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The Canada School Journal.

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CANADA SCHOOL JOURNAL HAS RECEIVED

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

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

A THIRD HIGH SCHOOL INSPECTOR.

During the past year, we have heard many times from high school officials, and have seen many remarks in the press, to the effect that two inspectors would never be able to overtake the extraordinary amount of work thrown upon their hands. To bring their duties at all within reasonable bounds, the Minister was obliged to announce that henceforth the intermediate examination would take the place of one semi-annual inspection. We were sure that this would be found unworkable and unpopular, but refrained from criticism in order to give time for mature opinion. We are now prepared to state that there is throughout the country but one view entertained with regard to this substitution of impersonal examination for personal inspection.

In the first place, it is an examination of a fraction only of the whole school. No matter how excellent the work done above or below the standard, this examination cannot possibly give any account of it. Then, with respect to those who are not quite well enough prepared to pass the examination, the report of their *failure* is not an equivalent for the personal examination by the inspector, which in the great majority of cases would enable him to perceive that those students had been making good use of their opportunities, and lead him to commend their industry while he encouraged them to push forward into the regions beyond. A visit of this kind does incalculable good both to students and teachers, even in the rare cases in which the inspector finds it necessary to point out defects and shortcomings. On the spot, he can make allowance for special difficulties, and can give credit for *all* the work done. He can consult with teachers and trustees; and a few words of

friendly counsel, admonition, or encouragement, are many times more valuable than a dry report, which is quite certain to show that at least 40 or 50 per cent. of the candidates have failed to satisfy the examiners in some one of the fifteen or twenty subjects of the intermediate examination. The youngest pupils in the high schools could testify that the arrival of the inspector is a much more joyous event than the solemn breaking of the seals on the examination papers, which is to them suggestive of the scenes described in the Apocalypse.

It is agreed on all hands that the inspector should be able to spend at least a whole day in each school twice a year; *a whole day*, so that he may be able to handle a considerable number of the classes himself; may have opportunity to see all the teachers give a specimen of their style of teaching; may have time to catch fully the spirit and atmosphere which pervade the school; *twice a year*, so that he may see the whole school, which is not the same in autumn as in winter, neither in regard to numbers nor in regard to quantity and quality of work. We all know that there is a very large influx of students in January who leave in June. Under the present arrangement, the inspector will never see this portion of the high school, and the written examinations can give only a very feeble or indeed a very false impression of their progress.

Even while three inspectors were employed, their visits were often made on Saturdays, and were often rather hurried by the necessity of catching trains in order to keep abreast of their work. As members of the central committee, and examiners of the normal schools, directing the entrance examinations, and carefully examining reports, the inspectors have much tedious work, which curtails very seriously the time available for visiting schools. Now that the senior inspector has very properly been appointed director of the normal schools, it is not reasonable to suppose that he can do as much inspection in high schools as formerly, so that practically we are left with only one inspector, a position of affairs twenty years behind the times.

Long ago, Prof. Young, in his able report, pointed out the necessity for thorough inspection. Since that time our schools have nearly doubled the number of their students, and natural science has taken a prominent position within their walls, and, of all subjects, this demands a personal examination. The science papers set at the intermediate do not give much guarantee that students are practically trained in experimental science, whereas a very short examination by an inspector is sufficient to determine whether the science teaching is experimental and inductive, or whether it is merely a useless cram of second-hand knowledge. It may very likely be found practicable to substitute the December entrance examination for an inspection of public schools, but serious evils will soon crop out if this method is continued very long in the high school system.

EXTREMES MEET.

In the management of a school there are two opposite tendencies, either of which if followed to the extreme leads to disastrous consequences. On the one hand, perfect order, absolute silence, rigidly methodical routine, exact similarity of position, movements, mode of answering, execution of written exercises, and so forth, may be so carefully enforced as to become, as a matter of fact, the great leading purpose of the school. The direction of this tendency is towards excessive constraint, slavish adherence to cast-iron rule, want of free play for the individuality of both pupil and teacher, making all pupils exactly alike, all teachers the same sort of drill sergeants, all schools the same kind of penitentiaries. In the extreme, of which alone we now speak, it produces a deadly monotony, and an unnatural uniformity which is well-calculated to nip in the bud the germ of all self-direction and self-education. The pupil comes at last to automatic obedience, and is incapable of helping himself without an order from outside authority.

On the other hand, we have the opposite tendency which takes little note of order, system, and regularity. Things are allowed to take their own course; all goes as chance and circumstance may happen to determine. Programmes and timetables have no longer any meaning. The hours for opening and closing school, the times for beginning and ending recitations, the particular subjects set down for lessons, the proper division of work between teacher and pupils,—these things and others of like importance are quietly ignored. For particulars see Cowper's *Tirocinium*, or visit the school of some untrained teacher who does not take an educational paper, possesses no book on teaching, and takes no interest in the conventions and other professional gatherings. Occasionally you will find him an excellent scholar, perhaps an honor man of his university. But in most cases you will detect unmistakable signs of weakness and laxity in discipline, even before you cross the threshold.

There is Charybdis; here is Scylla. Over-drill and want of drill are both wrong. But every inspector knows of one or two schools in his beat where the round common-sense of the teacher mingles judiciously discipline and freedom of action, constraint and liberty, and succeeds in directing the pupils' spontaneity, through the stage of submission to authority, up to the higher and healthier level of self-government and self-direction. The grand instruments are common sense, patience, and an all-embracing sympathy.

FIFTH AND SIXTH CLASSES.

Within the last ten years several conflicts have occurred between the trustees of high schools on the one hand and the trustees of public schools on the other. Since the law forbidding the formation of union schools went into force, many union boards have been dissolved, and with the general advance of education in the province high schools have assumed

a degree of importance unknown in their earlier history. In the smaller, and the medium-sized towns, the tendency has constantly been to place on the high school boards the best educated and most enlightened men, and in some cases the public school board has practically been handed over to a class of men having very little sympathy with national education and a very limited comprehension of its leading ideas. Even in larger towns, with five to eight thousand inhabitants, the elements composing the public school boards have too often been selected from a class incapable of estimating the results of education otherwise than by monetary considerations. We are far from asserting that none who have been denied the benefits of a public school training are qualified to serve on our public school boards. It is well known that some of the staunchest friends of education are men who have keenly felt the need of early training, who have nobly devoted themselves to the great work of securing for others the privileges which were denied to themselves. But very few such men are after all properly qualified to shape the educational policy of the board, though they are excellent co-adjutors under the guiding influence of broader views, and a more extensive mental horizon.

It is to be regretted that in some cases the public interest in the election of trustees has been so small that the office has literally gone a-begging, and the board as actually constituted has represented the intelligence of the town in the same way that Barebone's Parliament represented the intelligence of England. Hence has arisen occasionally a feeling of hostility to higher education and a distinct antagonism to the high school, as though it were a foreign rival to the public school. Men have lost sight of the system as a whole, and having failed to grasp the main thought of our national system, they have come to set one part against another, to introduce discord where there is the most urgent necessity for complete harmony.

No better example of such shortsightedness can be selected than the attempt to establish in the public schools of an ordinary town classes designed to perform work identical with that which must be done in the junior classes of the high school. On the score of economy alone, it is unreasonable to tax the rate-payers twice for the same thing, still more unreasonable because in the second case the whole tax falls directly on the town, while in the case of the high school the burden is distributed. On the ground of division of labor, it is quite as unreasonable; and again the contact of large numbers of pupils with each other is a powerful educative force which is dissipated and almost lost when they are separated and taught in the small numbers most towns can contribute to the fifth and sixth classes of the public school.

