(x^2-1)(y^2-1)(z^2-1)-(xyz+1)(x^2+y^2+z^2+2xyz-1)$

Put $x=-yz$, $\ldots -2yz=x^2$, $\ldots xyz+1=1-x^2$.

Substitute these values and factor out (x^2-1) and we have

$(x^2-1)\{(y^2-1)(z^2-1)+(-x^2+y^2+z^2-1\}$. But $-x^2=-y^2z^2$.

$\therefore$ Exp. $=(x^2-1)\{y^2-1)(z^2-1)+(-y^2z^2+y^2+z^2-1)\}=(x^2-1)(0)=0$.

Therefore $(x+yz)$ is a factor. And, as the expression is symmetrical, $(x+yz)(y+zx)(z+xy)$ must be a factor, and there can be no other literal factors.

Hence exp. $=k(x+yz)(y+zx)(z+xy)$ where k is numerical.

To find k, put $x=y=z=1$, and $-(2)(4)=k(2)(2)(2)$ $\therefore k=-1$.

$\therefore$ Expression $=-(x+yz)(y+zx)(z+xy)$, which are the factors.

3. *One root of* $ax^2+bx+c=0$ is $\frac{1}{2a}(-b+\sqrt{b^2-4ac})=\alpha$ say;

And the other is $\frac{1}{2a}(-b-\sqrt{b^2-4ac})=\beta$ say;

If $\frac{1}{2a}(-b+\sqrt{b^2-4ac})=3+\sqrt{5}$, the irrational parts must be equal.

$\therefore \frac{1}{2a}\sqrt{b^2-4ac}=\sqrt{5}$; $\therefore \beta$ must $=3-\sqrt{5}$;

And the equation must be

$(x-\alpha)(x-\beta)=0$, *i.e.* $\{x-3-\sqrt{5})(x-3+\sqrt{5})=0$,

or $x^2-6x+4=0$; $\therefore a=1$, $b=-6$, $c=4$, and therefore

$cx^2+bx+a=0$, becomes $4x^2-6x+1=0$, of which the roots are $\frac{1}{2}(3\pm\sqrt{5})$.

4. (i) $10^{(x-1)(2-x)}=10^3$. $\therefore (x-1)(2-x)=3$. $\therefore x=\frac{1}{2}(3\pm\sqrt{13})$.

(ii) From 2nd equation $\frac{b^2}{4a^2}=\frac{a-x}{b-y}=\frac{x-a}{y-b}$ $\therefore \frac{b}{2a}=\pm\frac{\sqrt{x-a}}{\sqrt{y-b}}$,

Taking the + sign $\frac{b}{2a}\sqrt{y-b}=\sqrt{x-a}$.

Substitute this in the 1st equation, and $\frac{2a-b}{\sqrt{y-b}}=\frac{1}{2a}$,

Whence $y=4a^2(2a-b)+b$, and $x=b^2(2a-b)+\frac{b^2}{4a^2}$.

(iii) Square 1st transposed and substitute for $(x+y)^2$ in 2nd equation; $\therefore z=\pm 2$; Substitute this value in 1st and 3rd, and $x=\pm 1=y$.

5. (1) Book-work.

(2) $\frac{a-1}{a+1}=\frac{\sqrt{1-e}-\sqrt{1+e}}{\sqrt{1-e}+\sqrt{1+e}}=\frac{(1-e)+(1+e)-2\sqrt{1-e^2}}{(1-e)-(1+e)}$

$=\frac{1-\sqrt{1-e^2}}{-e}=\frac{-e^2}{-e(1+\sqrt{1-e^2})}=\frac{e}{1+\sqrt{1-e^2}}$.

6. (a) $S=\frac{n}{2}(a+l)=\{2a+(n-1)d\}\frac{n}{2}$, and $l=a+(n-1)d$.

$\therefore d=(l-a)\div(n-1)$. (Book-work).

(b) $Sn=\frac{ar^n-a}{r-1}$, — Book-work.

$$\therefore aS_n = \frac{a^2r^{2n}-a^2}{r-1};\ S_{n+1} = \frac{ar^{n+1}-a}{r-1};\ rS_{n-1} = \frac{ar^n-ar}{r-1}$$

$$\therefore Sn(S_{n+1}-rS_{n-1}) = \frac{ar^n-a}{r-1}\left(\frac{ar^{n+1}-a}{r-1} - \frac{ar^n-ar}{r-1}\right)$$

$$= \frac{ar^n-a}{r-1}\cdot\frac{a(r^{n+1}-r^n+r-1)}{r-1} = \frac{ar^n-a}{r-1}(ar^n+a) = aS_n^2.$$

7. $a=1,\ r=1-\sqrt{3}$.

$$\therefore a.\frac{r^n-1}{r-1} = \frac{(1-\sqrt{3})^n-1}{-\sqrt{3}} = \frac{1}{2}\{\sqrt{3}^n-(1-\sqrt{3})^n\}.$$

And $\frac{a}{1-r} = \frac{1}{\sqrt{3}} = \frac{1}{3}\sqrt{3}$.

(ii) We suspect that the $(3+\sqrt{3})$ in the denominator of 3rd term ought to read $(3+2\sqrt{3})$. As the question stands we have failed to solve it. If any of our readers can furnish the solution we shall be happy to publish it. With the change indicated the sum would be $=\frac{1}{3}$.

8. Whenever r things are chosen out of n, $n-r$ are left. B'k-w'k. Suppose one person seated at the table, the remaining eight may be arranged 3,and 3,in $\frac{8.7.6}{1.2.3}$ ways around him. The 3 places at the table will allow him to change his seat in 1.2.3 ways; *i.e.* for each person there will be $\frac{8.7.6}{1.2.3}\times 1.2.3$ different ways of seating the rest. So for the whole 9 persons there will be $9\times 8.7.6 = 3024$ ways of seating the company.

9. (*a*) The general term of $(1-x)^{-\frac{p}{q}}$ is $\frac{p(p+q)\ldots.\{p+(r-1)q\}}{1.2\ldots.rq^r}$

And here $x=5x$, $r=8$, $p=1$, $q=5$; hence the 9th term will be

$$\frac{1.6.11.16.21.26.31}{1.2.3.4.5.6.7.5^8}(5x)^8 = \frac{11.2.26.31}{5}.x^8;$$

(*b*) Apply Horner's synthetic division—

	1	1+	1+	0+	0+ 0
+3		3+	12+	27	
−3			− 3−	12−	27
+1				1+	4+1
	1	1+	4+	9+	16+&c.

10. $W=VS$, $\therefore V=\frac{W}{S}$. Let x, y, be lbs. of lead and cork,

$\therefore x$ lbs lead $=\frac{1000x}{11324}$ vols. water.

y lbs cork $=\frac{26y}{5}$ " "

80 lbs fir $=\frac{1600}{9}$ " "

And we have the equations $x+y=80$.

$\frac{1000x}{11824}+\frac{26y}{5}=\frac{1600}{9}$, from which x and y are easily determined.

EUCLID.—Honors.

Examiner—A. K. Blackadar, B.A.

1. If a side of a triangle be produced, the exterior angle is equal to the two interior and opposite angles; and the three interior angles of every triangle are equal to two right angles.

In the sides AB, AC of the triangle ABC are taken points D and E at equal distances from A, and a straight line is drawn through D and E to meet BC produced in F. If angle ABC is one-third of angle ACB, then triangle DFB will be isosceles.

2. Divide a given straight line into two parts, so that the rectangle contained by the whole and one of the parts shall be equal to the square on the other part.

In square $ABCD$, the side AB is divided in H so that $AB.BH = AH^2$; AD is bisected in E, and CD is bisected in F; if EH, EB, HF are joined, show that $EH^2+HB^2+BF^2=2HF^2$.

3. The opposite angles of any quadrilateral figure inscribed in a circle, are together equal to two right angles.

A quadrilateral $ABCD$ is inscribed in a circle such that the diagonals AC and BD intersect at right angles in the point M; show that the straight line passing through M and the middle point of AB will be at right angles to CD.

4. In a given circle place a straight line, equal to a given straight line not greater than the diameter of the circle.

Inscribe in a given circle a chord CD of given length, so that it may be divided into equal parts by a fixed chord AB.

5. Inscribe an equilateral and equiangular hexagon in a given circle.

Two equal circles cut one another in the points C and D, the circumference of the one passing through the centre of the other, if the centres A and B be joined, and a circle drawn touching the arcs AC, BC and the straight line AB, prove its radius $=\frac{3}{2}AB$.

6. Triangles and parallelograms of the same altitude are one to another as their bases.

7. Equal triangles which have one angle of the one equal to one angle of the other, have their sides about the equal angles reciprocally proportional; and triangles which have one angle in the one equal to one angle in the other, and their sides about the equal angles reciprocally proportional, are equal to one another.

From the points A, C, in the triangle ABC are drawn parallel straight lines AD, CF without the triangle to meet the opposite sides produced in the points D and F; show that the triangle DBF is equal to the triangle ABC.

In what direction must the parallel lines AD, CF be drawn in order that the triangle FBD may be similar to the triangle ABC?

8. In the right angled triangles, the rectilineal figure described upon the side opposite to the right angle is equal to the similar and similarly described figures upon the sides containing the right angle.

9. If squares be described on the sides of a triangle and their centres joined, the area of the triangle so formed exceeds the area of the given triangle by one-eighth part of the sum of the squares

Solutions.

Propositions :—

1. Euc. I. 32. 2. II. 11. 3. III. 22. 4. IV. 1. 5. IV. 15. 6. VI. 1. 7. VI. 15. 8. VI. 31.

Riders :—

1. The int. $\angle$'s. of $\triangle$ ABC = those of $\triangle$ ADE, I. 32
" " BDF = " " CEF,

Remove com. $\angle$'s at A and F, and
$ADE+AED$; *i.e.* $2ADE=ABC+ACB$, *i.e.* $4ABC$,
$\therefore 2ABC=ADE=ABC+DFB$, or $ABC=DFB$.
Hence $\triangle$ DBF is isos.

2. Draw HK parallel to BC meeting DC in K, then
$2HF^2=2FK^2+2HK^2$, (I. 47.)
$=2FK^2+2DC^2$,
$=2FK^2+8DF^2$, cor. (II. 4.)
$=2FK^2+2DF^2+4DF^2$,
$=DK^2+KC^2+4DF^2+2DF^2$, (II. 9.)
$=AH^2+HB^2+AB^2+2AE^2$,
$=EH^2+HB^2+EB^2$. Q.E.D.

3. Let P be the middle point of AB, and K the point where PM meets BC. It is easily shown that $AP=PM=PB$, since AB is the hypothenuse of a right angled triangle.
Then $\angle PMB=\angle PBM=\angle MCK$.
Also $\angle PMA=\angle KMC$.
$\therefore$ $KMC+KCM$ = whole angle AMB = right angle.
$\therefore$ rem'g $\angle MKC$ of the $\triangle$ MKC = right angle.
And PK is perp. to DC.

4. In the given circle place a straight line equal to CD. Bisect CD in E. Join E and O, the centre. Describe a circle with radius OE cutting AB in F, join OF, and through F draw a chord at right angles to OF. This chord will be equal to CD (III. 14) and will be bisected at F. (III. 3).

5. Let D be the point at which the inner circle touches the circle whose centre is A. The straight line AD must also pass through C, the centre of the inner circle. (III. 11). Join CE, the point where AB touches the inner circle. $AE=EB$. Let O be the point where AD cuts the inner circle. $AD.AO=AE^2$ (III. 36), *i.e.* $AB.AO=AE^2$, or $2AE.AO=AE^2$, $\therefore 2AO=AE=\frac{1}{2}AB$,
$\therefore AO=\frac{1}{4}AB$, $\therefore OD=\frac{3}{4}AB$, $=OC=\frac{3}{4}AB$.

7. (*a*) Since AD is parallel to FC, the triangles ABD and FBC are equiangular and therefore similar. $\therefore DB:AB=BC:BF$, *i.e.* $DB:BC=AB:BF$. And in the triangles DBF and ABC the vertical angles at B are equal, $\therefore$ VI. 15, triangle $DBF=ABC$.

(*b*) Ans. So that DF shall be parallel to AC.

We have received from Mrs. Geo. Warburton, Toronto, solutions of the problems on page 78. Owing to our desire to assist our friends at the coming intermediate and university examinations we hold these solutions over for the present.

Correspondence.

To the Editor, CANADA SCHOOL JOURNAL :—

DEAR SIR, – There appears to be a doubt as to the meaning of group (*e*), generally known as the 'French Option,' in the new regulations for High School, Intermediate, and Teachers' work. No one appears to know with any degree of certainty what influence Music and Drawing will have on the group at the next July examinations. Will you kindly endeavor to ascertain for me what influence, if any, the above subjects will have, in so far as the group mentioned is concerned. I shall be glad to hear from you on the matter if you learn anything definite.

Yours truly,

HEAD MASTER.

[It will not be compulsory on candidates to take Music and Drawing in the French group. They will be examined in these subjects if they wish, and the marks obtained will be credited to the group, in the same manner as Drawing in the entrance examination.—ED. C.S.J.]

To the Editor of the CANADA SCHOOL JOURNAL:—

DEAR SIR,—We received, a few days ago, your Geography Primer, which is *multum in parvo*. Allow me to lay before my fellow-labourers a few thoughts in connection with school affairs which may prove beneficial. Many of the stoves in our backwoods' schools are too small. In some schools the lumber employed in building temporary porches could be put to better use in making the main wall. Some again have good walls and poor banking at the bottom, while others have a large space beneath the floor. It is difficult to keep such schools warm. Uniform promotion papers must ultimately prove a success. I would like to see uniform promotion papers for the whole province. No other change in our educational system has been of more benefit than the establishment of model schools. Trained teachers as a rule give better satisfaction than untrained ones. I never had the advantage of such training, and I sorely felt its need. I have lately kept a note-book, wherein I have set down errors discovered in teaching through reading the JOURNAL and *Currie's Education*. I mention a few of them: Allowing ridicule by pupils at the errors of their class-mates; not sufficient reference to maps; incorrect modes of questioning classes; non-observance of the rule "A place for everything and everything in its place;" not enough composition about subjects pupils are acquainted with, and too much on abstract subjects; not enough spelling of geographical names; acceptance of partial answers; making reading lesson a lesson in spelling, literature, geography, etc., instead of a lesson on reading.

I do not believe in prescribing home-work, as I think the 5½ hours' limit long enough in each day.

Yours in Education,

LOUIS N. THIBAUDEAU,
Rydal Bank, Ont.

May 16th, 1883.

[We commend the spirit of the above thoughtful letter to all teachers who wish to improve themselves in their profession.—ED.]

LOCAL OR BRANCH TEACHERS' ASSOCIATIONS.

INSPECTOR'S OFFICE, SOUTH GREY,
PRICEVILLE, 25th May, 1883.

To the Editor of the CANADA SCHOOL JOURNAL:—

SIR,—It has often occurred to me that local gatherings of the teachers in the several neighbourhoods of large inspectoral districts, held at intervals between the regular meetings of the county or district associations, would be a decided benefit to all concerned.

With the view of bringing this subject prominently before the teachers of my own as well as other inspectorates, I subjoin the views of one of my most intelligent teachers, and which you may see fit to publish in your widely read journal:—"It is not in my "power to do justice to the subject of *branch* or *local* associations, "but I send you some such reasons as have suggested themselves to "me, in thinking over the matter, as being those that would lead "me to bestir myself in my own neighbourhood to aid in the for- "mation of such mutual improvement societies.

"First, of course, is that by these associations an opportunity "would be given for the comparison and discussion of *methods;*

"Secondly, by them, local talent may be developed, as the meet- "ings being more frequent an opportunity will be given for *all* to "take part;

"Thirdly, a system of uniform examinations and *reviews* may be "instituted, and the defects in our modes of teaching the various "branches detected and remedied;

"Lastly, topics of general interest may be introduced and dis- "cussed—such as would be suitable in the *general associations*. We "teachers are somewhat liable to become narrow in our views, but "by selecting worthy themes, and speaking and debating on them, "much good in the way of mutual improvement may be effected, "and our minds rendered more vigorous and elevated in their "tone.