It is well known to educationists that the entrance examinations have during the last twelve years worked a silent revolution in the teaching of our public schools. The introduction of these extra classes, to which admission can be gained without passing a test uniform throughout the province, will rapidly

tell on the thoroughness and efficiency of the teaching in the lower divisions, just as certainly as the thoroughness and efficiency of the teaching in the high school would receive a severe blow by the abolition of that uniform test which has in ten years raised them on the shoulders of their former selves to their present flourishing condition.

On the other hand, high school boards should perceive the absolute necessity of making the lower form of their school practically as free as the classes of the public school. The fee should be only nominal; while those who are preparing for teachers' certificates or for entering the universities may reasonably be required to pay more than at present. Students of the latter classes look solely at the efficiency of the school; a difference of five or ten dollars does not cost them a moment's consideration. High school boards might also do much service to the cause of national education by taking particular pains to dispel the popular illusion that every pupil is compelled to study foreign languages, by providing for their junior classes teachers who have seen service in public school work, and by taking an active interest in the work of the public schools. Public school inspectors, coming as they do in contact with both boards, can do very much to promote that co-operation which is essential to the harmony of our system, a system conceived throughout in a liberal spirit worthy of a great and free nation.

In large cities, the higher classes of the public schools can be maintained efficiently, and in villages and townships they may be maintained as a necessity, though in the latter case, as we have frequently pointed out, it would be a great gain to establish a proper division of labor by grading the schools of a township and sending all the pupils of the fifth and sixth classes to one or two schools. It is the glory of our school system not only that it places education within the reach of every child, but also that it is sufficiently flexible to adapt itself to the wants of the new township and to those of the crowded city. It only remains for the local authorities to carry out its provisions in their true spirit and all discords will soon cease. We must learn to economise our forces for the great work of this generation, and not waste them on useless friction.

REPORTS OF CASES.

It is well-known that most members of the medical profession keep a book in which they note down remarkable points of interesting cases that occur in their practice. The medical journals regularly contain numerous reports of noteworthy operations, successful treatment of diseases, etc. Medical literature is full of reports of actual cases that have come under the personal observation of the writers. Thus, also, in law, proceedings are regularly reported. The consequence is that these professions have an accumulating body of experience which is available for every member of the profession for all time to come. Now, it is the power of accumulating common experience, and appropriating the results of the past for further progress, that distinguishes civilization from barbarism.

How does the teaching profession stand in this respect? Are the young teachers of to-day benefitting by the mistakes of the preceding generation? Are their advantages in this respect equal to those of the young doctor or the freshly called barrister? Our normal and model schools are doing a great work in the way of general direction and training, but they can not do everything. The concluding chapter in "Abbott's Teacher," for example, does for the young teacher something that no set lectures on methods can do.

Inspector Brown, of Peterboro', cast a seed thought at the recent closing exercises of the Toronto normal school, when he expressed regret that he had not during his thirty years' teaching experience kept a careful record of his pupils' careers; and urged on his hearers this idea, which has more than once been broached in these columns. We shall be glad to publish in our practical department a short statement of such cases as are likely to be instructive to the profession generally. Theory holds its proper place in education, ideals are sometimes thoroughly inspiring, but, after all, as Carlyle says, "The grand school-master is practice." Who will take the first step towards providing a treasury of experience in Canadian school teaching? Whoever makes such reports will be greatly benefited by the observation and reflection necessary to produce them.

THE MINISTER OF EDUCATION.

Mr. G. M. Adam, and the little clique of which he is the mouth-piece, foreshadowed their programme some six months before the provincial elections. An attack on the Education Department was declared to "form one of the first elements in the common campaign." By way of introduction, the *Educational Monthly* devoted its attention to Mr. Crooks in its own peculiar way—"he has no command of the resources of a great man,"—"compounded of capriciousness and political partisanship,"—"dominated by his official importance,"—"wanting in sensitiveness and apprehension,"—"his political partisanship is a public scandal,"—"his wordy flatulence is only equalled by his pretentious ignorance,"—"a record of weakness and vacillation." These and many other choice shafts were let fly at the doomed Minister.

But notwithstanding the ukase of G. M. Adam & Co., Mr. Crooks is Minister of Education for another term. We heartily congratulate the Hon. gentleman on his re-election, which shows that the common sense of the people still appreciates the severe labor he has done in the public service. It is very gratifying to be able to record Mr. Crooks' recovery from his recent illness.

OUR EDUCATORS.

It has been often stated that we have just reason to be proud of our admirable school system in this Province, and, if this be true, we have reason to be proud of the men who have made it what it is.

Considering that our school system is only some fifty years old, we have had, and we now have, in proportion to our popu-

lation, as goodly a number of excellent practical men as teachers, organizers, and administrators, in school matters, as, probably, any other country has, within a like period, produced. In educational literature, however, we have had to draw largely from older countries; but we are growing in this direction also, and ere long we may expect to see the works of several of our educationists occupy the position of recognized standards.

Mr. Hughes, inspector of public schools in Toronto, and formerly editor of the SCHOOL JOURNAL, is acquiring an international reputation as an educator. A short time ago, his works on teaching were adopted in Iowa and other States as books of reference for teachers, and in two or three of the States they have been reprinted. He has just returned from New York, where he has been lecturing on educational work, under the auspices of one of the institutes of that city.

The following items from current English papers will give our readers a glimpse of the working of the clauses in the New Code relating to Compulsory Attendance and to Payment by Results:—

At the Wandsworth Police Court, last week, Mr. Sheil was engaged for some time in hearing a number of summonses which had been taken out by the two superintendents for the Lambeth division of the School Board for London and the officer appointed for the School Board at Barnes. In one case, Mr. Williams, the superintendent, said it was a peculiar one, as the child, who was only nine years of age, was beyond the control of the parents. He wished the magistrate to send the boy to an industrial school. Mr. Sheil said he did not like to relieve the parents, so that their children might be maintained by other people. Mr. Williams stated that the parents had been fined fifteen or sixteen times. Mr. Sheil thought a child nine years old could not be beyond the control of the parents. He inflicted a penalty of 5s. In the case of a boy, eleven years of age, it was stated that he had not been to school for six months. Mr. Sheil said a strong man like the father ought to be able to make the boy go to school. The father replied that the boy would not go. If he thrashed him he would not return home. Captain Pasley said the defendant had been fined 5s. repeatedly. Mr. Sheil said he would fine him 5s. again. One defendant said his boy had bad feet, and could not wear shoes. Mr. Sheil said the defendant could send the boy to school without boots. He fined him 2s. 6d. In some of the cases the parents pleaded illness of the children as an excuse. One mother stated that the children were suffering from measles. Mr. Sheil said he could not convict a woman whose children were suffering from measles. He adjourned the summons for inquiry. In another case it was stated that the mother was in her confinement. Mr. Sheil said he could not punish the husband while his wife was ill. If he fined him, and he did not pay, his goods would be taken for the money. The summons was adjourned.

The grants to Infants' Schools will consist of a fixed grant of 9s. per scholar on the average attendance; a merit grant of 2s., 4s., or 6s., according as the school is reported to be fair, good, or excellent; a grant of 1s. for needlework, and a grant of 6d. for singing by ear, or 1s. for singing by note. In awarding the merit grant, allowance will be made for special circumstances, and regard will be had to the provision for (1) suitable instruction in the elementary subjects; (2) simple lessons on objects, and on the phenomena of nature and of common life; and (3) appropriate and varied occupations. No merit grant at all is made unless the Report on the instruction in the elementary subjects is satisfactory.

Mathematical Department.

MATHEMATICAL TRIPOS.—CAMBRIDGE, ENGLAND.

1. Convert $\frac{1}{3}, \frac{1}{7}, \dots, \frac{1}{13}$ into circulating decimals, explaining any methods for deriving one case from another and for shortening the work.

2. Resolve into its component factors

(a) $(a^3 + b^3 + c^3)xyz + (b^3c + c^3a + a^3b)(y^2z + z^2x + x^2y) + (bc^2 + ca^2 + ab^2)(yz^2 + zx^2 + xy^2) + (x^3 + y^3 + z^3)abc + 3abcxyz.$

(b) Show also that if $x + y + z + w = 0$, then $wx(w + r)^2 + yz(w - x)^2 + wy(w + y)^2 + zx(w - y)^2 + wz(w + z)^2 + xy(w - z)^2 + 4xyzw = 0.$

3. Solve the equations

(a) $\frac{3c-2}{5} - \frac{1}{6}\left(x - \frac{1}{6}\right) = \frac{2c}{51},$

(b) $x^2 + y^2 = b^2, \dots + a(x + y) = ab,$

(c) $x + y + z = x^2 + y^2 + z^2 = \frac{1}{2}(x^3 + y^3 + z^3) = 3$

4. Show how to insert any number of geometrical means between two given numbers.

An A. P., a G. P. and an H. P. have a and b for their first two terms; show that the $(n + 2)$ th terms will be in G. P. if

$$\frac{b^{2n+2} - a^{2n+2}}{ba(b^{2n} - a^{2n})} = \frac{n+1}{n}.$$

5. Define a logarithm. Prove that the logarithm of the product or quotient of two quantities is the sum or difference of their logarithms.

If $x_3 = \log x_1 x_2, x_4 = \log x_2 x_3, \dots, x_n = \log x_{n-2} x_{n-1}, x_1 = \log x_{n-1} x_n, x_2 = \log x_n x_1$, then $x_1 x_2 \dots x_n = 1.$

6. Find the number of Permutations of n things taken r together. There are n points in a plane, no three of which lie in a straight line. Find how many closed r -sided figures can be formed by joining the points by straight lines.

SOLUTIONS.

1. $\frac{1}{3} = 0.0526315789\bar{27}$, $\therefore \frac{1}{7} = \frac{1}{3} \times 3 = 0.15789\bar{27}$
 $\therefore \frac{1}{5} = 0.26315789\bar{27}$, and $\frac{1}{6} = 0.16789\bar{27}$
 $\therefore \frac{1}{13} = 0.0526315789\bar{27}$. Now as there cannot be more than 18 figures in the circle, and as our remainders begin to recur there we see that the circulating point should be placed over the last 1.

2. (a)

$$\text{Expression} = \begin{vmatrix} (a^3 + b^3 + c^3)xyz \\ + (x^3 + y^3 + z^3)abc \\ + 3abcxyz \\ + (a^2b + b^2c + c^2a)(x^2y + y^2z + z^2x) \\ + (a^2c + c^2b + b^2a)(x^2z + z^2y + y^2x) \end{vmatrix}$$

$$= \begin{vmatrix} ax.ay.az + bx.by.bz + cx.cy.cz \\ + ax.bx.cx + ay.by.cy + az.bz.cz \\ + ax.by.cz + az.by.cx + ax.by.cz \\ + ax.ay.bx + ay.az.by + az.ax.bz \\ + bx.by.cx + by.bz.cy + bz.bx.cz \\ + cx.cy.ax + cy.cz.ay + cz.cx.az \\ + ax.az.cz + az.ay.cz + ay.ax.cy \\ + cx.cz.bx + cz.ay.bz + cy.cr.by \\ + bx.bz.ax + bz.by.ax + by.bx.ay \end{vmatrix}$$

$$= ax \begin{vmatrix} ay.az + bz.az + cx.az \\ + ay.bx + bz.bx + cx.bx \\ + ay.cy + bz.cy + cx.cy \end{vmatrix}$$

$$+ by \begin{vmatrix} " + " + " \\ + " + " + " \\ + " + " + " \end{vmatrix}$$

$$+ cz \begin{vmatrix} " + " + " \\ + " + " + " \\ + " + " + " \end{vmatrix}$$

$$= (ax + by + cz)(ay + bz + cx)(az + bx + cy)$$

NOTE. This is a very fine example of symmetry, and the solution presented shows the advantage of attending carefully to it. The work may be exhibited in a still more simple form by writing k, l, m for $\begin{cases} ax, by, cz \\ ay, bz, cx \\ az, bx, cy \end{cases}$ respectively, as our readers may verify for themselves.

(b) Assume

$$wx(w+x)^2 + wy(w+y)^2 + wz(w+z)^2 + yz(w^2+x^2) + zx(w^2+y^2) + xy(w^2+z^2) - 2xyzw = 0$$

i.e. $wx(w+x)^2 + wy(w+y)^2 + wz(w+z)^2 + yz(w^2+x^2) + zx(w^2+y^2) + xy(w^2+z^2) = 2xyzw$

Put $w=0$ i.e. $x+y+z=0$ in given relation and we have $0+0+0+yz(x^2) + zx(y^2) + xy(z^2)$ on the left hand i.e. $xyz(x+y+z)$ which must $=0$ since $x+y+z=0$
 $\therefore w$ is a factor of the left hand member. Hence by symmetry $xyzw$ is a factor

i.e. left hand $=Nxyz$ where N is some numerical factor, for being of only four dimensions the left hand side can have no more literal factors. To find N , put $w=1, x=2, y=-2, z=-1$. — [N.B. We must be careful to assume values which agree with the relation $w+x+y+z=0$.] We then have

$$2(3)^2 + (-2)(-1)^2 + 0 - (2)(5) + (-4)(-2) = 4N$$

whence $8=4N$ and $N=2$ as required. Thus the given relation is true.

It will be useful to the reader to solve this example synthetically thus $w+x+y+z=0 \therefore (w+x)^2 = (y+z)^2; (w+y)^2 = (x+z)^2; (w+z)^2 = (x+y)^2$.

Hence

$$wxy(w+x+y+z) + wxz(w+x+y+z) + wyz(w+x+y+z) + xyz(w+x+y+z) = 0$$

i.e. $w(x^2+y^2) + w(y^2+z^2) + w(z^2+x^2) + y^2(w^2+x^2) + zx(w^2+y^2) + xy(w^2+z^2) + 4wxyz = 0$
 i.e., $wx(y+z)^2 + wy(x+z)^2 + wz(x+y)^2 + yz(w-x)^2 + zx(w-y)^2 + xy(w-z)^2 + 4wxyz = 0$

$\therefore wx(w+x)^2 + wy(w+y)^2 + wz(w+z)^2 + yz(w-x)^2 + zx(w-y)^2 + xy(w-z)^2 + 4wxyz = 0$ and this is the given relation.

3. (a) Multiply through by 30

$$18x - 12 - 5x + 30 + 9x^2 = x + 3x^2$$

$$12x + 18 = 3x^2$$

$$4x + 6 = x^2$$

$$67x = -102 \quad x = -\frac{102}{67}$$

(b) From (2) $a(x+y) = ab - xy$

$$\therefore a^3\{(x^2+y^2) + 3xy(x+y)\} = a^3b^3 - x^3y^3 - 3abxy(ab-xy)$$

And from (1) $a^2b^3 + 3xy(x+y) = a^2b^3 - x^2y^3 - 3abxy(ab-xy)$
 $\therefore xy=0$ i.e. either $x=0$ or $y=0$. If the former $y^3 = b^3$ or $y=b$, if the latter $x=b$.