"Normanby, May, 1883."

Should you see fit to insert the above you will oblige,

Yours truly,

WM. FERGUSON,
I. P. S.

Special Articles.

PRIMARY READING.*

Reading was generally considered to be more or less neglected, being supposed to be excluded by other branches of study requiring more care and attention. Those who made this assertion were not correctly informed, for neither school boards nor parents would permit it to be only a secondary matter. As the handmaid of knowledge, its intense importance would cause an outcry against the teacher who neglected to give reading the prominence it deserved in his school. The fault lay more in the method of teaching than in deficiency of instruction; the aiming at a certain amount of work rather than doing a small quantity effectively. Modern educators have gone down to the foundation, and the result has been that more solidity and permanency have been imparted to the whole edifice of instruction. Methods more in accordance with the spirit of the age had been adopted, and a wonderful change had taken place in primary schools in the presentation of printed and written language to the "young idea." The speaker then in a humorous manner illustrated the plans of teaching the alphabet that prevailed in his juvenile days and, indeed, up to within a few years, and showed the evil effect of such senseless drilling on the minds of the little ones. Schools were taught by men and women who turned to pedagogy when when every other avenue in life was closed up, and though this was untrue of the upper classes, yet their contemporaries in the common schools were, as a rule, most unfit for their positions. A change, however, had taken place. It was seen that civilization depended on education, and schools received state support, while training schools for teachers had been

* Extract from report of an Address, given by J. L. ROBERTSON, editorial staff CANADA SCHOOL JOURNAL, at the meeting of the Teachers' Provincial Association Quebec Province, held in Sherbrooke, P.Q.

instituted. The elevation of the standard of teachers had had its effect upon their social status. The part of the school in which the chief change was observable was in the primary class.

The speaker then went on to illustrate some of the modern methods of teaching reading, such as the phonic—which must be distinguished from phonetic, as the latter refers to a particular style of orthography—the "look and say," and the combined phonic and word systems, all of which had certain merits over the old alphabetical plan. He advised the thorough reading of a few words at a time, or of a class of words, instead of a long disconnected lesson consisting of mere gasping exercises, to give a complete comprehension of the distinction between the name of a letter and its sound or utterance. As there are two great aids in juvenile education, which are more potent than others, namely, pictures and stories, he recommended that the best reading books which contained them should be used. By these means children might be encouraged to relate the stories in their own words, and, as writing should be taught simultaneously with the reading lesson, both oral and written composition might be successfully taught. In speaking to young children, teachers should avoid the use of "words of learned length and thundering sound," and use only such language as the little ones could comprehend and copy. When a lesson is gone through, every point in it should give rise to a question in order to develop thoughtful reading; if this were not carefully and wisely done, mechanical reading would be the result. The powers of memory should also be exercised by learning by rote short gems of poetry or prose, as in after years this habit would be most beneficial. Teachers should endeavor to become really good readers themselves, as the examples thus shown are readily copied by children, who, as a rule, are extremely imitative. In conclusion, the speaker said that—as parents judge of their children's progress in school by their proficiency in reading, writing, and spelling, more than by their knowledge of other subjects—these branches were frequently considered as a test of the teacher's ability, and he should advise that reading, at least, should not be one of the neglected portions, while, as writing and spelling are taught collaterally, they would keep pace with the reading. He asked the members to consider the address as merely suggestive, as he had had no intention of going into the matter exhaustively. The subject was not new to some present, but its importance was such that it could not be too frequently dwelt upon.—*The Educational Record.*

NAGGING.

We are not quite sure whether the word that heads this article is to be found in the dictionaries, but the thing that it denotes is, in some shape or other, familiar enough to most people. Nagging assumes so many forms, and is carried on under such a wide variety of circumstances, that to treat it exhaustively would require larger space than we have at our disposal, and a wider range of experience than we can boast of. The special form we propose to consider is school-nagging. Who does not remember the teacher who could never let his class alone, who was constantly shouting out orders or snarling out reproofs, who was not content with giving a rebuke, but kept on rebuking, who could never let bygones be bygones, but seemed to find an inexhaustible delight in raking up past offences to aggravate fresh ones? Who does not remember the rapid succession of ejaculations that kept on hurtling through the air—"Smith, you are talking;" "Brown, sit straight;" "Robinson, how many times am I to speak to you?" "Tompkins, there you are again?" "Simpkins, what *are* you doing?" Repose, there was none; even, steady work, there was none; the teacher doled forth his instruction in the brief intervals between one distracting command and another; the class tried to listen or think, as the case might be, under the same unfavourable conditions; until, perhaps, by long habit, commands and threats produced no more impression on their minds than the noise of the mill-stream produces on the miller.

The nagging teacher is, we fear, a very common species, and it may not be unprofitable to inquire into his natural history. The tendency to nagging is doubtless favoured by an acrimonious temper, by an unkindly disposition that finds a pleasure in the infliction of petty misery, and by the desire, sometimes not culpable but sometimes distinctly selfish, of pushing a class on, or of raising it to a very high state of discipline, but it owes its origin mainly to the teacher's incapacity. The skilful teacher never nags. He prides himself on attaining his ends with the smallest number of words, and with a minimum of effort, he gets attention not by obtrusively asking for it, or by punishing for inattention, but by awakening interest; he secures the activity of his pupils by giving them work that they find a delight in performing; his efforts are directed not so much to the correction of faults as to the prevention of their occurrence; he recognizes that many of the faults of children originate, not so much in any natural defect of mind or of character, as in bad teaching and bad training; and he looks to himself, rather than to his pupils, when things go wrong. If his class fidget, he knows that they have been kept too long in one position, and he acts upon Nature's warning by changing their position. If they are inattentive, he knows that he is shooting over their heads, or that they are already familiar with what he is talking about and are too honest to affect an interest they do not feel, or that they want some change of occupation; and he adapts his course accordingly.

The nagging teacher is almost invariably a bad disciplinarian. He seeks to secure the conditions of successful work rather by a ceaseless drill than through causes operating spontaneously in the child's own mind; very often even his drill is unsuccessful through his disregard of laws of body and mind that Nature will not allow to be violated, and through his own want of firmness in seeing his commands executed. The feeble disciplinarian tries to make up for his want of skill by noise and bluster, by constantly reiterated commands and threats, by gibes and flouts, and other such obtrusive means, only to find that these measures produce less and less effect with each repetition. The more he nags, the more he is obliged to nag. What the effect of such treatment must be on the class subjected to it we need scarcely point out. It is impossible that pleasant relations should be established between teacher and taught, when the teacher is constantly finding fault. The child who is for ever being bullied gets naturally to look upon his teacher as a tyrant, and shows no further regard for his will than is inspired by dread. And, as a consequence of this, as soon as the teacher's back is turned his will is wholly disregarded.

The nagging disciplinarian is equally bad as a teacher. He nags because he teaches badly, and he teaches badly because he nags. It would carry us too far to inquire exhaustively what are the causes of bad teaching; the most common are defective knowledge, neglect of preparation, bad method, insufficient illustration, the endeavor to do too much, ignorance of the mental processes involved in learning. All these causes produce unsatisfactory results; unsatisfactory results are apt to beget impatience; and impatience is apt to beget nagging. A lesson has to be gone over again and again because it was not gone over judiciously the first time; explanations have to be explained with the effect of introducing new difficulties that demand new explanations; and the class are blamed for what were really the faults of the teacher. Nagging only aggravates the effects of bad teaching. How can a child give the whole of his mind

to the work in hand when he is constantly harassed by the chidings of his teacher? Anger does not reduce chaotic instruction to methodical order; it does not remove intellectual difficulties; it does not enable the teacher to set at nought the processes by which knowledge is naturally apprehended. On the other hand, it "makes confusion worse confounded;" it distracts the mind, and, by dissipating its energies, leaves less available for the mastery of the difficulty in hand. "It is as impossible," says Locke, "to draw fair and regular characters on a trembling mind as on a shaking paper."

Some admirable remarks on Nagging will be found in Mr. Arthur Sidgwick's recent lecture on "Stimulus." Having explained "nagging" as "a constant fire of little rebukes to one and another for inattentiveness," he says:—"It wears out the patience of the best-regulated boy to receive, or even to hear, such rebukes. It is exasperating to human nature, and is utterly futile. Moreover, it distracts and worries the teacher, and destroys even what chance there was of any real stimulus to attention. My own advice," he continues, "would be this—you may have in many lessons to caution once or twice; but if you find the thing becoming common, look elsewhere for the cause and for the cure. The probability is you are becoming dull. Either quicken up a bit, or, at any rate, vary the proceedings. But don't nag. It may not, of course, be your fault. The weather may be hot; or there may be some excitement toward a great match after school, or races in the vicinity, or some new promotions to the Eleven, or news has come that the ice bears on the reservoir. Anyhow, don't nag. If it is hot, open the door and any remaining window; if it is excitement, try and compete with it, rather than choke it by nagging. I have learnt the futility of this method by having tried it—and failed." Excellent advice! When teachers come to understand that success in teaching does not depend on the mere will of the teacher, not on the mere will of the learner, but on strict conformity to the laws of Nature, they will cease to nag; they will find out a more excellent way; they will learn that Nature is to be subdued in one way only, and that is by obeying her.—*The School Guardian.*

Promotion Examinations.

COUNTY OF WELLINGTON, MARCH 22ND, 1883.

D. P. CLAPP, M.A., AND J. J. CRAIG, B.A., *Inspectors.*

FIRST CLASS—PROMOTION TO SECOND.

READING.

First Book, Part II., Page 76.—When the six months were gone .....the little sick boy had grown.

WRITING.

Copy on slates in script (not printing), page 43:—The day is past .....all the night.

DICTATION.

Pupils will take separate seats with slates; to be conducted in writing. "In the cold time of the year, Frank and Florence had a room all for themselves." "'Tis time you learned to fly." "To warm and to guard them." "The young birds were all crying for food." "They had a bath in the brook, but they were careful not to go in where it was deep, lest they should be drowned." "To pull boys' hair and make them cry." "But Clara says she must first learn her verses for school." "They saw him sprawl on the ice." "He did not choose to go so far as the cheese." "Back to her chink the sly mouse ran." Bruise, noise, raise, twirl, floated, heaven, flower, thankful, cabbage, school, tongue, and schoolmates.

ARITHMETIC.

1. Find the value of 94753 + 2847 + 793688 + 9386 + 258 + 3456.
2. Express in words 3004, 12456, 249, 7200, 1764, CCLXIX, DCCXXIV, CCLVI, XIX, and XLIX.
3. Write in figures seven hundred, seven thousand, one hundred and sixty-five, three hundred and forty, and nine hundred and seventy-four.
4. A man gave a cow and $16 in money for a wagon valued at $60. How much did he get for his cow?
5. Find the difference between 153425178 and 53845258.
6. From two thousand and thirteen take nine hundred and seven.
7. A man deposited in the bank at one time $238, at another $472, and at another $684; he drew out in all $1097. How much has he still left in the bank?
8. From $2117.24 subtract $214.29 + $119.94 + $1.88.
9. Out of a 50 dollar bill I paid $5.31, $7.98, $25.27, and $2.21. How much of the bill have I left?

ORALLY.

10. 6+9 are how many?
6+7+9+5 "
9+3+4+6 "
3+6+2+1+7 "
1 from 9 "
0 " 7 "
7 " 15 "
9 " 17 "
4 " 12 "
8 " 16 "
7 " 13 "

Etc., etc. Each pupil must be examined orally on one question similar to the last on this paper.

LITERATURE.

Open books and answer orally from page 58. (1) What is a truant? (2) What was the truant's name? (3) In what month did this occur? (4) Name the month that follows June. (5) What are berries? (6) What are wicked boys? (7) What do you think of Henry's conduct? (8) Explain the meaning of "neat and clean," "fine morning," "full of glee," "be so naughty," "do right," "to their classes," and "lots of ripe berries."

ENTRANCE TO THIRD CLASS.

ARITHMETIC.

1. Write in figures eight millions ten thousand and eight. Write in words 13000107, 19685799, and in Roman numerals 5555, 1883, 9493, and 1019.
2. Divide 73146592 by nine thousand eight hundred and seventy-four.
3. Multiply eight hundred and ninety-six thousand and seven by ninety thousand and seventy-six.
4. If a train goes 350 miles in 14 hours; how far will it go in 20 hours?
5. If I get into a boat and row up stream 224 yards, then stop rowing and float down stream 1074 feet, then row up stream 80 yards, how far am I from where I started?
6. Find the difference between 783007 + 8 and 864811040 ÷ 28.
7. If 13 plows cost $122.85; how many such plows will $160.65 buy?
8. A boy bought a pair of skates for $2.25, 7 pencils at 60 cents per dozen, 3 books at $2 each, and handed the merchant a $10 bill; how much change would he receive from the merchant?
9. What is the least number which should be added to 3758 to make the same exactly divisible by 117?
10. A drover bought 68 lambs at $2.25 each, and after keeping them 4 months, at a cost of 10 cents each per month, he sold them at $3.10 each; find his gain.

LITERATURE.

1. What is meant by "presence of mind," and what is an "ingenious device"?
2. Give another name for a "grand church." Why were they painting the ceiling?
3. What is meant by "handiwork"? What is a "platform"?
4. What is "a cruel stroke"? What is "a storm of passion"?

5. Give the meaning of "quick as thought," "daubed it," "utterly spoiling it," and "strange action."
6. What is a factory, and what is the tall chimney for?
7. What is meant by "means of descending"?
8. What is a keepsake, and why was it a keepsake?
9. What is a pulley? a scaffold? a ladder? a coil?

GEOGRAPHY.

1. Draw a map of the County of Wellington, showing its townships, county town, incorporated villages, railroads and chief rivers.
2. Bound the township of Minto.
3. What township north of West Garafraxa? east of West Luther? west of Peel?
4. What is a town-line? Define concession, lot, side-road and blind-line.
5. What and where are Irvine, Grand, Four-mile Creek, Erin, Elora, and Saugeen Road, and Conestoga?
6. What is a city? What is a mountain? What is an ocean? What is a valley? What is a sea?
7. Name fifteen post offices in the County of Wellington.

DICTATION.

Second Reader, page 226, from "At length when the last biscuit had been eaten" to "his queen." Pupils are to be told by examiner where each sentence begins. Capitals to be counted.

Memories, desolate, unbridled, impulse, perseverance, proceeded, jealous, entangled, loosened, hospitable, stiffening, inclement, wearisome, invocation, acceded, demurred, impatient, carpenters, majority, and separated.

READING.

Second Reader, page 161, from "They all stood in silence" to "for eager heads to reach."

WRITING—ON PAPER.

Second Reader, page 148: "Golden autumn comes again"..... "Hence the reapers bear the sheaves."

ENTRANCE TO FOURTH CLASS.

READING.

Third Book, page 188, from "Upon one of the green islands" to "breathed his last."

WRITING.

To be judged from dictation paper.

DICTATION.

Third Reader, page 224, from "The schooner collided" to "driven up the lake." "The principal Saxon chiefs," "unrivalled naval power," "eminent in cultivating the arts of peace," "witness the spectacle," "entitling him to grateful remembrance," "the eddying gust," "the melancholy days," "I reflect with sorrow and astonishment," "Hurrah for England's Queen," "the moral effect of this memorable action," "as they drifted on their path," "over the enemy's taffrail," "having the curiosity to know its contents," "in his embarrassment," "the echoing chorus sounded."

COMPOSITION.