(c) Write the equations

$$(1) x+y+z=3$$

$$(2) x^2+y^2+z^2=3$$

$$(3) x^3+y^3+z^3=6$$

Square (1) and substitute (2)

$$\text{and } (xy+yz+zx) = 3, (4)$$

Cube (1) and substitute (3)

$$(x^3+y^3+z^3) + 3(x+y+z)(xy+yz+zx) - 3xyz = 27$$

$$\text{i.e., } 3xyz = 6, xyz = 2, xy = \frac{2}{z} \quad (5)$$

Substitute (5) and (1) in (4)

$$xy+yz+zx = xy+z(x+y) = 3$$

$\therefore \frac{2}{z} + z(3-z) = 3$, a quadratic which gives two values for z , from which we may find corresponding values for x , and y .

4. $(n+2)^{\text{th}}$ term of $A.P. = \frac{n+2}{2}\{b(n+1) - a(n-1)\} = \frac{n+2}{2} \cdot x$, say (A)

$$\text{“ “ } G.P. = \frac{2ab}{a^n} \quad (B)$$

$$\text{“ “ } H.P. = \frac{2ab}{(n+2)\{a(n+1) - b(n-1)\}} = \frac{2ab}{(n+2)y}, \text{ say (C)}$$

Now when A, B, C are in $G.P. \frac{A-B}{B-C} = \frac{A}{B}$; hence we must have

$$\frac{(n+2)x}{2} \cdot \frac{b^{n+1}}{a^n} = \frac{(n+2)x}{2} \cdot \frac{2ab}{b^{n+1}}$$

$$\text{i.e., } 1 - \frac{b^{n+2}}{a^n} \cdot \frac{2}{(n+2)x} = 1 - \frac{a^n}{b^{n+1}} \cdot \frac{2ab}{(n+2)y}$$

$$\text{or } \frac{b^{n+2}}{a^{2n}} = \frac{abx}{y}$$

$$\therefore \frac{b^{2n+2}}{a^{2n+2}} = \frac{bx}{ay}, \text{ also } \frac{ab^{2n+1}}{ba^{2n+1}} = \frac{ax}{by}. \text{ Subtracting 1 from each side}$$

$$\frac{b^{2n+2} - a^{2n+2}}{a^{2n+2}} = \frac{bx - ay}{ay}, \text{ and } \frac{ab^{2n+1} - ba^{2n+1}}{ba^{2n+1}} = \frac{ax - by}{by}$$

Dividing one equation by the other

$$\frac{b^{2n+2} - a^{2n+2}}{ab^{2n+1} - a^{2n+1}b} \cdot \frac{bx - ay}{ax - by} = \frac{n+1}{n-1}$$

when we restore the values of x and y and strike out the common factor $(b^2 - a^2)$.

UNIVERSITY OF TORONTO.

JUNIOR MATRICULATION, 1882.

MATHEMATICS. — PASS.

Examiner—F. HAYTER, B.A.

1. The interest on a sum of money for two years is \$49.58, and the discount on the same sum for the same time is \$310.74; simple interest in both cases. Find the rate per cent., and the time.

2. A. in Toronto pays B. in Paris 1000 francs by a bill of exchange on London, exchange at Paris being 25.25 francs for £1 sterling. Find the amount of the bill, and its value in currency (£1 = \$4.86 $\frac{2}{3}$). When the bill reaches Paris exchange is at 25.23. Find the amount in francs for which the bill sells.

3. Simplify

$$(i) \frac{x^2 - 15x + 54}{x^2 - 7x + 10} \times \frac{x^2 - 5x}{x^2 - 2x - 63} \times \frac{x^2 + 5x - 14}{x^2 - 6x}$$

$$(ii) \frac{2\sqrt{2} + \sqrt{3} - 1}{\sqrt{3} + 1} - \frac{\sqrt{2} - 1}{\sqrt{2} + \sqrt{3}} - \frac{\sqrt{2} + \sqrt{3}}{2\sqrt{2} + \sqrt{3} - 1} \times \frac{\sqrt{2} - 1}{\sqrt{2} + \sqrt{3}}$$

4. Divide

$$a^{2n-1} - a^{2n-1} + 2a^{2n-2} - a^{2n-3} \text{ by } a^{2n} + a^n - a^{n-1}$$

Divide by Horner's method

$$x^3 + 5x^2 + 11x + 19x^2 - 36 \text{ by } x^4 - 2x^3 + 2x^2 + 2x - 3$$

5. Find the L. C. M. of

$$(4x^2 - 4ax^2), (3x^2 - 9ax + 6x^2), \text{ and } (2x^3 - 8a^2x)$$

6. If the minute hand of a clock be 4 inches long and the hour hand 3 inches, find the times between 4 and 5 o'clock when their ends are 5 inches apart.

7. Solve

$$(i) \sqrt{1+x} + x = a.$$

$$(ii) \begin{cases} 12x - 13y = 7 \\ 144x^2 - 156xy + 169y^2 = 4729. \end{cases}$$

$$(iii) \begin{cases} x + y = z \\ x^2 + y^2 = 29 \\ xy = 6. \end{cases}$$

8. The opposite sides and angles of a parallelogram are equal to one another. The diagonals of a parallelogram bisect each other. The angle between the diagonals of a rhombus is a right angle.

9. Upon the same straight line, and upon the same side of it, there cannot be two similar segments of circles, not coinciding with one another. Similar segments of circles upon equal straight lines are equal to one another.

SOLUTIONS.

1. Int. = amt. of disc. $\therefore (349.58 - 310.74) = \text{int. for two yrs. on } 310.74 = \38.84

$\therefore 19.42$ is int. on 310.74 , what is the int. on $\$100$?
 Ans. $(19.42 \times 100) \div 310.74 = 97100 \div 15587 = \&c.$

2. 1 franc = £1 $\frac{1}{25}$ = $\frac{1}{25}$ £ = $\frac{1}{25} \times 4.86\frac{2}{3}$ dollars
 $\therefore 1000 \text{ francs} = 1000 \times \frac{1}{25} \times 4.86\frac{2}{3} \text{ dollars} = \&c.$
 $= 1000 \times \frac{1}{25} \times 4.86\frac{2}{3} \text{ dollars. “}$
 Value = $1000 \times \frac{1}{25} \times 25.23 \text{ francs. “}$

3. (1) Expn. = $\frac{x^2 - 1}{x^2 - 2}$

$$(2) \frac{(\sqrt{2} - 1) + (\sqrt{2} + \sqrt{3})}{\sqrt{3} + 1} \left(1 - \frac{\sqrt{2} - 1}{\sqrt{2} + \sqrt{3}}\right) - \frac{\sqrt{2} - 1}{\sqrt{2} + \sqrt{3}}$$

$$= \frac{(\sqrt{2} - 1) + (\sqrt{2} + \sqrt{3})}{\sqrt{3} + 1} \cdot \frac{\sqrt{3} - 1}{\sqrt{2} + \sqrt{3}} - \frac{\sqrt{2} - 1}{\sqrt{2} + \sqrt{3}}$$

$$= \frac{\sqrt{2} - 1}{\sqrt{2} + \sqrt{3}} + 1 - \frac{\sqrt{2} - 1}{\sqrt{2} + \sqrt{3}} = 1.$$

4. Dividend = $a^{2n-3}(a^{n+1} + a - 1)(a^{n+1} - a + 1)$
 Divisor = $a^{n-1}(a^{n-1} + a - 1)$
 \therefore Quotient = $a^{n-2}(a^{n+1} - a + 1) = a^{2n-1} - a^{n-1} + a^{n-2}$.

1	1+0+5+ 0+11	+0+19+0-36
+2	2+4+14+16	+24
-2	-2- 4-14	-16-24
-2	- 2- 4	-14-16-24
+3	+ 3	+ 6+21+24+36
	1+2+7+8+12	0+ 0+ 0+ 0

Ans. $x^4 + 2x^3 + 7x^2 + 8x + 12$.

5. Factoring, we have $4x^2(x-a)$, $3(x-a)(x-2a)$, $2x(x-2x)(x+2a)$
 \therefore L. C. M. = $12x^2(x-a)(x-2a)(x+2a)$.

6. Sides of triangle are 3, 4, 5 inches \therefore angle (3, 4) = right angle
i.e. hands are 15 min. apart, *i.e.* min. hand has gained 5 min., or 35 min. \therefore times are $\frac{5}{55}$ and $\frac{35}{55}$ of an hour, = $5\frac{1}{11}$ min. and $38\frac{2}{11}$ min. respectively.

7. (i) Transposing x , and squaring we get $2ax = a^2 - 1$, or $x = (a^2 - 1) \div 2a$.

(ii) For $12x$ and $13y$, write m and n , and we have
 $m - n = 7$; $m^2 - mn + n^2 = 4729$. Square the first and combine with the second, and $mn = 4680$, *i.e.* $3mn = 14040$. Add this to 2nd and take sq. rt. $\therefore m + n = \pm 137$, $\therefore m = 72$ or -65 , $n = -72$ or 65
i.e. $x = 6$ or $-5\frac{1}{3}$, $y = 5$, or $-5\frac{1}{3}$.

(iii) Substitute 1st in 2nd, and 3rd in the result, and we have
 $2x^4 - 17x^2 + 36 = 0 = (2x^2 - 9)(x^2 - 4) \therefore x = \pm \frac{3}{2}\sqrt{18}$ or ± 2 , from which we may get corresponding values for y and z .

8, and 9 present no difficulty.

ARITHMETIC.

1. If a population is now ten millions, the births 1 in 20 and the deaths 1 in 30, what will be the population in 5 yrs. ? Ans. 10791214.

2. Four men A, B, C and D undertook a piece of work for £26 10s. Now A could finish it himself in 4 months, B in 6, C in 9, and D in 12 days. But B began to work a certain time after A , and C and D began together a certain time after B . A received £13 3s. $11\frac{1}{4}d.$ more than C , and B and D received between them £8 1s. $7\frac{1}{2}d.$ How long did A work before B began, and B before C and D began; what did each person receive for his work; and how long was it in finishing?

SOLUTION. C received $\frac{1}{3}(18 \text{ " } 8 \text{ " } 4\frac{1}{2}) - 13 \text{ " } 3 \text{ " } 11\frac{1}{4} = £2 \text{ " } 12 \text{ " } 2\frac{3}{4}$
 $\therefore A$ received $£2 \text{ " } 12 \text{ " } 8\frac{3}{4} + 13 \text{ " } 3 \text{ " } 11\frac{1}{4} = £15 \text{ " } 16 \text{ " } 2\frac{1}{4}$
 \therefore Time of C and $D = (£26\frac{1}{2} \div £2 \text{ " } 12 \text{ " } 2\frac{3}{4}) \times 4 = 2\frac{1}{2}$ month
 $\therefore £26\frac{1}{2} \times (12 \div 3\frac{1}{2}) = £1 \text{ " } 19 \text{ " } 1\frac{1}{2} =$ what D received
 $\therefore B$ received $£8 \text{ " } 1 \text{ " } 7\frac{1}{2} - £1 \text{ " } 19 \text{ " } 1\frac{1}{2} = £6 \text{ " } 2 \text{ " } 5\frac{1}{2}$
 $\therefore B$'s time = $(£26\frac{1}{2} \div £6 \text{ " } 2 \text{ " } 5\frac{1}{2}) \times 6 = 1\frac{1}{4}$ months
 $\therefore 2\frac{1}{2} - 1\frac{1}{4} = 1$ month = A 's time before B began,
 and $1\frac{1}{4} - \frac{1}{2} = \frac{1}{4}$ month = B 's time before C and D began. Now A worked the whole time \therefore work was completed in $2\frac{1}{4}$ months.

3. A and B agree to carry 292lbs. 3 miles for 2s. They set out with the load suspended from a 6 feet pole at the distance of 3ft 4in. from A 's shoulder, and carry it 6 furlongs. After resting they change places and carry it $1\frac{1}{2}$ mls. farther, when the load accidentally slipped along the pole to 30 inches from B in which position it was carried to its destination. Neglecting the weight of the pole, divide the money fairly between them in proportion to the work performed.

SOLUTION. 24 furlongs for 24d. = 1d. per furlong.
 They carried the weight 6 fur. and then changed places \therefore at the end of 12 furlongs each would have earned 6d. But for the other 4 furlongs before they rested the second time the weight was 32in. from B and 40in. from A . Hence for this distance A should get $\frac{3}{8}d.$ and $B \frac{5}{8}d.$ of 4d. = $\frac{3}{8}d.$ and $\frac{5}{8}d.$, respectively. Similarly for the last stage, the weight was 30in. from B and 42in. from $A \therefore A$ should get $\frac{3}{8}d.$ and $B \frac{5}{8}d.$ of the 8d. = $\frac{3}{8}d.$ and $\frac{5}{8}d.$ respectively.
 Thus A should receive $1\frac{1}{4}d.$ and $B 1\frac{3}{4}d.$

4. £3 17 10 $\frac{1}{2}$, English standard gold weighs 1 ounce Troy, or 31.1 French grammes. Now the value of English gold : value of the same weight of French gold $\therefore 91.5 : 90$, and a gramme of the latter is worth 31.1 francs. Convert 1000 English sovereigns into francs. Ans. 25172

5. Specific gravity of tin = 7.299 of lead = 11.352. The weight of a regular figure of tin = 318.4767 ozs., its axis are 8in., 6in., and 8in., and its volume increases in the same proportion as any one axis increases when the other two remain the same. Find the weight of another similar figure of lead whose axes are 18in., 9in., and 2in. respectively. Ans. 1114.4826oz.

ANSWERS TO CORRESPONDENTS.

C. MCN.—For First Class Grade C. read McLELLAN'S HANDBOOK. You will find *Wentworth's Algebra*—Boston 1882, the best introductory book, and *Pott's*—Cambridge 1879 the best collection of examples for your purpose.

J. J. T.—We have found *Byerly's Differential and Integral Calculus* the most lucid and simple. As a beginner, they will probably suit you better than Gregory, or Williamson's. *Wheeler's Plane and Spherical Trigonometry* is also a very fine book for your purpose. These are all Boston, 1882 and might be ordered through any bookseller.

P. N. DAWSON.—Your contribution though excellent in itself would not be interesting to the majority of our readers.

J. E. JACKSON.—Our limited space, two pages, forbids your "Miscellaneous Rules." Please accept thanks.

Special Articles.

GRAMMAR AND COMPOSITION IN ELEMENTARY SCHOOLS.

The revolt against formal grammar in elementary classes is spreading more widely on this continent every day. The old heresy, that "English grammar teaches the art of speaking and writing the English language with propriety" is no longer believed. Experience has abundantly demonstrated that this art is acquired in high perfection by those who have a very limited acquaintance with technical grammar, but who have a loving acquaintance with the words of some favorite authors, masters of expression and models of beauty in style. Mr. Hodgson's recent book, "Errors in the Use of English," on the other hand, shows conclusively that many of the great scholars of the century who have spent their lives in the study of languages have often fallen into error and ambiguity in the use of their mother-tongue.