1. Write short descriptions of the following tradesmen and their occupations:—
   (*a*) A blacksmith. (*b*) A butcher. (*c*) A shoemaker. (*d*) A farmer.
2. Write short descriptions of the following members of different professions and their duties:—
   (*a*) A minister. (*b*) A lawyer. (*c*) A teacher. (*d*) A doctor.
3. Write short letters on the following subjects:—
   (*a*) Excusing a child's absence from school.
   (*b*) Ordering goods from a merchant.
   (*c*) Invitation to a friend to dine or take tea.
4. Write a short account of "The Little Hero of Haarlem."

GRAMMAR.

1. Enlarge the sentence, "Books please me."
2. Combine the following group of statements into *one* simple sentence:—*The house was burned.* It stood on the hill. It was a white house. It was burned last Tuesday. It had a beautiful garden.
3. Give the singular and plural possessive of ox, fox, lady, tooth, roof, and men. Also the plural of half, this, monarch, motto, German, Frenchman, was, and cherub.
4. Define antecedent, comparison, strong conjunction, possessive case, and adverb. Give an example of each.
5. Analyse, *Yonder stands Mary's little lamb. Just then I heard a voice behind me.* And parse the words in italics, giving relation.
6. Divide the following words into syllables, and underline the silent letters in them:—Transportation, written, streamed, and caught.
7. Correct any mistakes in the following:—Him and me was going to the show, but papa wouldn't give us no money. Them's my mittens.

GEOGRAPHY.

1. Define:—Ecliptic, orbit, oasis, latitude, watershed.
2. Name the political divisions of South America with their capitals.
3. Name and locate the cities of the Dominion.
4. Name the counties of Ontario on the Great Lakes.
5. What and where are the following:—Collingwood, Bahama, Cobequid, Yucatan, Missouri, Madeira, Galapagos, Hooker, Race, Titicaca?

LITERATURE.

1. Early in the morning, the family who dwelt in the lighthouse beheld the vessel upon the rocks, with a powerful sea beating upon her, which threatened her with complete destruction.—*Third Reader, page 73.* (*a*) What family is meant? (*b*) Give the names of the vessel and of the lighthouse. (*c*) In what year did this occur? (*d*) Where was the vessel proceeding? (*e*) Explain the meaning of *lighthouse, vessel, powerful sea, threatened her,* and *complete destruction.*
2. Artists flocked to her lonely dwelling to take her portrait, and depict the scene in which she had been engaged. A sum exceeding five hundred pounds, collected by subscription, was presented to her; and some of the most eminent persons in the land wrote letters to her, containing warm expressions of regard. (*a*) Why was her dwelling called lonely? (*b*) Where did she live? (*c*) How many persons were saved from the wreck? (*d*) Why is the young woman named in this lesson called a heroine? (*e*) Give a short sketch of her life. (*f*) Give the meaning of *artists, portrait, depict the scene, collected by subscription, eminent persons,* and *warm expressions of regard.*
3. Write from memory the verses beginning with "Sweet is the hour of rest," to "In the world beyond the grave."
4. Write from memory the verses beginning with "Ah! rudely then, unseen by me," to "when last I saw thee drink."

CANADIAN HISTORY.

1. Who colonized Canada, and what name did they give it? With what difficulties did they meet?
2. Name two or three objects people had in view in coming from Europe to this country two or three hundred years ago.
3. Tell all you can remember about Champlain, Frontenac, Marquette, and La Salle.
4. Describe the capture of Quebec in 1759 as fully as you can.
5. Why did the French and English colonists in America quarrel so continually?
6. Name the articles of commerce between Canada and France about the year say 1720.
7. When did the seventeenth century begin and end?
8. What events happened in Canada in the years 1535, 1603, 1663, and 1763?

ARITHMETIC.

1. Bought a farm at $43 per acre; and, after keeping it for a certain time, I sold it at $58 per acre, gaining thereby $4410. How many acres were in the farm?
2. Find the value of $(1\frac{3}{4} \div 2\frac{1}{2}) + (5\frac{1}{2} \div 3\frac{1}{8}) + (4\frac{1}{7} \times 2\frac{3}{5}) \times (\frac{5}{8} - \frac{1}{2}$ of $1\frac{1}{4})$.

3. A man left $\frac{1}{4}$ of his estate to his wife, $\frac{2}{3}$ of the remainder to his son, and the balance, $1835, to his daughter. Find the value of the estate.

4. Find the difference between seven millions eighteen thousand and ninety, and DLXVCMIV.

5. The remainder is one-ninth the divisor, the quotient (28) is seven times the remainder. Find the dividend.

6. $\frac{1}{3}$ of my money is in five-dollar bills, $\frac{2}{3}$ of it is in ten-dollar bills, and the remainder ($10) is in silver. How many bills have I?

7. Find the value of $83{\cdot}807 \times {\cdot}0047 + 96{\cdot}34 - {\cdot}0725$.

8. A boy bought some peaches at 3 cents each; had he paid $5\frac{1}{2}$ cents each, they would have cost $2.40 more. How many did he buy?

9. James has 4 marbles more than George, and John has 6 less than George; they have altogether 88. How many has each?

10. Find the value of a piece of land 3 miles long, 1 mile wide, at $23 per acre.

ENTRANCE TO FIFTH CLASS.

WRITING.

Writing will be judged from dictation paper. Slates not to be used.

DICTATION.

Fourth Book, page 79.—From "I had not long to wait" to "in various stages of suffering." 1. "Aside the frozen Hebrides." 2. "No Lethean drug for Eastern lands." 3. "Rings out for us the axe-man's stroke." 4. "So high has the reputation of the ship-builders of New Brunswick risen." 5. "There were bevies of birds and swarms of bees." 6. "Twice twenty leagues beyond remotest smoke of hunter's camp." 7. "The sweet and solemn worshippers." 8. "The skin, broken and abrased, loses its brightness." 9. "Ere the soil of our faith and freedom should echo a foeman's tread." 10. "A type of our young country in its pride and loveliness."

READING.

Fourth Book, page 76:—From "An impression similar in kind" to "become enfeebled."

COMPOSITION.

The examiner will write the subjects on the blackboard. Candidates must choose one of the following subjects, and the composition must not be less than 30 lines in length:—

(*a*) Christmas Day; (*b*) Intemperance; (*c*) Making the best of things; (*d*) A letter to a friend on any subject.

GEOGRAPHY.

1. Define aborigines, great circle, roadstead, tropic of Cancer, bayou, delta, savanna, morass, republic, and pole.

2. Name at least two cities on each of the following rivers:—Mississippi, St. Lawrence, Thames, Volga, Danube.

3. (*a*) If a passenger goes from Elora to Peterborough by the shortest route, name the railroads he passes over. (*b*) Give the names of at least ten stations on the way.

4. Name the capes, straits, gulfs, and bays on the Atlantic coast of North America.

5. State accurately what and where are Prince Arthur's Landing, Thunder Bay, English River, Bass, Roca, Hammerfest, Pembina, Manilla, Brandon, Queen Charlotte.

6. Draw a map of New Brunswick, and locate its principal towns, rivers, lakes, capes, and bays.

GRAMMAR.

1. What is the difference between gender and sex? Give a sentence containing a direct and an indirect object. Explain the meaning of the terms affirmative and negative.

2. Give the corresponding gender of widow, nephew, czar, negro, and teacher; also the singular of beaux, axes, seraphim, bellows, memoranda; compare magnificent, dry, wooden, ill.

3. Define reciprocal pronoun, consonant, phrase, conjugation, and antecedent, and give an example of each.

4. Define the moods. Give examples.

5. Decline the personal pronouns.

6. Analyse—Here, *with* my rifle and my *steed*, and *her who left* the world for me, *I plant me where* the red deer *feed* in the green desert—and *am free*.

7. Parse the words in italics in the above.

8. Correct the following errors, giving reasons. He carried him ashore as lightly and as easily as if he had been a child of five years old. We have both a black and white horse. Your skates lays under the table.

ENGLISH HISTORY.

1. Tell all you know about the coming of certain German tribes into Britain in the fifth century. Give the cause of their visit, the date, their leaders, and the results.

2. Who was the first King of England? Give date.

3. How did Athelstan encourage commerce?

4. Describe the Feudal System. Who introduced it?

5. Name a few good results of the Crusades.

6. Of the following battles, name simply (*a*) The nations engaged, and their leaders. (*b*) The place (country) and the date. (*c*) The results which followed, viz.:—Bannockburn, Cregy, Agincourt, Bosworth, and Naseby.

7. State the principal conditions of the Treaty of Utrecht, the First Treaty of Paris, the Union Act, the Habeas Corpus Act, and the Reform Bill. Give dates.

8. For what are the following men noted, viz.:—Sir Christopher Wren, William Wilberforce, Sir Rowland Hill, James Cook, Wm. Pitt, and James Watt.

LITERATURE.

1. In conformity with the desolating plan of the campaign, the ruin of the ancient capital of the Czars had been determined. The criminals confined in the different prisons received their liberty on condition of setting fire to the city as soon as it should be in possession of the French army. In order to insure its destruction, the engines, and every means by which the fire might have been extinguished, were removed or destroyed. The Exchange was the first building that fell a prey to the flames. (*a*) Name the country invaded by the French. (*b*) What is meant by "the desolating place of the campaign"? (*c*) Whose plan was it to desolate the country? Why? (*d*) Give the name of the ancient capital of the czars. (*e*) What was the "Exchange"? (*f*) Explain the meaning of "ancient capital," "to insure its destruction," "the engines." (*g*) Who led the French army in the campaign?

2. Their avarice was now satisfied, and the next struggle was for ambition—a struggle which was fatal to their daring men—laying them in succession in a bloody grave. (*a*) When was their avarice satisfied? (*b*) How was their avarice satisfied? (*c*) What is meant by "the next struggle was for ambition"? (*d*) Give the names of the leaders of this expedition. (*e*) Explain the allusion contained in the last clause of the extract. (*f*) In what year was Peru conquered? (*g*) Who was monarch of Peru at the time of its conquest?

3. Give in your own language a description of buccaneers.

ARITHMETIC.

1. Find the cost of plastering the ceiling and walls of a room 18 ft. long, 14 ft. wide, the ceiling being 12 ft. high, at 15 cents per square yard. Also find cost of carpeting the same room with carpet 27 inches wide, worth 90 cents per yard.

2. Find total amount of following bill:—

$7\frac{1}{2}$	yards print	@ $0.19	per yard.
$8\frac{3}{4}$	" cotton	@ 0.09\frac{1}{2}$	"
$13\frac{5}{8}$	" tweed	@ $1.15	"
13	" silk	@ 2.37\frac{1}{2}$	"
$\frac{1}{2}$	" velvet	@ $8.25	"

57 buttons @ 25 cents per dozen.

3. Find the simple interest on $350 from January 1st, 1883, to April 21st, 1883 (inclusive), at 8% per annum.

4. The quotient is $\frac{2}{7}$ the divisor, the divisor is nine times the remainder. Find the dividend if the quotient is 28.

5. The diameter of the fore wheel of a buggy is $\frac{5}{7}$ the diameter of the hind wheel, and the circumference is to the diameter as 22 is to 7. Find the diameter of the fore wheel if the hind wheel makes 480 revolutions in going one mile.

6. Find the value of $(8{\cdot}65 - {\cdot}0078 + 29{\cdot}3 - 2{\cdot}3406 + 3070 - {\cdot}472) \times 46{\cdot}62405$. Answer to be a decimal.

7. How long will it take a man to walk around a block of 4 town lots lying side by side, each lot being 50 yards long by 72½ feet wide, if he walks at the rate of 2 miles per hour?

8. ¼ of my money is in ten-dollar bills, ⅔ of the remainder is in five-dollar bills, and ¼ of what then remains is in two-dollar bills. I have $6 in silver; how many bills have I?

9. How many Third Books, each 5 inches wide, 8 inches long, and 1 inch thick, can be packed in a trunk 2 feet 6 inches long, 20 inches deep, and 1 foot 4 inches wide?

10. Express in words 2002·002; write in decimals twenty-four hundredths, five millionths, and define prime number, complex fraction, and concrete number.

COUNTY OF SOUTH ESSEX, APRIL 5TH & 6TH, 1883.

D. A. MAXWELL, *Inspector.*

CLASS I.

ARITHMETIC.

Written.

1. Write in words 2000, 1724, 1003, 1075.

2. Write in figures three hundred and three, seven hundred and sixty-four, eight hundred and eighty.

3. Find sum of 627432, 548201, 678641, 548200, 868759, 345678.

4. John is 12 years old and James 4 years old; how old will John be when James is as old as John is now?

5. If there are two bins of wheat, the first containing 125 bushels and the second 80 bushels more than the first, how many bushels are there in the two bins?

6. A speculator having $4000 gained $3560, and afterwards lost $3479; he then gained as much as he saved out of the first gain; how much did he gain altogether?

7. What number must be added to the sum of 50, 2756, 406, and 525, to make the sum equal 5736, 47, 648, and 7522?

8. Essex Centre is between Amherstburg and Charing Cross; if the distance from Amherstburg to Essex Centre is 16 miles, and from Amherstburg to Charing Cross is 65 miles, how far from Essex Centre to Charing Cross?

9. Two men bought a horse; one paid $75, and the other $20 less; how much did both pay?

10. A grocer sold 27 bushels of corn and 85 bushels of wheat; how many bushels of grain did he sell?

Mental.

1. Find the sum of 6, 4, 12, and 8.

2. A cow is worth $25 and a sheep is worth $5; find the price of the two.

3. A person bought 19 lbs. of sugar and then 14 lbs.; how many lbs. did he buy?

4. Find the sum of the five numbers following 7, obtained by counting by 1.

5. A person bought 3 sheep for $15, but could not sell them for as much by $8; how much did he get for them?

6. How many more sheep are in a flock of 60 than in a flock of 45?

7. Out of a bin of 55 bushels, 23 were taken away; how many bushels were left?

8. How many are 25 plus 18 minus 16?

9. John had 25 marbles, he bought 30 and then sold 42; how many had he left?

10. Willie had 25 cents; he bought a knife for 15 cents, a pencil for 5 cents, and lost 3 cents; how many cents had he left?

CLASS II.

Written.

1. Write in figures three hundred thousand and twenty-one, ninety-four thousand nine hundred and four.

2. Write in words 37003, 80006, 104020, 1090090.

3. Multiply six hundred and fifty thousand and ninety by three thousand and eight.

4. What is the least number which when added to 202453, gives a sum divisible by 75?

5. If 65 hogs can be bought for $6 each, and can be fed for a certain time for 65 cents a head, and on taking them to market 4 should die and the rest be sold for $8 each; how much would be gained?

6. The smaller of two numbers is contained 32 times in 992, and the greater is 18 times the smaller; find the product of the numbers.

7. If the distance round the earth be 25000 miles, how long will it take a man to travel it at the rate of 35 miles per day?

8. A farmer has 14 calves worth $4 each, 40 sheep worth $3 each; he gives them all for a horse worth $150; does he gain or lose by the bargain, and how much?

9. There are 1440 eggs to be packed in 24 baskets; how many dozen will be put in each basket?

10. If a person buy 20 cows for $30 each and sell them for $35, how much does he gain?

Mental.

1. If one man can do a piece of work in 30 days, in what time ought 3 men to do it?

2. Find the price of 7 yards of cloth at $3 per yard.

3. A lady paid 132 cents for ribbon at 11 cents per yard; how many yards did she buy?

4. A farmer agreed to take 10 yards of cloth at $4 a yard for 8 calves; find the price of each calf.

5. A person bought 7 bls. of flour for $40, he sold them so as to gain $2 per bri.; how much did he get for the flour.

6. Four boys bought a foot-ball for 75 cents; John paid 20c., James 33c., and William 18c.; how much did Reuben pay?

7. Mary has 6 rose bushes with 9 buds on each, and 3 geraniums with 8 buds on each; how many buds are there in all?

8. What will 27 lbs. of beef cost at 6c. per lb.?

9. John has 10 books and James has 3 times as many less 12; how many has James?

10. How many lbs. of fish can be bought for 90c. at 6c. per lb.?

CLASS III.

Written.

1. At a game of cricket *A*, *B*, and *C* together score 108 runs; *B* and *C* together score 90 runs, and *A* and *C* together score 51 runs; find the number of runs scored by each of them.

2. A fore wheel of a carriage is 8 feet round and the hind wheel is 14 feet round; how many times will the points touching the ground at starting touch the ground at the same instant in travelling 1000 feet?

3. Two farms contain 4328 acres, the difference between them is 400 acres; find how many acres in each farm.

4. If I divide 360 marbles among John, James, and Joe so that as often as John gets 1 James gets 2, and as often as James gets 3 Joe gets nine, how many will each one get?

5. A field is 60 rods long and 25 rods wide; find the value at $75 per acre.

6. How much does the sum of 7½ and 8⅔ exceed their difference?

7. 1200 men have provisions for 12 months; how long will they last if, at the end of 4 months, 300 more men join them?

8. Find the difference between fifteen and one-fifth bushels and fifteen-fifths bushels.

9. Find the price of 8 loads of wood, each containing 7 cord feet, at $3 per cord.

10. The average height of each of 7 mountains is 2350 feet, another mountain is 600 feet above the average; find the combined height of the eight mountains.

Mental.

1. Find the cost of 48 lemons at the rate of 3 for 5 cents.

2. A thief travelling 10 miles an hour is 6 hours ahead of the constable, who, by taking a railroad train, can travel 25 miles an hour; in how many hours will the thief be overtaken?

3. If a turkey cost $⅞, a goose $½, and a chicken $1, how much will the whole cost?

4. How long will it take 8 men to do what 12 men can do in 6 days?

5. Find the price of 1200 lbs. of hay at $8 per ton.

6. If I buy 80 sheep at the rate of 8 for $20, and sell them at the rate of 10 for $3, how much do I gain?

7. How many bushels of wheat are in a load of 30 bags, each bag containing 104 lbs.?

8. A room 12 feet wide costs $64 to carpet it with carpet one yard wide, and worth $2 per yard; find the length of the room.

9. A man bought a cask of vinegar containing 63 gallons, $\frac{1}{7}$ of which leaked out; he sold the remainder for $36; how much per gallon did he get for it?

10. A man being asked the price of his horse, said $\frac{3}{4}$ of the value exceeded $\frac{2}{3}$ of the value by $35; find the price of the horse.

CLASS IV.

Written.

1. If a turkey cost $\frac{5}{7}$ of a $, and a goose $\frac{3}{5}$ of a $, how many turkeys and geese, an equal number of each, can be bought for $14 and $\frac{1}{2}$?

2. In one school of 60 children, 65 per cent. of them learn to write; in another school of 70 children, 78 per cent. of them learn to write; what is the percentage of the two schools together of the children who learn to write?

3. A railway cutting is 38 feet wide at the bottom and 74 feet at the top, 35 feet deep, and $\frac{3}{4}$ of a mile long; how many solid yards of earth in it?

4. If $90 will pay 5 men for 12 days' work, how much will pay 32 men for 24 days' work, if the efficiency of the second set be half that of the first, and their day's work be $\frac{5}{6}$ as long?

5. A room is 7 yards 1 foot 3 inches long, 5 yards 2 feet 9 inches wide, and 4 yards 6 inches high; find the expense of papering it; the rolls of the paper to be 27 inches wide, and to cost 30c. per yard.

6. Multiply 3.456, 6 being a repetend, by .425, and divide 2.472 by 3.4, 72 being a repetend.

7. A house which cost $1500 rents for $120 a year, the outgoings for insurance, &c., amount to $1\frac{1}{4}$ per cent. of the cost; what rate of interest does it pay?

8. A sum of money is to be divided among *A*, *B*, *C*, and *D* in such a manner that *A* is to receive $\frac{1}{3}$ of the whole, *B* $\frac{1}{4}$, *C* $\frac{1}{5}$, and *D* the remainder; what is that sum, *D*'s share being $28?

9. What sum must be assessed to raise $3800 net, allowing 5 per cent. for collecting?

10. A bankrupt's debts are $5000, his assets are $2500: how much will a creditor lose whose claim is $900?

Mental.

1. What number is that to which if $\frac{1}{3}$ of itself be added, the sum is 48?

2. A man being asked how many sheep he had, answered if he had as many more, $\frac{1}{2}$ as many more, and $2\frac{1}{2}$ sheep he would have 100; how many had he?

3. At $\frac{5}{8}$ of a $ per yard, how many yards of silk can be bought for $6?

4. A boy by mistake added $\frac{5}{7}$ instead of $\frac{1}{7}$? was his answer too great or too small, and by how much?

5. If 5 horses eat 2 tons of hay in $2\frac{1}{2}$ months, how many tons will 7 horses eat in $3\frac{3}{4}$ months?

6. Find the interest on $5 for 3 months at 8 per cent. per ann.

7. If a cow be sold for $44 at 10 per cent. above cost, find the cost.

8. $\frac{1}{4}$ of a string being broken off, and then $\frac{1}{3}$ of the remainder, there were 280 feet left; find the original length of the string.

9. If 2 lbs. of tea worth 40 cents per lb. be mixed with 3 lbs. worth 50 cents per lb., at how much per lb. must it be sold to gain 70 cents by the transaction?

10. If each of 60 sheep shear 6 lbs. of wool worth 30 cents per lb., how much is the wool worth?

CLASS I.

LITERATURE.

Lesson on page 20, Part II.:—

1. Explain the words cart, sky, tent, flood.
2. Make a statement about an egg, apples, snow, water, chalk.
3. Correct any errors in the following sentences:—
   did he go to kingsville
   Have you written to mary
   He says i done it.

Lesson on page 34:—

4. Spell other words pronounced the same as THERE, EIGHT, HEARD, SAIL.
5. Explain: To furl the sails; deep-boom of the surf; to twirl the great ship.

CLASS II.

Lesson on page 144, Book II.:—

1. Explain: shepherd, flocks, harp, giant, defy, carcass.
2. Tell what you know about David the son of Jesse.
3. Where is Egypt? What was the Promised Land?
4. What moral lesson have you learned from this lesson?

Lesson on page 20:—

5. What is A FABLE, A POND, A TOWN, A JAR, INJURE?
6. What moral lessons have you learned from these fables?

CLASS III.

Book III., page 76:—

1. Explain sturdy, intelligent, pilot, resin, tar.
2. Give various meanings for crew, post, charge, head.
3. Give exact positions of Detroit and Buffalo.
4. What lesson do you learn from this narrative?

Book III., page 137, &c.:—

5. Give, in your own words, an account of Heywood's adventure with a bear.
6. Give the different meanings and form sentences to illustrate the meanings of bear, drawing, customs, lead, minute, safe.

CLASS IV.

Cortez in Mexico.

1. What parts of the American continent were colonized by the Spaniards? What has been their condition?
2. Name some Spanish discoverers. Sketch the conquest of Mexico by Cortez.
3. Explain the words hostilities, suspicions, indignity, superstitions, excesses, creed, etiquette.
4. Give some account of the social and political condition of Mexico when Cortez invaded it.
5. "Subsequently the war was continued: desperate resistance on the one side and unrelenting cruelty on the other." Analyze.

The Buccaneers.

6. Give the origin of the buccaneers, and how the name was applied to them.
7. Give the positions of Chagres, Portobello, Panama, Jamaica, St. Domingo.
8. Explain: dispensers of poetic justice; alliance, offensive and defensive; gave no quarter; captured their prizes by boarding.
9. What advantages have been derived by the expeditions of the buccaneers?
10. Parse, page 144, line 5, PIRACY; line 28, OF.
    " 145, line 3, HAS; line 10, SLAIN.
    " 146, line 18, BUT; last line, OFFICERS.

READING.

1. Class I.—Part II., Book, pp. 62-64.
2. " II.—Second Book, pp. 115-118.
3. " III.—Third Book, pp. 137-141.
4. " IV.—Fourth Book, pp. 115-118.

CLASS I.

SPELLING.

1. The bear has no tail.
2. He would give hats and cents to his groom.
3. The flesh of seals.
4. They gave him much praise.
5. Charlie's sisters.
6. His friends thought him proud.
7. Made him sneeze.
8. How to steer their sleighs well.
9. Ripe berries.
10. Some great rough creature.

CLASS II.

Joseph sent waggons for Jacob. One of their descendants. Many beautiful psalms. A new bonnet for her mother. Two men were painting the ceiling of a church with ingenious devices. Came forward to seize her and squeeze her to death. As they've caught

and killed scores. Cautiously looking forward. The gentleman was able to perceive the cause of the dog's danger. File the poor widow's half-cord of wood and shovel a path. Catraway, parasol, scissors, naughity, feathers. FRENCH DICTATION: Deuxieme livre de lecteure, page 99. Il n'y avait....se retirer.

CLASS III.

The yeoman caught the weasel. The bilious mason hid the razor in the tepid syrup. The ruffian fractured the chaplain's limb. The cavalier perceives you grieve for the seine the sheriff concealed in the puncheon. Book 3, page 108: Jacko's.....web-spinner. Book 3, page 69: Before Mr. Dicey's....heavily. FRENCH DICTATION; Troisieme livre de lecteure, page 35: Un autre se....tintamarre supplementaire.

CLASS IV.

The mattress was left on a trellis. The battalion of grenadier guards was enbarrassed. Pharisees were known by their phylacteries. The scandalous conduct of the vagabond was impassible. The loquacious librarian unveiled the statue. Book 4, page 239: After the banquet....fresh actively. FRENCH DICTATION; Quatrieme livre de lecteure, page 42: La langue Française....meilleure bien.

CLASS IV.

HISTORY.

1. Sketch the events in the reign of Alfred the Great.
2. Sketch the Danish rule in Britain.
3. Explain interdict, impeachment, bill of attainder, solemn league and covenant, habeas corpus, petition of right, dissenters, Jacobites, corn laws, Quebec act.
4. What demands were made by the chartists, and which of these are now law in Canada?
5. Sketch the life of Lord Palmerston, Sir Wm. Pitt, Duke of Wellington, Lord Clive, Robert Walpole.
6. Sketch the principal events in Canada since 1840.

CLASS II.

GEOGRAPHY.

1. Define isthmus, ocean, capital, river, cape.
2. Name the provinces in Canada, and state the capital of each.
3. Locate Georgian Bay, Gulf of Mexico, Newfoundland, Vancouver Island, City of Ottawa.
4. Name the cities in Ontario.
5. Name the lakes in the chain of lakes between Canada and the United States, and state how they are connected.
6. Name three rivers in Canada, and state into what they empty.

CLASS III.

1. Locate the following cities: Quebec, Halifax, New York, New Orleans, Chicago.
2. Give position of the following islands: Cuba, Allumette, Vancouver, Manitoulin, Wolfe.
3. Name the towns and cities on the Canada Southern Railway.
4. Give the boundaries of Ontario and of Nova Scotia.
5. Draw a map of Essex county, locating the towns and villages.

CLASS IV.

1. Give exact positions of Capes Blanco, Pillar, Aguja, Catoche, Lookout, Fear.
2. Name the chief cities and towns on the Grand Trunk Railroad.
3. Describe the physical features of Ontario.
4. Locate exactly Orillia, Whitby, Brockville, Three Rivers, Bracebridge, Picton.
5. Draw a map of the part of the United States east of the Alleghany Mountains, locating the cities, bays, capes, and rivers.

CLASS III.

GRAMMAR.

1. Define gender, plural number, adverb, pronoun.
2. Parse:—

My father lived at Blenheim then,
Yon little stream hard by;
They burnt his dwelling to the ground,
And he was forced to fly.

3. Analyze:—

The village preacher's modest mansion rose near
yonder copse.
In happy homes he saw the light
Of household fires gleam warm and bright.

Sentence. | Kind. | Subject. | Complement. | Predicate. | Completion. | Extension.

4. Correct where necessary:—He wont give me none of his flowers. A boy like James and John will succeed. What did they go for to do? This is him we mean. He had went a mile before he seen his mistake. The childrens' supper is near ready.
5. Give the plurals of penny, fife, knife, key, lily, hero, sheep, pea, genus.

CLASS IV.

1. Mention feminine nouns that have no corresponding masculine.
2. Give the plural of court-martial, aide-de-camp, lord mayor.
3. Give plurals, with their different meanings, of CUSTOM, PAIN.
4. *Define case. State when the possessive is formed by adding* an apostrophe only.
5. Parse words in small capitals:—He said THAT it was GOOD. He came THE SHORTEST WAY. This apple is fit TO EAT.

FOUR long years of mingled feelings,
Half in rest and HALF in strife.
I have seen thy waters STEALING
ONWARD, like the STREAM of life.

6. Analyze:—Shylock, being a hard-hearted man, exacted the payment of the money he lent with such severity that he was much disliked by all good men.

CLASS I.

WRITING.

1. Write the first ten capital letters.
2. Write your name and place of residence.
3. Write "The good alone are happy."

CLASS II.

1. Write the capital letters from L to Z inclusive.
2. Write your name and place of residence.
3. Write from Book II., page 43, first stanza.

CLASS III.

1. Write all the capital letters.
2. Write your name and place of residence.
3. Write from Book III., page 143, from "He was trudging.... his escape."

CLASS IV.

1. Write all the capital letters.
2. Write your name and place of residence.
3. *Write from Book IV., page 144, first sentence of* "The Buccaneers."

CLASS II.

COMPOSITION.

1. Write the following words so that each one of them will mean more than one:—Pony, mother, man, buggy, loaf.
2. Mention some things made of paper, cloth, iron, gold, wool, wood.
3. Write each of the following words to shew that something belongs to the thing named:—King, man, boots, horse, James.
4. Write your initials and your address.
5. What have you learned about the use of capital letters?
6. Write a composition of at least ten lines on WINTER.

CLASS III.

1. Write sentences using SIT, SET, LIE, LAY, RISE, and RAISE correctly.

2. What caution should you observe in the use of DONE, SEEN and GONE.

3. What have you learned about the use of the comma and period in the address of a letter?

4. Draw a diagram of an envelope, and show where you would place the address, &c., on it.

5. Write the heading, address, and salutation of a letter to be sent from your home to-day to James Thomas, London, Ont.

6. Write a composition of at least ten lines on WINTER.

CLASS IV.

1. State what you have learned about the use of the semicolon, colon, and dash.

2. Correct errors in the following:—Can he run? Was you there? He is nicely, and she looks handsomely. Either he or I are willing to go. A public dinner was given to the inhabitants of roast beef and plum pudding.

3. Write and punctuate correctly a suitable heading and address for a letter to be sent from here to-day.

4. Punctuate "I returned slowly home my head a little fatigued but my heart content."

5. Paraphrase from Book IV., page 321, 1st stanza of "Burial of Moses."

6. Change the following compound sentence into a simple one: "The sun shone cheerfully in at the parlor windows, and seemed to promise fair for a fine day."

TEMPERANCE.

1. What is alcohol?
2. How is alcohol made?
3. What happens when food is put into a bottle with alcohol?
4. What effect has alcohol on the human system?
5. Why should we endeavor to prevent the sale of alcohol?
6. What did Solomon say about the use of wine?
7. What effect has the use of alcohol on the amount of crime in the country?
8. Give reasons why alcohol is not considered a food.
9. What facts prove that alcohol assists cold in enfeebling or destroying life?
10. Why is so-called temperance without abstinence an insufficient safeguard against danger of excess?

Practical Department.

TEACHING, A SCIENCE.