We no longer set our little pupils to learn by heart the list of adverbs, nor even the old, interminable rules of syntax. But for a long time we have, under the influence of grammars of the dead languages, dealt too much with dry, abstract names, and too little with the living realities of our speech. Chiefly we have gone far astray in our method of beginning at the wrong end of the subject. We have taken elementary sounds, words, genealogies of words, etc., as the starting point, whereas we ought to commence with the complete thought, the sentence. Even in our study of sentences we have generally eviscerated all meaning out of them by a complicated and exceedingly wearisome and technical system of analysis. Analysis has been the all in all; synthesis, production of sentences, has been almost ignored.

Our text-books have been written from the wrong stand-point. We hail with pleasure "The Essentials of English Grammar," a short, clear, easy book, written by Prof. Whitney, of Yale, the most distinguished philologist on the continent. This book starts with the sentence, and everywhere calls for direct, practical applications in the building of sentences by the pupil. We have here the promise of something more useful than "the adjunct to the completion of the predicate," and other dry bones of that ilk. As the little volume is adopted in our normal schools, we may hope very soon to find grammar and composition happily wedded in all our schools, and a living interest developed in putting words together, which will outweigh the benefits to be derived from minute dissections of involved passages. Let us hope that thought and meaning will no longer be buried under mausoleums of technical terms.

Formerly, boys and girls used to be set to "write a composition" on subjects far above their comprehension, on the "Improvement of Time," "Duty," and such-like themes. Pupils came to have a

horror for composition, because it was not to them the expression of thought. The stilted, pedantic, semi-bombast produced was one bad effect of the system. What could be more unnatural than for a child to ape the style of Dr. Johnson, or imitate Webster addressing the senate? Gradually, hard experience has taught us that children can only express the thoughts they have, and that we must set them to write about what they know, even if they produce at first very childish sentences. We must be content with the blade, which contains the power of growth, and wait patiently for the full corn in the ear. It has been found that even before a child can use a pen, it can be led to compose little sentences about the things it knows. The language lessons, which are now becoming a leading feature of our schools, are exercising a great educative power in training our pupils to see, to observe, to discriminate, to classify, in a word to think, and to express their thoughts precisely.

"Good Stories," a book full of suggestive pictures, will be found exceedingly helpful in this direction, and will enable many an over-worked teacher to solve that most difficult problem, how to keep the little people usefully employed at their desks. In many of our schools there is far too much teaching. We destroy the productive, vital, growing power, by pouring in too much and by drawing out too little. Education proceeds from within, and the smallest child can be got to write intelligent sentences about a good picture, by simply asking one or two questions to awaken thought, and touch the sensitive imagination.

What shall we do with our older pupils who are getting beyond pictures and playthings? Shall we leave them to devour the detestable dime novel, and send them from school, at the age of thirteen or fifteen, with no taste for good books, no relish for elevating literature, no intellectual hunger for far-reaching thoughts? Teachers, if they leave you in this mental beggary, "what sairs yo're grammars!"

One of the best solutions we have heard of is the celebration of authors' birthdays. Mr. Goggin, the head master of the Port Hope model school, for example, has worked out an admirable scheme. In each room hangs a portrait of some first-class master in literature,—Hans Andersen, Daniel DeFoe, Charles Dickens, Longfellow, Whittier, Tennyson, &c., purchased by the pupils themselves. The teacher talks to the pupils about these writers, tells stories, relates incidents in their lives, their struggles, their triumphs, reads or recites some gem from their writings, gets the pupils to read, mark, learn, and inwardly digest some good passages, and give these in turn before the class. They celebrate the birthdays of these men, come to love them, read them, and derive infinite enjoyment from their writings. Does it not appear reasonable to suppose that a child who has passed through the several departments of such a school, will go out into the world with a loving tenderness for these "lords of the great heart," and with a supreme disgust for "Jack Sheppard" and the "Police Gazette"? The *Present Age* has the following:—

"It ought not to be forgotten that behind speech lies thought. The primary condition of clear and correct language is clear and correct thinking. Errors in words and in the form of speech should doubtless be corrected as they appear, and the teacher should insist upon fit words, correct pronunciation, and clear statement—not in one exercise, but in all. A teacher thus careful to require correct language will teach it, whether he gives set lessons or not. The best users of common speech, are those who grow up in intelligent families, where correct language prevails, and where without lessons, save those given by example, the child grows up to speak properly, as he does to act politely, and for the same reasons. But even where this early training has been wanting, the scholar who has advanced in knowledge and thinking power, till his ideas become clear, logical, and vivid, gradually improves his language, and comes at last to talk or write well simply because he thinks well. In a grown man, inaccuracy of language usually implies inaccuracy of thought and knowledge. We would not discourage the teaching of the mother tongue, but we would teach it by using it in the study of ideas and in the enlargement of knowledge.

"Nor is the study of grammar to be wholly condemned and abandoned. Language is the most wonderful invention, as it is the most useful instrument, of the human family; an invention none the less because invented by the millions through centuries of effort rather than by one mind in a fortunate hour. Language as a gigantic and complex fact is worthy of all the study bestowed upon it, but it is a study for ripe manhood and not for little children. It is the truest transcript of the human mind, and it pictures the finest and most recondite relations of logical thought. If the highest study of man is man, the widest avenue to such study is human speech. In all his works man incarnates more or less clearly himself and his thoughts, but in language he purposely embodies, as far as possible, the very texture and constructive law of his thinking. Hence the study of language must forever remain one of the most interesting, as it is one of the profoundest, to great thinkers. Like all knowledges, it has a body of simple facts which even the child can be interested in, but as a study it must always hold its place among the highest in the curriculum, in the closing instead of the opening period of the school life."

The following article is from the *Chicago Tribune*:—

"Practical methods of teaching are gradually making inroads upon the old system of cramming. At the meeting of the City Board of Education, Thursday evening last, a resolution was adopted directing the committee on text-books to inquire into the expediency of banishing grammar (by the old method of teaching) from the schools. Dr. Burrows was shocked. He proposes to amplify rather than curtail the old rule-cramming system. He thinks pupils "need a big dose of Gould Brown," and "doubts whether the results of the modern system at Quincy and Boston will surpass that of twenty and fifty years ago." On the other hand, Mr. Keith thinks the grammar should be sent to the high school. For the benefit of Dr. Burrows and others who reverence antiquity, we beg to show some grammatical results of the old system in Norfolk county, Massachusetts. When Mr. Walton examined the schools of that county, with a view to ascertain exactly what the pupils acquired under the old system, he established a test of English composition by requiring pupils to read a certain narrative and then write their version of it. The test applied to children who were in the grammar grade, and been eight years in school. Following is the test narrative.

"Cyrus, the Persian Prince, had many masters, who endeavored to teach him everything that was good, and he was educated with several little boys about his own age. He was a boy of a very good disposition and a humane temper; but even in his youthful games he showed a strong desire to command, and other boys used to make him their king. One evening his father punished him what he had done or earned that day. "Sir," said Cyrus; "I was punished to-day for deciding unjustly." "How so?" said his father. "There were two boys," said Cyrus, "one of whom was a great and the other a little boy. Now it happened that the little boy had a coat that was much too big for him, but the great boy had one that scarcely reached below his middle and was too tight for him in every part. The great boy proposed to the little boy to change coats with him; 'because then,' said he, 'we shall be both exactly fitted, for your coat is as much too big for you as mine is too little for me.' The little boy would not consent to the proposal; upon which the great boy took his coat away by force, and gave his own to the little boy in exchange. While they were disputing upon this subject, I chanced to pass by, and they agreed to make me judge of the affair. But I decided that the little boy should keep the little coat and the great boy the great one, for which judgment my master punished me." "Why so?" said Cyrus' father. "Was not the little coat most proper for the little boy, and the large coat for the great boy?" "Yes, sir," answered Cyrus, "but my master told me I was not made judge to examine which coat best fitted either of the boys, but to decide whether it was just that the great boy should take away the coat of the little one against his consent; and therefore I decided unjustly, and deserved to be punished."