Is there a science of teaching? Whatever may be the answer to this question, it will be generally conceded that there are but few scientific teachers. The number who can give a reason for their methods of procedure that would be deemed satisfactory by a mind accustomed to apply the tests of scientific reasoning to his conclusions, is painfully small. One would need no other evidence than is presented in the discussion of topics in our educational associations, to prove the general want of scientific knowledge of their vocation among teachers. And what is most remarkable is that many of those occupying the most conspicuous positions in the schools, and who have served the public long and faithfully, manifest in their treatment of educational problems so little of that power of analytic reasoning which scientific investigation demands. Judged by our discussions and papers, we would seem to be ignorant of the elementary principles of a science of teaching. This can be explained only by the fact that there is no real belief in the existence of such a science. It is a mythical something, much talked about, but never seen except by a few "impracticals" who are forever talking in an unknown tongue. Any educational discussion that seeks to find bottom reasons for processes pursued is "abstract and tiresome." "Give us something *practical*" is the demand. As if it were not the most practical thing in the world to find out the truth and error in our methods of procedure. There are some who are beginning to grow gray in the service, but who have made no other study of their profession than the observation of the results of certain experiments, but have attained some valuable "practical" knowledge in this way, who are impatient with any effort at a scientific investigation of educational questions.

Every science must have its peculiar technic. There are many ideas peculiar to it that only technical terms will name. The law and medicine have them, and without them the discussion of legal and medical questions is not carried on. All of the natural sciences and the sciences of man have them, and could not be expressed without them. Whenever the mind, in the study of any science, seizes one of these peculiar ideas it looks out for some peculiar word to express it. Scientific knowledge is not repulsive to the master of that science. None other would be endurable to him, because of its inadequacy to express the thought. It is only when there is insufficient knowledge of the science to see the necessity for technical terms that they are repulsive.

There is another pernicious heresy which we have heard advocated by persons of large influence in educational affairs. It is that the teacher is not to consciously pursue a scientific method in his teaching. He is told that it is all well enough to make a scientific study of method in his preparation in the normal school, but when he comes into the practice of teaching he must forget all this and throw himself into his work with that self-abandon which will drive out of his consciousness all thought of the *way* he is doing his work. What nonsense! It is only when the mind has become habituated by conscious and repeated effort to the pursuit of truth by the proper method that it can be safely left to its spontaneous action.

We hold that there is a science of teaching; that it consists of a body of ideas, many of which are peculiar to and characteristic of the science; that there is need, therefore, of the use of technical terms to express these ideas; and that the use of these terms to express these ideas is a great aid to clearness of thought in this science.—*Indiana School Journal.*

TEACHERS' READING.

MARY A. WEST.

"As a man thinketh, so is he;" as a man readeth, so doth he think.

In selecting a teacher for our young people, we care more to know what books he habitually reads now, than what books he studied in college. He studied what was in the curriculum; he reads what he chooses to read, hence his reading is the better criterion by which to judge of his habits of thinking. And this is a vital thing; as Isaac Taylor truly says: "All knowledge, without thinking, is only splendid ignorance." If one would-be teacher reads only newspapers and the higher forms of literature, however ready and even brilliant he may seem in conversation, he is a superficial thinker, and will leave the impress of his habits of thinking upon his pupils; on the other hand, if he deals only with the "weightier matters of the law," if all his leisure hours are given to abstruse studies, his habits of thought will withdraw him from companionship and sympathy with his pupils; he will seem too much "a philosopher" to be their "guide and friend." Instead of leading them to love good reading, he will probably be voted a bore.

A teacher should never study, or read, or think, himself, out of sympathy with bounding young life; on the other hand, his standard of reading and thinking should be pure and high, and his sympathy with his pupils so perfect that they are drawn up to it.

Vitiated taste in reading is as deleterious to mind and heart as is a taste for alcoholic liquors to the body, and should be just as strictly guarded against. That such tastes are formed by boys and girls, in spite of all the wealth of literature our mother tongue affords, is proof that "somebody blundered," where to blunder is a crime.

Usually the fault is in home training, or the lack of it; but whether the beginnings are at home or in the school, the bitter waters flow on, polluting both home and school. Teachers can and ought to do much to purify and sweeten them.

What a teacher is affects his pupils more than what he says or does; so what he reads affects them more than what he tells them to read. As he deals with human souls, nothing which concerns man can be without interest to the true teacher; hence his reading will include the humanities, technically so called, and give large space to biography and history, history that is really history of people and not bloodstained chronicles of carnage. The field thus opened is so wide that cultivated taste, enlightened judgment, and conscience must be exercised in choosing subjects and epochs. There are biographies of good men and of bad; biographies which make their subjects seem living, loving, acting men and women; others that relegate them to the realm of ghosts or of dry bones. There are histories which give a mere succession of dry facts, without logical sequence or connection. There are others which make past time live before us and reveal the subtle threads running through all, binding all together into the beautiful philosophy of history. Life is too short and time too precious to be wasted on the one class of writings; while the other class no one can afford to neglect.

Each year natural science is entering more and more largely into human life, hence it should be included in a teacher's reading. Higher than this is the consideration that it is a grand thing, as Agassiz says, "to think God's thoughts after Him," as we do while teaching his works in nature.

The Bible should be familiar to every teacher. Nowhere else will he find character painting so true, morality so pure, man's duty to his fellows and his God so thoughtfully and impressively set forth.

The teacher's reading should include the standard classics, English and foreign-tongued. He cannot afford to be without their formative power upon his mind and his literary style. Plato and Socrates, Homer, Horace, and Virgil, rare Ben Jonson, silver-tongued Addison, strong, quaint John Bunyan, Spenser, Chaucer, Shakespeare, and all that bright galaxy form a goodly company from which he should not exclude himself.

All good things are not old, and the teacher whose reading does not include the writers of the present century is not fit to be in charge of embryo American citizens. They deal with live issues of to-day, as well as those broad themes underlying all humanity.

It is easier to interest young people in reading authors who have lived during their own lifetime, and write of things with which they are familiar, than those dead a century ago.

The surest and pleasantest way of arousing and cultivating a love of good reading in our pupils is to introduce them first to the writers of our own country and times.

Let Bryant lead them by the banks of Green river, out into the groves which were God's first temples, bidding them watch the water-fowl, guided by

> "A power whose care
> Teaches his way along that pathless coast;
> The desert and illimitable air,
> Lone, wandering, but not lost."

Or teach them to listen to the song of "Robert of Lincoln;" speak to their hearts in quieter moments through the "Forest Hymn," or the "Death of the Flowers," or lead them through "The Portal" into the solemn grandeur of "Thanatopsis." Let Whittier come into the life of every "Barefoot Boy" as a beneficent presence; let his "Voices of Freedom" thrill their young hearts, and his grand "Centennial Hymn" inspire them with love for their country and their country's God; let his "Songs of Labor" make work honorable in their eyes; his "Home Ballads" speak to them of purity, and love, and peace; his "In War Time" and "National Lyrics" arouse them to high souled patriotism, and communion with his reverent, loving heart draw them

> "Too near to God for doubt or fear,"

even in the midst of fierce battling with oppression and sin.

Introduce them to Longfellow in the sweet quiet of "The Children's Hour;" let them listen with him to the ticking of the "Old Clock on the Stair," or watch the sparks fly from the forge of "The Village Blacksmith"; let them follow "Evangeline" through her weary wanderings to the pathos of her lover's deathbed, while their young hearts burn with indignation at the atrocity which Acadia suffered; let them plant with him the apple tree, and launch with him the ship, explore prairie and forest with Hiawatha, take that midnight ride with "Paul Revere," and listen to his "Tales of a Way-side Inn."

Let them learn to love Irving by laughing with him over the quaint mishaps of "The Knickerbocker," roaming with him through the great prairies of the west, and through the Alhambra, and they will need no urging to read his "Columbus," or "Washington." Utilize this centennial year of his birth to fix him more deeply in their hearts.

In a similar way make Motley, Prescott, Cooper, Mrs. Sigourney, and others, on both sides of the sea, seem familiar friends to our young people, and we need not so much fear the influence of the Jesse James and Buffalo Bill style of literature.

Often our pupils are with us so short a time that we cannot do for them all we wish. But few are with us such a little while that we cannot teach them to know and love *one* really good poet, and this may sweeten all their lives. I would rather a pupil left school with a thorough appreciation of, and love for, Gray's "Elegy," Longfellow's "Psalm of Life," Shelley's "Skylark," Whittier's "Prayer of Agassiz," his "My Psalm," or "The River Path," Bryant's "Thanatopsis," Milton's "Ode to Light," Tennyson's "Margaret," or Spenser's Una in "Fairie Queen," than to be able to speak in unknown tongues, without this accomplishment. —*The Present Age.*

Notes and News.

ONTARIO.

The following is the report of attendance of pupils at the Perth public school for the month of February, 1883:—

Division.	*No. on Roll.*	*Average.*
No. 1	56	47
2	47	40
3	59	58
5	56	49
5	52	46
6	48	43
7	60	48
	368	321

Increase over January 7
Increase over February, 1882 34

Mr. Moir, principal of the St. Mary's public school, has recently made a vigorous attack on the collegiate institute of that town, chiefly from the financial side. Mr. Poole, chairman of the institute board, has replied on behalf of higher education with equal vigor. The ratepayers seem to take the matter coolly. The controversy grew out of a grant of some $200 or $300 made by the public school board for the support of a fifth class.

As a city contemporary very properly remarks, "There is probably no country in the world that is blest with a better school system than Ontario possesses. A good, sound, practical education is within the reach of the children of the poorest man in the land, while a collegiate education may be had at a small outlay as compared with the cost of similar training in the old country." It is probable that, before the end of the present century, the people of Ontario, if the present school system be continued, will be the most generally educated community on this continent, or even perhaps in the world. At all events, we think they will have no superiors in this respect. But there is one blemish in the system which ought to be corrected, as a matter at once of justice and expediency. The average salary of teachers is *too low*, especially of the female teachers. The average for males in counties is only $384. It hence follows that many of the male teachers in the counties must be receiving considerably less than the small sum named; that is to say, far less than a mechanic of average skill would earn at his trade. The average paid to female teachers is still less, and is not sufficient to maintain them comfortably. It is not just, and certainly it is not expedient that educated men and women, who have devoted several years to the acquiring of the necessary knowledge of their profession, should be paid such starvation salaries as the figures quoted above show that the great majority of them must be receiving. This is economy in the wrong place, if indeed it deserves the name of economy. It would be better named penuriousness of the meanest sort. Boards of trustees should pay righteous salaries, which would be in proportion to the work performed. We do not think the salary of any properly qualified male teacher should be less than $500 a year, or of a female teacher than $400.—*St. Mary's Argus.*

Mr. Shakespeare, M.P., for Victoria, B.C., paid a visit to the Ontario Business College, Belleville, on a recent occasion, and was not only delighted with the thoroughness of the course of instruction, but astonished at the magnitude of the attendance and the distances from which students come to avail themselves of its advantages. Victoria, he says, is ahead of Belleville in streets and sidewalks, but the latter's public institutions, (especially the Deaf and Dumb Institute, the Commercial College, and Albert College) and public buildings, are far ahead of those of the capital of the Pacific Province.

Rumors compromising the credit of Rev. Dr. Darnell, of Dufferin College, have for some time been current, but they are now taking the form of fact. It is learned that remittances from parents to purchase clothing for the boys have been retained by the doctor, and the goods ordered on credit. May other stories of a similar character are told of the doctor's career in the city (London). His creditors are exceedingly numerous, and many of the sums due are quite large, reaching in one case as high as $600.

At a meeting of the Hamilton board of educa ion held lately, two petitions from the teachers in the employ of the board, asking for an increase of salary, were presented. The petitions from the teachers in the public schools set forth: 1st, That while the cost of living had greatly increased, their salaries had not increased in proportion; 2nd, That within the last ten years the average salary paid throughout the county of Wentworth had increased about 25 per cent., while that of the city teachers remains almost the same; 3rd, That the salaries are lower than those in the following cities and towns of the province where the cost of living may be supposed to be on an equality with that of Hamilton. In proof of this the appended list was respectfully submitted. Hamilton, lowest grade, $200, graded to $425 for 9th grade work. Toronto, lowest grade $365, graded to $575 for 9th grade work. Ottawa, lowest grade $350, graded to $450 for 7th grade work. St. Catharines, lowest grade $264, graded to $500 for 9th grade work. London, lowest grade $250, graded to $500 for 9th grade work. Galt and Sarnia, lowest grade $250, graded upwards.

Mr. Welliver, a student-in-training at the Normal school, Toronto, and lately a teacher near Berlin, died during the present session. He was an athletic man in the bloom of youth, but was carried off in a few days by inflammation of the lungs. This sad event cast a gloom over the class for many days. Mr. Welliver's parents reside near St. Thomas.

English school journals are discussing the propriety of abolishing corporal punishment. The abolitionists seem to be hopelessly in the minority, but several wise restrictions have been enforced in some of the board schools. How will this matter stand at the close of the 20th century?

A pupil of the Walkerton public school has produced the following composition on the cow. "The cow is animal with 4 legs and 1 tail and 2 ears and 1 nose and 2 nostrals, and so fourth. Milk is extracted from her by a scurous moshun of the hands, not the cow's hands but a persons hands. Her flesh is good to eat and her horns are good to prick holes in a boy and her hind legs to lift a boy over the fence or above him through the wall or step in the milk pail, &c., &c." That pupil deserves promotion.

Mr. Hughes, public school inspector, of Toronto, has been lecturing on the Phonic method of teaching reading, on Saturday forenoons during the past month. The lectures have been given for the benefit of those teachers who were unable to attend Mr. Hughes' lectures to the students of the city model school. They have been largely attended, and at their conclusion a hearty vote of thanks was tendered to Mr. Hughes, and he was requested to continue his lessons on the subjects of "Language Lessons," and "How to teach Drill and Calisthenics."

The lady principal of Hellmuth College, London, Miss Clinton, who has been connected with this college since its opening in 1869, and filled with credit the position of lady principal and musical directress, has accepted a position in the Cheltenham Ladies' College. The college authorities have secured the services of two ladies from the Royal Academy of Music, London, England, of pronounced ability as pianists and vocalists. Miss Wright, who has been the popular lady superintendent for the last seven years, is to succeed Miss Clinton as lady principal.

Rev. J. W. A. Stewart, M.A., gold medallist in metaphysics at Toronto University '70, has been appointed professor in McMaster Hall, the Baptist college in Toronto in affiliation with the University.

Dr. Darnell, principal of Dufferin college, whose troubles in London we previously noted suddenly departed from that city on a visit to our cousins over the water. He left liabilites amounting to $6000 or $7000, assets about five cents on the dollar. He has since been heard from in New York.

It has been proposed to hold an institute in this city for four weeks during the holidays for the benefit of county model school masters. We have not been able to learn that any steps have been taken to carry out the proposal. If first class talent were secured it would result in immense good to the profession.

A lady teacher in New York asked to have her salary increased to $5000 at least, on the ground that a celebrated *cantatrice* was earning much more than that sum by her voice, the same means by which the lady earns hers. She claims that teaching is more important than singing, education than amusement, and ought to be paid for in proportion to its importance. Let those who laugh at her demand point out the fallacy in her argument.

The Toronto school board has set an example to the boards of the province by dealing in a liberal spirit with the teachers in their employ. The salaries of the female teachers were increased fifty dollars each during the present year, except in the lowest grades. The salaries of the female assistant teachers now run from $365 to to $600 per annum. The salaries of head masters range from $750 to $1200.

Col. Parker, of Boston, late superintendent of Quincy, has published a short sketch of his methods—a very good book for live teachers to read.

Foot-ball seems to hold its ground among the high schools of the western peninsula, Berlin being the head centre of the kick-off under association rules.

Swings and other gymnastic apparatus in covered sheds should be provided at every high school for the girls. Agitate, fair friends, agitate, and you are sure to get them. The country is wealthy enough. Organise the campaign and make your wants known. The JOURNAL will second the movement.

Warren Rock, Esq., Q.C., whose death occured suddenly at London recently, was at one time assistant master in the provincial model school, Toronto, where he was distinguished for zeal and energy. Old pupils still speak enthusiastically of the stirring addresses he was wont to make to the school. The true spirit of the teacher was in him, they say, and impressed his pupils more deeply than mere grammar and arithmetic. Truly it is the spirit and earnestness of a teacher that alone can accomplish work that will outlast the pyramids. Let us build for eternity.

The Toronto school board take the lead in supplementing the pensions paid to retiring teachers from the superannuation fund. They offer Messrs. Coyne and Spotton, two of their oldest teachers, a retiring allowance of $250 each, per annum. The public will not complain about the liberal treatment of faithful servants, whose lives have been spent in the public interest.

Dr. McLellan Senior High School Inspector, lectured in the Walkerton High School Hall, on Friday Evening last, before a large audience. The learned doctor spoke for about two hours on the general subject of education, referring especially to its practical aspect in the relation between teacher and pupil. He opposed the idea of severity in the school-room, and impressed upon his hearers the importance of sympathy and kindness, as a means of stimulating and developing the character of children, as well as the training of their intellectual faculties. He condemned the common idea that education consists of the training of the intellect alone, and held that the sentiments and moral nature of children should be developed in the school-room, as well as their minds. As a means to this end, none but teachers of good principles should be employed. He also maintained good scholarship was as requisite in the teaching of young children, as in those of larger growth. The more learning possessed by teachers, the better they would instruct even the most youthful pupils. He advocated the payment of good salaries and the encouragement of teachers by parents and trustees. The learned doctor frequently grew eloquent, and concluded an excellent discourse by a poetical recitation. —*Bruce Herald.*

The mathematical department of Owen Sound high school is in charge of Mr. Carry, whose teaching is said to be particularly forcible and impressive.

The Orangeville high school is gathering impetus under the able management of Mr. Steele. We are particularly gratified to hear of the extent to which the reading of solid literature prevails among the students. The establishment of a good school library and a vigorous literary society are rapidly diffusing a taste for good reading which must prove a powerful auxiliary to the work of the school.

Ridgetown, Co. of Kent, is agitating for the establishment of a new school building, costing some $12,000, in part of which the high school could be located. Demagogues who decry secondary education with a view to popularity, can neither discern the signs of the times nor read the heart of this people. Meaford is agitating for a new high school. Brussels and Wingham have discussed the question seriously for some years. Every well-to-do farmer is anxious to give his children a year or two at the "people's college."

The St. Thomas collegiate institute is reported to be thriving better than at any preceding part of its history.

"I have been much pleased with the many very excellent papers which have appeared in the JOURNAL during the past year, and for this I am sure the educational staff of Ontario as a whole are really grateful."—*G. Strauchon, High School, Woodstock.* "We find the SCHOOL JOURNAL just what a young teacher needs. We find the promotion papers a great aid." —*L. M. Thibaudeau, Rydal Bank.* The above are specimens of many kind letters we are continually receiving.

The St. Mary's *Argus* has the following. "Dr McLellan visited the St. Mary's collegiate institute last Thursday. After having inspected the various classes in the school he collected the students in the Intermediate room and gave them an excellent lecture on Work. Dr. McLellan expressed himself as highly pleased with the general tone of the school and especially with the strict attention paid to the various teachers."

The town of Niagara is well supplied with educational institutions. Excellent work is being done in its pretty and beautifully situated high school. Its indefatigable head master, Mr. A. Andrews, (who was for some years connected with the public press), has a large class making good progress in the study of phonetic shorthand. In addition to this, time is found every week to devote an hour to recitations, and an hour to the practical execution of fancy work. The results obtained by this small expenditure of time in something outside the ordinary routine of school work, are surprising, and would be well worth the attention of many engaged in the work of education. The excellent order in which the neat brick school house, its surrounding shade trees and gay flower beds are kept, testifies to the pride which both teachers and scholars take in their school.

"The whole tone and tendency of our educational system as in vogue at present, and far too much even in the common schools, is in the direction away from the farm and the work-shop. Every branch studied is simply and solely pursued in order to qualify for a higher education—for a teacher's certificate, for entrance into a higher institute of learning, a professorship, or for the learned profession. A thought is scarcely given to the simplest subject of common life, or to the simplest elements of domestic and political economy or to finance. These are all ignored and practically treated with contempt, by our teachers and educators. Agriculture, too, is entirely ignored. As a result of this system, our young men attending the high and public schools, fired with ambition to climb the educational ladder, and with their mind full of mathematics, astronomy, classics, poetry, literature, &c., soon beget a contempt for the common worldly affairs of life,—the toils of the laborers and the tillers, and aspiring to some sort of ideal life, which exists only in youth's fancy, and which is fed by the studies pursued and their general surrounding at school." Thus sweetly discourses "Spectator" in the *Bruce Herald.* He evidently believes in the Chinese plan of building a house from the top downwards. He says, "From these facts I conclude that as a people, we have gone to extremes in the matter of education, that the state should only provide a common school education, that that education should be more *practical and less theoretical, and should embrace the elements of political and domestic economy, the laws of finance and commerce, agriculture,* &c., and especially should children early be taught the principles and simple rules which conduce to success in life, as well as the more common causes which militate against success and end in failure and financial and moral ruin."

It is much to be regretted that so flourishing a town as Alliston should not provide for its school a better building than the wooden edifice in which it is now held. Under the energetic management of Mr. Chadwick, assisted by Misses Burnie and McDonald, the school is doing excellent work. A short time since Mr. Chadwick was offered the head mastership of the Ottawa public school, but declined it as he could not leave his present position in time to enter on duties there, without endangering the interests of the Alliston school and inconveniencing the trustees. We hope that such honorable attention to the interests of the school will be duly appreciated.

Excellent work is being done in the Oakville high school under the energetic managemement of Mr. N. J. Wellwood, assisted by Dr. C. H. Lusk, whose connection with the school has extended over a considerable number of years. Among other commendable features the school has a convenient and well fitted laboratory for the use of the pupils. The Oakville public schools is also in a flourishing condition. It has a commodious building with five rooms. About 350 children are in attendance and are making most satisfactory progress under the tuition of the able principal, Mr. N. Husband, assisted by Misses Rodgers, Ganton, Taylor, and Beals.

If the children attending the Burlington public school do not develope a taste for natural science, it will not be the fault of their pains-taking head master, Mr. R. Coates. In connection with the school he has quite a collection of moths and butterflies in different stages of development, and the scholars take great interest in collecting specimens and watching the wonderful changes which take place during the growth of these insects. In addition to its entymological collection the school is provided with a laboratory, electric battery, and magic lantern. Mr. Coates is ably assisted by Misses J. and A. McQuire, M. Allen, and F. Misner.

The high school at Waterdown keeps up the excellent character it has so long borne for sending successful candidates to the university and other examinations. D. H. Hunter, B.A., who has conducted the school with such marked success for some years is ably assisted by W. T. Jones, B.A. Though this gentleman entered on school work less than a year ago he displays exceptional power and promises to rise to the foremost ranks of the profession.

The walls of the commodious and beautifully situated public school of Waterdown are tastefully decorated with drawings and maps executed by the scholars. Mr. Stevenson, the head master, is not merely teaching the childing to draw, but is developing real artistic power and taste among them. He is ably assisted in the management of the school by Misses M. Fraser, H. J. McMonies, and M. Cleaves.

The CANADA SCHOOL JOURNAL to hand with plenty of fine educational matter and mathematical problems for examinations.—*Georgetown Herald.*

The Waterdown high school literary society is a flourishing institution, and reflects great credit on the teachers of both high and public schools, who are most active in carrying on its work. Its entertainments have provided funds for supplying the public school with prizes and establishing a good reference library for the scholars of the high school. Its weekly meetings are well attended and interesting. At that held on Friday, May 18th, after some good recitations, essays, and musical selections had been given, there was a lively debate on the question of "Home Rule for Ireland." After some excellent speeches on both sides it was decided that Home Rule should not be granted to the Irish people.

Smithville high school is earning honors for itself. One of its scholars, S. A. Morgan, has matriculated at Toronto university. Out of about 35 scholars, 18 are this year preparing for the intermediate examination. Last year out of 8 presented 6 passed. These facts say a great deal for the energy and ability of Mr A. C. Crosby, the head master, and his assistant, Mr. Hamilton.

The high school literary society at Beamsville has been stirring during the winter months. As a result of the entertainments it has given, Mr. Avely, the energetic head master, has been able to make considerable additions to the school reference library. Amongst the works added may be mentioned Worcester's Dictionary and Chambers' Encyclopedia.

The Niagara public school under Mr. Geo. Cork, is in a flourishing condition. The separate school was given up about two years ago, and since that time children of Roman Catholic parents have been learning side by side with those of Protestants, and the arrangement is working harmoniously. Niagara has also a flourishing literary society in connection with its high school. The membership during the winter months has been over 60, and the fortnightly meetings have been well attended. A most successful public entertainment was recently given under its auspices in the music hall. A magic lantern entertainment is to be given shortly by the Rev. A. Andrews, of Kincardine, (brother to the head master), the proceeds of which are to be devoted to the purchase of a magic lantern for the use of the society, which has by its past efforts managed to become possessed of a handsome organ.

Few towns of the size can boast a finer library than that in connection with the Mechanics' Institute at Niagara. It has 3,000 volumes, and the works are conveniently classified to facilitate selection and reference. A catalogue has been drawn up and printed on the printogram by Mr. A. Andrews and some of the younger members of his family, and is a wonderful example of perseverance and care.

Later we learn that Rev. J. W. V. Stewart, has decided not to accept the professorship in McMaster Hall, Toronto.

In Chatsworth public school good work is being done by Miss Boddy, assisted by Miss Mackenzie. The junior department is over-crowded, and for hygienic reasons the room should be enlarged.

The staff in Richmond Hill high school was increased last March by the appointment of Mr. E. F. Langstaff as second assistant. Mr. Langstaff is a scholarship man of Toronto university.

The local examinations for women in connection with Toronto university, are to be held in Richmond Hill high school this year They were held there last year and, of the seven who presented themselves, not a single one failed.

During the last school year, Richmond Hill high school sent up 13 candidates to the various universities and every one passed.

High school inspector, J. A. McLellan, LL.D., has given a very satisfactory report of Goderich high school in which he states that "Mr. Halls' classes did exceedingly well, as did also the principal's classes. The discipline is good, and the general tone of the school is very excellent." Good work deserves good pay and it is gratifying to see that the salaries of the teachers in the high school were raised, Mr. Halls receiving $100 increase and Mr. Moore and Miss Oliver $50 each additional, to take effect from the commencement of the year.

Mr. A. H. Watson, B.A., English master Richmond Hill high school, has just been appointed head master of Vanleek Hill high school at an initial salary of $800.

Mr. John McBride, B.A., head master of Newcastle high school, received the degree of B.Sc., at the recent convocation of Victoria university.

Mr. A. Ego has been recently appointed head master of the East Ward public school, Collingwood, and is earning golden opinions by his diligent and effective work. He is well assisted by Miss H. Burdet.

The Canada Business College, Hamilton, will conduct a special class for teachers in book-keeping, penmanship, and shorthand, during the approaching summer vacation. From the excellent reputation of the college, and the very practical nature of the course of instruction, it will evidently be well attended. These classes have been largely patronized heretofore and have given the highest satisfaction.

Mr. John Whyte, assisted by Miss Cole, is keeping the public school at Clarksburg abreast of the times. Mr. Whyte is reputed to be an energetic and diligent teacher.

There are few schools in the province, if any, superior to the Centre Ward School, Collingwood, in writing. The pupils' copy books are a credit to themselves and to the talented head master, Mr. E. Ward. Under this gentleman's effective teaching a large increase has been observed in the numbers passed at entrance examinations, since his appointment.

The West Ward school, Collingwood, under the management of Mr. J. Thistlitt, is too much crowded. This complaint affects all the schools, but it is said that the school board are about to build a large central school which will lead to a general reorganization of the schools.

The staff of Barrie collegiate institute consists of five masters, the last appointment being that of Mr. Samuel Barton, an Honor mathematical man of Toronto university, to the position of assistant mathematical master. The attendance the present half-year is 160, and the number of candidates for the intermediate and other examinations is very large. The university class numbers 9. On the whole, the year now drawing to a close has been one of the most successful in the history of the school. During the year the literary society has shown great activity and has been able to purchase an excellent piano wherewith to enliven their weekly meetings. The building is beautifully situated and the internal arrangements are all that can be desired. The principal, H. B. Spotton, M.A., F.L.S., enjoys the highest reputation in his profession, and is well-known as one of the authors of the popular school text-book on Botany.

Mr. E. R. Hutt, the active head master of the Port Dalhousie public school, gives his scholars regular lessons in sight singing with most satisfactory results. The school is well up to the mark in other respects; eight pupils are preparing for the entrance examination. Mr. Hutt, and his assistants, Misses Wilkinson and McDonald, are to be congratulated on the satisfactory state of the school.

Mr. Anderson has recently undertaken the head mastership of the separate school at Port Dalhousie, and under his instruction excellent work is being done.

We are glad to notice from a circular issued by the high school board that to encourage diligent preparation of pupils intending to enter the high school by competing at the entrance examination to be held on 29th and 30th June next, they will give three prizes of fifteen, ten, and five dollars respectively to the three pupils who shall be found to have gained the highest number of marks. This is worth looking after and we hope it will tend to raise the scholarship of candidates a degree or two beyond the past attainments.—*Woodstock Sentinel-Review.*

Mr. T. Fraser was appointed to the head mastership of Owen Sound public school in the room of Mr. Greig who has gone to the North west. Under his management the school is prospering. The attendance is over 500, under the care of 12 teachers. About 30 pupils are preparing for entrance examination.

In the model school, Meaford, which is under the efficient head mastership of Mr. A. H. Stephen, educational matters are in a prosperous condition. Mr. M. Mackinnon, the second master, is highly esteemed as a successful teacher, and in the several departments, good order prevails and sound instruction is given. The assistants, viz: Misses Tolton, Burns, M. Sheppard, S Sheppard, and J. McDonald are energetic teachers.

In Thornbury public school, Mr. A. Cameron, the head master, has reorganized the classes and placed school business on an excellent basis. He is ably assisted by Mr. A. Henderson, Mrs. Hurlburt, and Miss Sutherland. Mr. Henderson is a very successful teacher of music and the school singing is brought to a high state of efficiency. Four pupils are preparing for intermediate examination and several for entrance.

There are five ladies now attending the Ontario Business College, Belleville—two of whom are from Picton. Students are coming in every day, and the attendance on the whole for April has been larger than during any corresponding period in the history of the institution.—*Daily Ontario.*

MANITOBA.

The death of James Haldane Stewart which occured some time ago, was very generally regretted. During the year 1881 he filled the position of Inspector of the Winnipeg schools in a most satisfactory manner. During the past year he has been Secretary-Treasurer of board of school trustees. In October last he was appointed a member of the board of education. He was one of the committee appointed by the Protestant section of the board of education to examine and classify pupils of collegiate departments. At a recent meeting of the last mentioned body the following minute was, on motion of Ven. Archdeacon Pinkham, unanimously adopted, and a copy of it ordered to be engrossed and sent to Mrs. Stewart, viz: "That this board desires to express to the relatives of the late James H. Stewart, who has been one of its members since last October, its sympathy with them in their sad bereavement and its deep sense of the value of his services in connection with education in this Province."

The Rev. W. A. Barman has been appointed inspector of schools for the municipality of Dennis, and T. C. L. Armstrong, M.A., LL.B., for the schools in the vicinity of Winnipeg which Mr. Somerset, having his hands full in the city, has been obliged to resign.

The attendance of pupils in the city schools is rapidly increasing.

A number of new schools have already been opened this spring, and others are opening every week.

Rev. Geo. Young, D.D., has been appointed a member of the board of education instead of the Rev. S. D. Rice, D.D., who has resigned. Dr. Young was one of the first members.