"The pupils were given an hour, having read the narrative, in which to give their version of the story. Following are a few samples of the result:

"Cyrus was a disobiant boy. The little boy thought that the large coat would be better for him, and the large boy thought the small coat would be better for him. But the large coat was as much too small for the small boy as the large coat was for the large. The large boy had ought to have had the large coat and the small boy the small coat. I think that Cyrus was a greedy boy.

"The boy was whipped because he had the little boy's coat.

"Cyrus a persian prince was a pheasant an educated boy but when he came home that night his father asked him what he had received that day. He said that he got punished at school his father asked him what for he said then there was a great boy and a little boy had a goat and the big boy had a little goat and the little boy had a big goat the big boy wanted to exchange goats he had the big goat and the little boy have the little goat so the big boy took his goat away by force and I came along and they wanted me to judge and I said the little boy should have the little goat and the big boy should have the big goat and so that is what I got punished for in school.

"Cyrus the Persian prince was a boy of sense. One evening he was passing by the house of a small boy had a big goat the goat was much larger than the boy so that they had a dispute over the goat the boys have him for the judge he gave the little boy the goat when he got home his father asked him if he was good at school he said he had he punished unjustly his father said that he must be kind to one as to the other.

"There was a man by the name of Cyrus who was a Persian Prince. He had a very nice father, and asked him one night what he had done at school that day? He said that he had done something unjustly. The boys when Cyrus was playing any games with them used to make him their King. One day there was a boy who had a new coat, with Cyrus, and Cyrus wanted to make a change. The one that the boy had bought was very much too large for him, while Cyrus's was small. They kept on for two or three days but would not agree upon it. While they making this agreement, Cyrus's father came along. Cyrus had a very humane temper and was very gentle. Because Cyrus would not change with the other in a few days he was punished.

"Cyrus, the Persian prince, had good many masters, his father asked him if he had done anything wrong to-day, and he said he had been punished, and his father asked him what he had been punished for, and he said he had quarreled with another boy. What about, said his father, and Cyrus said that, a boy he was with, had on a big coat, that just fitted him, and his coat was too small for himself, and this other boy wanted to exchange with him. But Cyrus would not, just then a man came up, and settled the dispute, saying, that the big boy did very wrong in taking the coat off the smaller boy. So Cyrus had to be punished for not giving up his coat to the other boy.

"It will be observed that in some of the examples the sense of the narrative is followed tolerably well, while in most of them it is burlesqued; that in some punctuation is wholly neglected, while in others it is liberally indulged to the destruction of the sense; that in some the narrative is divided into sentences in violation of the rules of grammar, and in others not, equally in violation of the rules of grammar. It is plain, from these examples, that the pupils of the Norfolk county schools had been trained in grammar at the cost of English composition, according to the methods of the old system of instruction. Comment is unnecessary. The comment of the conductors of the Quincy schools was an order of banishment issued against the old system."

WINTER'S WORK FOR THE RURAL TEACHER.

The great school-masters "have achieved worthy results by the moral and intellectual climate they were able to produce, rather than by methods of teaching." Thus says a writer in a recent magazine article. Rural teachers are often surrounded by a depressing intellectual atmosphere. The pupils are not interested in school, because their parents are not interested. Home thoughts are narrow and slow, school thoughts are dull.

In such cases the teacher should make an effort to change the intellectual climate. He should try to stimulate, to widen, and to utilize the thought-power of the district. He should do this in order to make the school-room work more effective. The teacher may say within himself. "I will do my best to secure profitable study for my pupils, I will try to have them study in the best manner, and in order to have them study much and well, I will try to arouse parents as well as pupils to a wider range of thought and to lead them to think more and to think to a better purpose. If more thinking and better thinking is to be done during the coming winter than was done during the past winter, some person must cause it to be done, and that person should be the teacher. As a rule teachers are laborious, are earnest, are anxious for the improvement of their pupils; they are pained when their labors seem fruitless, because of the children's apathy. Let each try to change the intellectual atmosphere. Let them remember that a change of climate has often given physical health to the invalid. Health depends upon the air we breathe as much as upon our food. Why may not intellectual vigor depend upon the intellectual atmosphere? If the great school-masters formed an intellectual climate for their pupils, why shall not other teachers attempt to do the same?"

Among measures for purifying the intellectual atmosphere and making it bracing and invigorating, the following are suggested questions, general information, readings, committing to memory choice selections, biographical sketches and anecdotes, literary exercises, and societies.

1. *Questions*—To awaken thought nothing is better than a good question. The great teachers have been noted for their method of questioning. The teacher desiring to stimulate thought among his

* Professor J. A. Cooper, Principal Edinboro' Normal School.

pupils and patrons, may give a question to his pupils at the close of school, saying, "I do not want an answer now; you may think about it to-night, and I will call for an answer to-morrow." The object being to excite thought, the question should be one that will interest the people, yet not be so easy as to require no reflection. A teacher once asked why the leaves fall, calling attention to some trees to which the dry leaves were still clinging. This led to much examination of the trees, and much talk about them at home. On another occasion he gave as a problem a recent transaction in the neighborhood: "A man sold a horse for \$65, bought it back for \$50, and sold it again for \$55: how much did he make?" This excited great discussion. Nearly every man and boy in the district solved it, and proved his answer right, though there were several answers found.

On the next day the first question will be brought up, the answer discussed, and a second question presented for future reply. This course can be continued from day to day as long as the interest in the questions justifies it. At first the teacher may find it difficult to select stimulating questions of general interest. Let him not hesitate on this account, for in this, as in most other undertakings, the beginning is the most difficult part. Questions will soon multiply upon the thoughtful teacher. By practice will come skill in selecting the most appropriate. The children, taking the questions home, plying their parents with them, and discussing them with each other, will lead the parents to think about the school.

Teachers at a loss for questions may begin with the breakfast table. Why should coffee be provided for breakfast and tea for supper? Why buckwheat cakes at breakfast, but biscuit at supper? Whence come, and how are raised or made, the various articles and dishes on the table? Knowledge gained in finding answers to such questions will be live knowledge, while the giving and answering the questions will change the climate to one of inquiry, activity, and investigation. The children will in time learn to ask questions of the teacher and of their parents. When such is the case, to instruct them is a pleasure.

2. *General Information*.—The teacher may call the attention of the school to some subject of general interest, as a public work, a discovery in science, a great crop, a great act, a great accident, and talk over the same with the pupils. He may say, "Items of public interest are often mentioned in conversation and in the newspapers. Please inform me when you next notice one, and we will talk about it." Tact and skill will be needed to lead boys and girls to select topics wisely, but pupils can be trained to find useful information, and to tell it in a way to be interesting to themselves and to others. This exercise may lead pupils to select their reading, and to discriminate between useful and useless information, between the higher and the lower in thought. The topics of general interest are unlimited in number, as the world's work and workers, commerce, shipping, currency, food supplies, manufactures, etc., etc. Teachers may often have some difficulty in finding accurate information, as works of reference are not to be found in every school. But as a compensation, this difficulty will drive children to ask their parents and to consult books at home.

Some teachers make an interesting topic of the rights and duties of citizens, how officers are chosen, how they are paid, whence comes the revenue of the State, how the taxes are expended. Such topics are interesting when presented about election time. A wise teacher will choose his topics in season.