The annual examination of the students, under the auspices of the University of Manitoba, commenced on 14th May. The examiners were the Bishop of Rupert's Land, Profs. Bryce, Hart, O'Meara, Cherrier, Matheson, Cloutier, Revs. A. Campbell, Farquharson, O. Fortin, and Doucet, and Messrs. T. C. L. Armstrong, J. H. Panton, H. Archibald, and R. Meloche. The students, with three exceptions, are from St. John's and Manitoba colleges. Sickness having interrupted the St. Boniface college term, no students have presented for examination. The non-collegiate students are Victor Latimer from Mr. Fawett's collegiate department, and John Davis and Charles H. Phillimore, from Rapid City. The students from St. John's college are: Final B.A.—James Bird; Junior B.A.—T. C. Coggs, D Kirkby, J. Machray, W. E. Beddome, I. C. Fortin; Previous year—Alfred Cook, J. A. Macdonald, D. Pritchard, J. W. Matheson, Peter Wood, W. Nicolls. The following are the students from Manitoba college: Final B.A. year—David Anderson, Frank Brown, J. H. Mulvey, J. B. Code, W. M. Omand, Archibald McLaren; Junior B.A. year—A. W. Thompson, D. H. McVicar; Previous year—Charles Esplin, Xavier McPhillips, J. T. Huggard, A. McLean, W. C. Graham, W. A. McIntyre, R. Thompson, H. A. Stewart, Thos. Logie; Preliminary year—H. Quigley, A. Ferguson, A. N. McLeod, George McIver, Arthur Bowman, Richard Lipsett.

The work on the new St. John's college is being pushed forward with great vigor.

The examinations for the degree of B.D., in St. John's college are just over. There were two candidates, viz: For the final, A. W. Goulding; for the preliminary, T. C. Coggs.

The Very Reverend John Grisdale, B.D., Dean of Rupert's Land, and Professor of Pastoral Theology in St. John's college, has just returned from a year's absence in England.

The effort now being made to raise funds for the support of a Theological Professor in Manitoba college, is meeting with much success.

Stewart Mulvey, Esq., chairman of the board of Protestant schoo trustees, Winnipeg, has just returned from his brief visit to Ontario.

NOVA SCOTIA.

The closing convocation of Dalhousie college took place in the assembly chamber of the Province building, on the afternoon of Wednesday, April 25th. The exercises were presided over by the very Rev. Principal Ross, D.D. His prefatory remarks sketched in an interesting manner the history and growth of the university. He alluded in fitting terms to the munificent bequest of the late Alexander McLeod, providing for three additional professorships; to the continued generosity of Mr. Munro, especially as displayed in founding a Chair of Law, around which as a centre a complete Law Faculty had already been organized; and to the steady and successful work of the session that day brought to a close. Prof. McDonald, secretary of the faculty, then read the pass list as follows:—*Faculty of Arts*, 4th year Bell, Dickie, Fraser, Macdonald, J. A., MacGregor, T.S., McLennan; 3rd year Adams, Dill, Jones, Macdonald, D., McLeod, J. P., Murray; 2nd year Aiton, Calkin, Lillie, B., Coffin, F. S., Crawford, Fitzpatrick, Gammell, Laugille, Locke, McLean, J. M., McLeod, J. M., McKenzie, A. S., Martin, Newcombe, Margarete, Robinson, C. E., Thompson, A. W. Thompson, W. M., Tufts; 1st year Allison, Cahan, Calder, J. Camp, Coffin, V. E., Larkin, Lewis, Macdonald, E. M., McKay, E., Mackay, N. F., Macrae, A. W., Morton, Nicholson, Read, R. L., Robinson, A., Smith, J. F., Stewart. *Faculty of Science*, 4th year McColl, Reid, A. G.; 3rd year—Smith, H. M.; 2nd year—Campbell, G. G., Trueman, H.; 1st year Saunders, Maria. Certificates of merit were issued as follows:—*Faculty of Arts*, 1st Class, 4th year—Bell, J. A.; 3rd year—Adams, H. S., McLeod, J. P, Murray, D. A.; 2nd year—Gammell, I., Martin, K. J., McKenzie, A. S., Robinson, G. E.; 1st year—Cahan, McKay, E., McKay, N. F., Robinson, A. 2nd Class, 4th year—Dickie, H., McLennan, J. W.; 3rd year—None; 2nd year—Aiton, W., Calkin, Lillie, B., Fitzpatrick H., McLeod, J. M., Newcombe, Margaret, Tuffts, W.; 1st year—Allison, M. G., Larkin, F. H., Lewis, A. W., Stewart, D. *Faculty of Science*, 1st Class, none; 2nd Class, 4th year—McColl, A.; 3rd year—Smith, H. M.; 1st year—Saunders, Maria, F. The following degrees were conferred. *Master of Arts*, Alfred Dickie, B.A., Stewiacke; *Bachelors of Arts, with Honors*, John Albert Bell, Halifax, James Alex. Macdonald, Halifax, Thomas Spear MacGregor, Little Bras d'Or, *Bachelor of Science, with Honors*, Arthur Gordon Reid, Halifax; *Ordinary Degree of Bachelor of Arts*, Henry Dickie, Upper Stewiacke, William Matheson Fraser B. Sc., Dartmouth, John William McLennan, Sydney, C. B.; *Ordinary Degree of Bachelor of Science*, Archibald McColl, New Glasgow. The prize awards for honors were delivered as follows: *Classics*, 2nd rank—John Albert Bell; *Mathematics and Physics*, 1st rank—Arthur Gordon Reid; 2nd rank—James Alexander Macdonald, Thomas Spear MacGregor; *Medals*—The Governor-General's gold medal, for the highest examination in classical honors, was won by Mr. J. A. Bell. Sir William Young's gold medal, for highest mathematical honors, was presented by him to Mr. Arthur G. Reid, explaining that it was substituted for the rhetoric prize he had formerly given. The Governor-General's silver medal, for second best mathematics, was awarded to Mr. J. A. Macdonald. The valedictory address, which was an exceedingly well-written production, was prepared by Mr. John A. Bell, of the graduating class, but read by Mr. John A. McLennan. Speeches were delivered by Rev. Louis H. Jordan, M.A., B.D., Chief Justice McDonald, and Sir William Young, ex-Chief Justice. The first named gentleman, who had not forgotten at Edinburgh and Leipsic his early affection for Dalhousie, made a vigorous appeal for a new collegiate edifice, worthy the endowments, the students, and the Professors of Dalhousie. The learned Chief Justices spoke with great eloquence, Sir William Young announcing that Mr. Munro had secured the amount of endowment ($160,000) of his *four* professorships in first mortgages on some of the best real estate on Broadway.

The following are the officers of the Alumni association of Dalhousie college for the present year: Rev. L. H. Jordan, President; J. M. Carmichael, Vice-President; F. H. Bell, Secretary; F. J. Davidson, Treasurer; Executive Committee, Robert Sedgewick, J. G. McGregor, Hugh McKenzie, James Forest, and Rev. W. S. Whittier. The society resolved to substitute a representative on a board of governors, elected for a period of five years, for the representation by the president of the society, and Mr. R. Sedgewick was elected in accordance with the resolution. Resolutions were also passed electing the new professors in arts and law honorary members and providing a gold medal for the honor course in English literature, etc., to be called the DeMille medal. The annual Alumni dinner was held on the evening of April 25th, at the Halifax Hotel. Upwards of seventy gentlemen were present. The toasts evoked some brilliant speeches. Among gentlemen responding were the American Consul, J. W. Langley, Esq., M.P.P., Hon. W. J. Stairs, Prof. R. V. Jones of Acadia college, His Worship the Mayor, and Mr. Greer of the University of Toronto.

The *Acadia Athenæum* disapproves of the recent regulation which brings the college year of Acadia college to an end on the 1st of May, as far as the three lower classes are concerned.

The third annual session of the Teachers' Association for Inspectoral District No. 4, (counties of Annapolis and Digby), was held at Digby, on the 27th and 28th of April. Though a number of

teachers were prevented from attending by the unfavorable state of the roads in the country districts, the association numbered nearly seventy enrolled members. L. S. Morse, Esq., inspector of schools, presided at the various meetings with dignity and efficiency. The posts of vice-president, and secretary-treasurer, were acceptably filled by A. McRae, Esq., principal of the county academy, Annapolis, and G. B. McGill, Esq., principal of the graded school at Clementsport. The programme of exercises, which was well carried out, was as follows: "The Necessity of having Trained Teachers in charge of our Primary Schools," Alex. McRae; "Grammar and how it should be Taught," W. H. Magee; "Teaching School *versus* Keeping School," G. B. McGill; "The Teacher's Social Position," J. W. McGregor; "Questioning," J. W. H. King; "Some of the causes of Indolence in Pupils," A. J. McKenne. The papers were all evidently the product of much careful thought, and some of them evinced the result of large experience in the practical work of teaching. A pleasing feature of the association was the readiness of the members to turn to account the opportunity offered for interchange of views. The discussions, while animated, were in the best of temper. The association, while passing no formal resolutions, through the general drift of remark, and what indeed may be termed a manifest *consensus* of opinion, strongly pronounced in favor of insisting on a more careful preparation for the duties of teaching as the most effective means of increasing at once its dignity, efficiency, and remuneration, of natural and educative modes of instruction as contrasted with torpid routine and profitless cram, of somehow securing and retaining greater *outside* interest in the work of the teachers, and of rightly guarding a rapidly developing public sentiment which is making itself felt on the subject of technical education. The Superintendent of Education was present at all the meetings, and during parts of several of them was kept pretty busy in answering, or helping to answer, the many pertinent questions which were propounded for solution, bearing on various branches of study, on educational methods, and on some of the legal aspects of the teaching profession. The public educational gathering held on the evening of the 27th ult, addressed by the Rev. J. Ambrose, A.M., ex inspector of schools, J. E. Munro, Esq, A.B., Barrister at-Law, the Rev. William Ainley, and the Superintendent, was very largely attended. Another gratifying fact characterizing this session of the association was that a large number of gentlemen interested as citizens in the cause of education were in attendance at several of the meetings. In particular, the Rev. John Ambrose, Rector of Digby, placed the association under great obligations both by instructive words and kind attentions.

The Digby academy, under the energetic principalship of Mr. W. H. Magee, is enjoying a fair measure of prosperity.

B. McKittrick, Esq., A.B., has resigned the principalship of the model schools, Truro, to resume his former position at the head of the county academy at Sydney, C.B.

The vacancy in the Kentville county academy, caused by the retirement of Mr. Denton, as referred to in last month's JOURNAL, has been temporarily filled by the engagement of W. G. Parsons, Esq., A.M.

WEALTH OF AMERICA.—Mr Mansail has reconsidered his astonishing and altogether acceptable figures on the wealth of this country, which he estimates at 49,770 million dollars, against 40,640 millions ascribed to Great Britain. He estimates that from 1870 to 1880 our wealth has increased 35 per cent. His principal table is as follows.

	Millions of Dollars.	
	U. States.	G. Britain.
	1880	1880.
Houses,	$13,400	$10,600
Furniture,	2,600	2,400
Manufactures,	5,200	2,900
Railways,	5,200	2,500
Shipping,	300	600
Bullion,	700	700
Lands,	9,600	9,400
Cattle,	1,800	1,220
Crops,	2,000	720
Invested abroad,	500	6,300
Sundries,	700	600
Wealth proper,	42,000	38,940
Roads, public lands, etc.,	7,770	1,700
Grand total,	49,770	40,640

New England Journal of Education.

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.

CHATHAM DISTRICT.—The semi-annual convention of the Chatham District Teachers' Association was held at the central school, on Thursday and Friday, May 10th and 11th. According to the constitution of the association, the meeting was opened by prayer, by Rev. A. McColl, the minutes of the last meeting read and confirmed, and communications read. Mr. Campbell, of the Canada Publishing Company, then addressed a few remarks to the convention, directing attention to what he considered the peculiar advantages of the "Royal Canadian Readers." Mr Gage, of the firm of Gage & Co., publishers, was then called upon to address the meeting on the subject of "Readers:" but that gentleman, after courteously thanking the teachers for the opportunity thus extended to him, declined, stating that it was utterly impossible to compare the books in a few minutes; and, furthermore, that the two series were now before the Government for authorization, and when matters were in court it was customary for discussion thereon to cease while judgment was pending, and, consequently, he would not take up the teachers' time in useless discussion. The next subject in the programme, "Hygiene," was very skilfully handled by Dr Tye, who divided the subjects into two parts, "Personal Hygiene" and "Public Hygiene." The doctor brought into prominence the well-known facts, that the body receives, gains, and wastes. He, moreover, stated that there is, as it were, a strict ledger account kept of personal hygiene, which account is strictly balanced. After the doctor had presented the subject in its various aspects in a very able manner, several of the teachers entered into the discussion, especially on the subject of ventilation. Moved by Mr. Birch, seconded by Mr. Nichols, B.A., P.S.I., "That Dr. Tye be made an honorary member of the association."—Carried. Moved by Mr. Colles, seconded by Mr. Kellogg, "That a vote of thanks be tendered Dr. Tye."—Carried. The meeting then adjourned till afternoon. The afternoon session was opened by Mr. Davis, B.A., who illustrated the subject of "Mensuration" by means of a set of instruments, prepared for the purpose. Mr. Colles, head master of the central school, then conducted a class in reading, showing the results aimed at in that branch of education, and the method of obtaining these results. Next, Mr Thrasher conducted a class in mental arithmetic, which, he stated, was an important subject, to which sufficient attention was not paid. The next subject in the programme, "Denominate Numbers," was introduced by Mr Ayarst, who showed how some difficulties in the way of the pupils, regarding these numbers, might be explained away by illustrations in simple rules. This opened some discussion about the relative values of the old and new methods of borrowing, or rather taking, in subtraction. Mr. Hamilton, B.A., editor of Chatham *Planet*, next explained a new method of representing meteorological facts. The meeting was then adjourned till next day. On Friday morning, after the meeting was opened by prayer, by Rev. A. McColl, Mr. Nichols, B.A., P.S.I., introduced the subject of "Botany, and how to teach it." He wished to remove the prevalent idea that botany was a formidable study. The teacher should begin with the seed, and by placing before his pupils seeds and plants, in various stages of maturity, explain the phenomenon of growth. One of the chief objects of this study is to make the child observant. The subject on the programme, "Essentials of Grammar, and how to teach them," was delegated to Mr. Lawe, B.A., principal of the Wilberforce institute. That gentleman began by stating that our system of education was by far too theoretical, and not sufficiently practical; that our people were crammed with useless studies, that our universities were in that respect worse than our high schools, and our high schools infinitely worse than our public schools. The fine arts are not sufficiently well cultivated in Canada; and that, as the most flourishing periods of literature were before grammars were compiled, grammars should be abolished from our schools. This subject, of course, raised much discussion. Mr. Nichols thought that grammars should not be abolished altogether, especially as telling a child a certain form of speech is correct, and another incorrect, is not sufficient, for the child will demand the reason why these things are so. Mr. Kellogg objected to Mr. Lawe's ideas; he thought that the subject of study, being an old one, was sufficient reason for us to continue its use. This, I think, was the one weak point in Mr. Kellogg's remarks, as we must know that the mere fact of a subject being old is not enough to warrant its continuance, or we would be in a very different state of civilization from that which we are at present enjoying; we would in that case be living in the rude manner of our ancestors; rush-lights would be used, instead of the brilliant glow of electricity; and our books, instead of being printed, would be produced by the hard toil of writing by hand; and the old woman who, on her first sight of a steamboat, exclaimed, "What a sin to tempt God Almighty's wind in such a way," would never have been troubled. Progress is the watchword of the world, for God has so constituted the human mind that it

over grasps after what is still to be obtained. Mr. Kellogg's other statements were, however, very forcible, as "There must be something valuable in the old systems, or they could not have produced such men as we have at present." But "We cannot teach language without some law." Mr. Nichols, B.A., P.S.I., gave a short address on "Vocal Music," advocating its use in schools, and giving his personal experience in the study of that art. The question was discussed by several other gentlemen, who all held the same opinion of its value in schools. Mr. McLachlan, principal of the Canada business college, very ably illustrated "Penmanship, and how to teach it," by turning the convention into a writing-class, explaining principles and movements, and showing how to obtain the required results by various exercises; giving the analysis of capital letters, etc., and thoroughly explaining the whole in a most interesting manner. A committee, consisting of Mr. McLachlan, Rev. Mr. McColl, Mr. Colles, and Mr. Nichols, was then appointed to compare the copy books, and report on their respective merits; and the meeting was adjourned till afternoon. The first subject on the afternoon list was reading, discussing, and answering the questions in the question drawer, but as these were few not much time was required. The committee on copy books then submitted their report, namely, that, after a careful comparison of the "Beatty Copy Book," published by Campbell & Co., and those newly issued by Gage & Co., the majority decided in favor of those issued by Gage & Co., with the exception that angular hand should not be introduced in schools. Furthermore, Mr. Nichols stated that was he not thoroughly convinced that Gage & Co.'s books were the best he could not on any account be induced to give such a verdict. Moved by Mr. Bracken, seconded by Mr. Park, "That the report be adopted.—Carried. Short addresses were then delivered by several ministers of the town." Rev. A. McColl delivered a very able address on "Truthfulness," its special importance in schools; the care with which all exaggeration and equivocation should be avoided; the sacredness of a promise, etc. Rev. N. H. Martin followed with a very pleasing address on "Courtesy in Schools." That gentleman maintained "that children should be taught the necessity of treating all around them with politeness; that rudeness is never a mark of equality. Persons have risen to very high stations in life, to which they would never have attained had it not been for the charm of their manners, one notable instance of this being the Duke of Marlborough." Rev. J. R. Bathsby then gave a short but pithy speech on the "Rod," advocating its judicious use in schools, and gave his opinion that, in some instances, it was an absolute necessity. Professor McVicar, of Montreal (who was present), was then asked to say a few words. He began by stating his approbation of the order in which the addresses were arranged; 1st, Truth; 2d, Courtesy; and lastly, the Rod. Truth must be the basis of all character and action. Then he said a few words regarding the style of the teacher—"enthusiasm and individuality must characterize his manner. "Mr. Nichols, B.A., P.S.I., also said a few words on "Neatness." Moved by Mr. Nichols, seconded by Mr. Crawford, "That a hearty vote of thanks be tended to the gentlemen who so kindly and ably addressed the meeting."—Carried. The officers for the present year were then elected by the members, as follows: Moved by Mr. Bracken, seconded by Mr. Colles, "That Mr. W. H. Shaw be president."—Carried. Moved by Mr. Colles, seconded by Mr. Bracken, "That Mr. Davis, B.A., be first vice-president."—Carried. Moved by Mr. Donovan, seconded by Mr. Nichols, "That Mr. Rose be second vice-president."—Carried. Moved by Mr. Donovan, seconded by Mr. Rose, "That Mr. Nichols, B.A., P.S.I., be treasurer."—Carried. Moved by Mr. Knight, seconded by Mr. Colles, "That Miss Dawson be secretary."—Carried. Executive committee, named by president, Mr. Donovan, Mr. Bracken, and Mr. Colles. New Business.—Moved by Mr. J. Bracken, seconded by Mr. C. P. Kellogg, and resolved, "That this association respectfully requests the Minister of Education to add the subject of vocal music to the programme of studies prescribed for students in county model schools; and, in event of being received, the solfa system be adopted."—Carried. Moved by Mr. Birch, seconded by Mr. Shaw, "That the best thanks of the association be and are hereby extended to the persons who so kindly and ably assisted at the entertainment, under the auspices of this association, held at the Opera House, Thursday evening, May 10th." The convention then adjourned to reassemble at the pleasure of the directors. E. S. E. Dawson.

East Bruce.—The annual meeting of East Bruce Teachers' Association took place in the Model School, Walkerton, on Friday and Saturday of last week, Mr. Telford, the President, in the chair. These meetings were interesting throughout; and were characterized by such earnestness as is too seldom found in such assemblies. Much of this, of course, was owing to the presence of Dr. McLellan, who, with all his old-time vigor, gave addresses rich with instruction and encouragement to the teachers. Under the glowing words of the Doctor, the teachers felt that theirs is indeed a noble profession, and quite worthy of the best energies of the best men. After the routine, the work of the Association was opened by Mr. Mustard, who gave an address on "Music in the Schools." Mr. Mustard treated his subject very fully and satisfactorily. In the after discussion, Dr. McLellan expressed hearty approval of points contained in the address. Upon re-assembling for afternoon session, Dr. McLellan gave a lesson on "The A B C of Arithmetic." In a notice of this kind, it is impossible to do justice to his treatment of this subject. It may be said, however, that we were told that in our method of presenting the ideas of numbers to beginners we are quite ahead of our American cousins. "The Art of Questioning" is the title of the other lesson with which the Doctor favored us. This lesson was of great value especially to young teachers. During this session, a most interesting discussion took place on the subject, "Minister vs. General Superintendent of Education." It was feared by many that the discussion, which was intended to be a discussion in abstract as far as possible, would drift into party politics. That it did not was in a great measure owing to the speech of the introducer, Mr. E. A. Elliott, who moderately and clearly stated the advantages and disadvantages of both systems, himself inclining to some intermediate system, which should combine the good qualities of the two. On the evening of Friday, a large audience assembled in the High School Hall to hear Dr. McLellan deliver his lecture on "The Relation of Parents and Teachers to the School." Here, too, a good time was enjoyed, and all went away well satisfied with what they had heard. To few before, perhaps, was brought so powerfully the idea of the greatness of the teacher's mission, and of the far-reaching influence of the teacher, not only over the intellectual but also over the moral and spiritual natures of pupils. On Saturday a discussion took place. "Programme of Studies in the Public and High Schools." Mr. Munroe discussed the subject so far as public schools were concerned; and Mr. Morgan with reference to the high schools. The great number of options permitted in studies, in the opinion of the speakers, is having a bad effect on the efficiency of the school. A resolution to this effect was afterwards unanimously passed. On the matter of readers for the public schools—a much-vexed question—the following resolution, moved by Mr. Clendenning, seconded by Mr. Keyes, was passed.—"That in the opinion of this association no steps should be taken to introduce any new series of readers into our schools until the question has been submitted to the association at its next meeting." On Saturday afternoon there was a much larger attendance than can usually be brought together for the last half-day's work, which usually consists of routine business. At this session, Mr. Telford gave his method of teaching composition. The question drawer, always an interesting feature of our association, was taken up. Mr. Morgan and Mr. McKay answered the questions on grammar and arithmetic respectively. The election of officers resulted in the appointment of the same officers for the ensuing year as for the past. The delegates appointed to attend the provincial association are Messrs. Telford and Morgan. Special attention ought here to be made of a new feature which was introduced in connection with these meetings, viz., readings by Misses Wiley and Patterson, and Mr. Bolitho, pupils of the Walkerton high school. The efforts of these young people elicited hearty applause, their renderings being much admired. Under the head of essays we were favored by Miss Thornton with an essay on "Self-Culture," and by Miss Bessie Ross, with one on "Self-Help." Both of these were expressed in choice English, and did great credit to the writers. At four o'clock the association adjourned, to meet at Paisley in the coming fall, and so ended a series of meetings of the most satisfactory character to all concerned.

South Grey.—The annual meeting of the South Grey Teachers' Association was held in the Town Hall, Flesherton, on the 22nd and 23rd May. The attendance of teachers was not so large as on some occasions, owing to the decidedly unfavorable weather. The meeting itself, however, was generally pronounced the most successful ever held in South Grey. Our indefatigable secretary had secured such an array for the occasion—chief among whom was J. A. McLellan, M.A., L.L.D., with several others—that throughout the whole time the attention never seemed to flag, till the time for final adjournment had almost arrived. The lecture by the worthy Doctor, and the recitations by Mr. Tait of Collingwood, in the evening of the first day, were listened to with rapt and delighted attention. The lecture itself was a masterly, an overpowering effort. A competent authority remarked that he had frequently listened to eloquence before, on both sides of the Atlantic, but to none equal to that of Ontario's great orator, Dr. McLellan.

Lincoln County.—The annual meeting of this association was held in the Central School, St. Catharines, on Friday and Saturday, May 25th and 26th. At the morning session, on Friday, Mr. E. R. Hutt, of Port Dalhousie, was elected to the chair. The minutes of the last convention were read and adopted. Mr. Grey and Misses McCoy and Crawford were appointed as a committee to introduce teachers to each other. Mr. W. F. Rittenhouse, president of the association, tendered his resignation on the ground that he was leaving the profession. Mr. J. B. Grey, county inspector, then introduced the subject of Discipline. Mr. J. W. Rae took up Map Drawing as a means of teaching Geography, and Mr. J. H. McFaul, city inspector, that of Map Drawing to Scale. At the afternoon session, Mr. R. Cruikshanks, Beamsville, introduced the subject of History-teaching in a fourth class. Messrs. Cork, Henderson, Hutt, and Haynes took part in the discussion which followed, and which turned principally on the scope of the subject which had to

be covered for examinations. The president, and secretary, and Mr. Cork were appointed as a committee to draw up a resolution with regard to History for entrance examinations. Mr. George Cork (Niagara) then introduced the subject of Composition, and gave examples of his method of criticising and correcting composition exercises. After a lesson on Interest, by Mr. Freeman Moyer (Campden), W. J. Robertson, M.A., L.L.B., Mathematical Master of St. Catharines Collegiate Institute, gave a lesson in Algebra, for which he received the thanks of the meeting. Mr. J. B. Grey then commented on the new programme, and advocated greater uniformity in the religious exercises for opening and closing schools. The evening session was held in the Collegiate Institute Hall, where there was a fair attendance to hear a lecture by the Rev. W. Wetherald, of St. Catharines, on "The Sacred Poets." Mr. W. F. Rittenhouse occupied the chair. After a brilliantly executed pianoforte solo by Miss Vanderburgh, the lecturer was introduced, and kept his hearers thoroughly interested in his admirable lecture. At the close a vote of thanks was most heartily accorded to him and to Miss Vanderburgh. After this had been suitably acknowledged, the session was brought to a close. At the morning session on Saturday, the report of the secretary-treasurer, showing a balance in hand of $24.82, was read and adopted. The following officers were then elected: President—Mr. George Cork (Niagara); Vice-Presidents—J. Seath, B.A., and Misses Crawford and Moyer; Secretary-Treasurer—Mr. J. W. Rae (St. Catharines); Auditors—Inspectors Grey and McFaul, and an executive of twelve members. Mr. E. R. Hutt (Port Dalhousie) then read an admirable paper on Teaching Reading, for which he received a hearty vote of thanks. A motion expressing high appreciation of Mr. Rittenhouse, as a teacher and member of the association, was passed, together with a hearty expression of good wishes for his prosperity in his new vocation. A very interesting lesson was then given by Mr. J. B. Grey to a junior class in Numeration and Notation. Mr. Grey forcibly illustrated the advantage of connecting the actual idea of numbers with the figures representing them. Mr. J. W. Rae gave a lesson in Animal Physiology, showing how easily this most useful subject may be taught and illustrated. Mr. J. P. Merritt, of St. Catharines, then explained, with the aid of an excellent chart, the leading features of the Metric System. After several questions had been asked and answered, a vote of thanks was accorded to Mr. Merritt. A heavy storm reduced the attendance at the Saturday afternoon session very considerably. The afternoon was spent in answering the queries placed in the question drawer. Messrs. Cork, Rae, and Seath ably performed this duty.

☞ **Through pressure on our space some reports of Teachers' Associations, personal notes, etc., are held over for next issue.**

Readings and Recitations.

THE BOOTBLACK.

Here y'are—! Black your boots, boss?
Do it for jes' five cents;
Shine 'em up in a minute—
That is 'f nothin' prevents.

Set your foot right on there, sir;
The mornin's kinder cold—
Sorter rough on a feller
When his coat's getting old.

Well, yes—call it coat, sir,
Though 'taint much more'n a tare;
Can't get myself another—
Aint got the stamps to spare.

Make as much as most on 'em?
That's so, but then you see
They've only got one to do for;
There's two on us, Jack and me.

Him? Why—that little feller,
With a double up sorter back,
Sittin' there on the gratin'
Sunnin' himself—that's Jack.

Used to be round sellin' papers,
The cars there was his lay;
But he got shoved off the platform,
Under the wheels, one day.

Yes, the conductor did it—
Gave him a reg'lar throw—
He didn't care if he killed him!
Some on 'em is just so.

He's never been all right since, sir,
Sorter quiet and queer—
Him and me go together—
He's what they call cashier.

Trouble? I guess not much, sir;
Sometimes when biz gets slack,
I don't know how I'd stand it
If it wasn't for little Jack.

Why, boss, you ought to hear him;
He says we needn't care
How rough luck is down here, sir,
If some day we get up there.

All done now—how's that, sir?
Shine like a pair of lamps.
Mornin'!—give it to Jack, sir;
He looks after the stamps.

—*Gilmore's Speaker.*

[Quite an effective tableau can be arranged with this piece. A large boy should act the part of the man having his boots blacked, a small ragged boy the part of the bootblack, and a still smaller ragged boy the part of "Jack." Every point of action should be carefully noted by the teacher, and the boys trained to bring them out by means of their speaking and acting.]

MAGAZINES.

THE NORTH AMERICAN REVIEW for April. The first article in this number is on "Divorce," from the pens of Dr. Woolsey and Judge John A. Jameson. Dr. P. Bender writes on "A Canadian View of Annexation." He thinks it is one of those important dormant issues that are never out of sight on either side of the line, yet we question the accuracy of the statement. What has Canada to gain by annexation? How much would she lose? Any candidate for Parliamentary honors advocating it would be sure to be defeated in every constituency throughout the Dominion. Senator John A. Logan has a very thoughtful article on "National Aid to Public Schools." Dr. Howard Crosby writes vigorously and well on "The Dangerous Classes." Some plain truths are spoken as when he says, "We see now in our legislative halls gamblers, drunkards libertines, *et id genus omne*, who must take bribes in order to keep up their licentious lives. A low set of liquor sellers make the ordinances of the city of New York. Politics are run by rowdies and criminals, with whom decent men cannot associate, except to be defiled." "Race Education" is treated by President James C. Welling in a serious manner, his attention being confined to the Negro race, leaving out of view the Indian. Charles F. Wingate gives some very interesting and startling facts on the "Water Supply of Cities," startling from the quantity of water that is proved to be wasted. "Ethical Systems," by Prof. F. H. Hedge, and "Criticism and Christianity," by O. B. Frothingham, are worthy of perusal, but are far from being satisfactory. Most readers taking an interest on such subjects desire something deeper and fuller than is here promised. An article on "Street Begging," by the Rev. Dr. Deems, completes the contents of a number equal to most of its predecessors.

QUESTIONS ON BURKE'S "REFLECTIONS."

BY J. MILLER, B.A.

1. Sketch the parliamentary career of Edmund Burke.

2. Characterize Burke's prose style, and state in what respect it differs from that of most modern writers.

3. Enumerate the causes of the French Revolution, and mention its effects on English politics.

4. How does Burke contrast the treatment of the King and Royal Family of France with the spirit of old European manners?

5. Give the substance of the passage in the "Reflections" where the author refers to the former condition of the Queen.

6. Under what circumstances does Burke hold the "theatre a better school of moral sentiments than churches?"

7. What would render, in Burke's opinion, the "Science of jurisprudence" a "heap of old exploded errors?"

8. In what respect is "society" regarded as a "contract?"

9. Criticise the arguments in the "Reflections" in favor of a state church.

10. On what grounds is Burke entitled to be ranked as a philosophical statesman?