3. *Readings*.—"When I am reading a good book," says Hamerton, "the only Cæsar that I envy is he who is reading a better book." In some schools the attention of the pupil is confined to "doing sums," "parsing," and other routine work. The atmosphere of such schools is deficient in essential elements of intellec-

tual stimulus. To read well is to think well. A thinker excites thought in others, and purifies the educational atmosphere about him. One of the best services a teacher can do for a pupil is to lead him to think more, by inducing him to read more and to read more judiciously. This all teachers can do. The teacher may inquire of pupils what they have read or are reading, how they enjoy it. He may in turn tell what he himself is reading, and propose to bring his book and read a little to them, asking them to bring theirs and read to each other. Books, magazines, and newspapers will thus be brought to schools, and interesting selections be read from them. The children will experience the delight of reading good stories, and of hearing good stories read by others. The teacher can mention some good books which contain delightful reading, naming such as are known to be in the district or can be easily secured.

Several of the pupils might be led to read the same book, and compare views upon it. Such an exercise is most valuable in cultivating the taste and judgment. To be useful in this work, the teacher must look over the family libraries in the district, and learn something of their contents. This will make him acquainted with the people, will make him know the home-life of the children better, and will thus prepare him to reach the hearts and minds of the pupils. By associating with the parents, and talking over the contents of their libraries, the teacher will become an instructor and adviser of the parents, and will be consulted about papers, magazines, and books for the family. If he is competent to advise, he may do great good by his suggestions. In many families, new books are a rarity. In most cases, book purchases are accidental. A teacher acquainted with books, and familiar with the cheap editions, can do much to increase the reading facilities and reading habits of the young. Some of the best works in science, biography, history, and travel can now be had for ten or twenty cents. Five dollars would buy forty instructive and readable works in cheap form, and furnish a winter's reading for the whole district. Nearly every teacher, if he knew the books well, could induce the parents to spend the five dollars.

4. *Memory Selections.*—It will do children good to commit to memory extracts from the best writers. The thoughts contained in the extracts will awaken thought in the mind of the pupil. To learn the words and not understand the writer's thoughts does positive injury. Easy narrative, showing the exercise of the sterling virtues, is best for the younger pupils. The instructions should be felt rather than expressed in words, so that there would be no formal statement of a moral lesson. Short selections can be found, giving in vivid language, important historical, scientific, and geographical information. These committed to memory, and recited before the school, will stimulate to more energetic study of the regular school lessons.

A short and pointed maxim can be given and learned daily. Illustrations of its truth may be occasionally pointed out. It will be well to follow Jacotot's rule, "Learn something and repeat it daily." "Knowledge is easy to him that understandeth." All selections should be understood; they should be learned for their influence on the learner and on the school. This influence should reach the emotions through the understanding.

Every teacher should aim to make his pupils acquainted with a few extracts from one or two of our best American writers. Choose those that are valuable both for the thought and the expression.

5. *Biographical Sketches and Anecdotes.*—A bright young man attended the county institute for the first time, and listened to a lecture on one of the great teachers. The young man admired the lecture, and was enthusiastic in praise of the speaker. When asked by a prosy pedagogue about the great teacher and his work, the

young man could remember but two events of his life, and nothing of the teacher himself—not even his name. "Well," said he, "it was about a man born in 1796, who died in 1842." The young man had been captivated with sonorous sentences. "Words of learned length and thundering sound" had amazed him, and like Goldsmith's village rustics, he wondered at the speaker and failed to understand the speech.

Much—far too much of all instruction—stops at the ear, and never reaches the understanding. Too much of history and biography is confined to dates. To any youth, a short and characteristic anecdote of a distinguished person is of more value than the dates of every event in his life. A date is of value only when a man's life is specially formed by the particular opportunities of his age. Washington and Grant enjoyed opportunities which developed their powers. Had the Revolution and the Rebellion each been delayed a quarter of a century, both might have remained in private life, and been unknown to history.

It is much more interesting, and much more valuable to a boy, to learn that William Brown, a shepherd lad twelve years of age, taught himself Greek, and walked twenty-four miles to buy a Greek New Testament, than to learn that he was born in 1724, married in 1749, and died in 1801.

Sketches—character sketches of the wise and good—are instructive, pleasing, and stimulating. It would be a valuable exercise for teachers and pupils to find, learn, and repeat anecdotes of good men and women. They should be such as illustrate the character and habits of the individuals, and exhibit conduct worthy of imitation and emulation. In the struggles and trials of others, the pupil will see the path of his own self-development. "Example sheds a genial ray of light which men are apt to borrow," and also to follow. The example of the virtuous and the self-denying is best shown in characteristic anecdote. A teacher should make a note of valuable personal stories, and keep the same securely. A book of such sketches, gathered from time to time, would be a great treasure. These stories, often repeated in the family, will help to create a bracing intellectual atmosphere in the home.

6. *Literary Societies.*—Some teachers have organized literary societies among their pupils, or among their patrons, and with excellent results. Perhaps it could not be done in every school. Perhaps some teachers could not do it in any school. But the average teacher in the average district can make it a success. If successful, it unites the thinking forces of the district, and concentrates thought upon educational affairs. It sends the children to school with improved intellectual appetites. A teacher competent to organize a literary society, can soon determine whether it will be expedient to make the attempt. He can invite his patrons to visit the school some afternoon and witness a review of his school work. He can have some topics of general interest discussed by the pupils, and from its effect upon the parents he can judge of the propriety of trying to establish a society for reading, discussion, and other literary work.

HINTS AND CAUTIONS.

1. Every teacher who wants to make the most of his school, must try to awaken thought in the district, and if he tries he will succeed.
2. "The beginning is the whole." Therefore, begin. Every teacher can do something to improve the educational climate about him.
3. Say little about your plans and aims. Do something, and waste no time in announcing purposes and plans.
4. Begin with the easy; proceed to the difficult. Attempt no more than you believe you can carry through.

5. Have a definite end in view, and plan and work for that end.
6. Remember the power to think, the habit of thinking, and the mode of thinking, are of greater value than the accumulation of facts.
7. Advance regularly. Let each day see something attempted, something done. "It is the steady gait that tells."
8. Measure your success by the improvement in the educational atmosphere. Your value to the district will depend upon the change you produce in the tastes and thoughts of the district.
9. Not all teachers may be able to work well in all the above directions, but every true teacher can work in one or more directions.
10. While trying to improve the climate, do not neglect sound intellectual food. Improve that also.
11. Every honest effort for good by the teacher will exert a reflex influence upon himself, and while trying to help others, he himself will receive most benefit.

WHAT A NORMAL SCHOOL SHOULD DO.*

A normal school is not an academy; it is not a high school; it is not a seminary; it is not a college. It is to the profession of teaching what West Point Military Academy is to our army. Any schools going under the name of normal schools which do not fulfil this mission, are falsely so called.

It is no more than natural, indeed it is necessary, that the normal school of the future should be very different from that of the past. Professional schools, designed to fit persons to skillfully apply the principles of a profession that could scarcely be said to exist, must have been experimental from the very nature of the case. But is the time not now come when it may safely be said that the true sphere of a normal school is clearly defined? And should not these schools proceed more rapidly to the ingathering after all of these years of sowing and cultivation, toward the realization in concrete results of this long investment of time, and thought, and experience?

The most ardent friends of these schools will readily admit that they are not accomplishing all they should, in view of the needs of the profession; but far from any desire among the friends of popular education to abolish these schools, there is the earnest inquiry "How may their efficiency be increased? Wherein do they fail to fully occupy their proper sphere?"

The unanimous experience of men and women most conversant with this problem is, to thoroughly disprove the idea that these schools can omit all academic work, that is, instruction in the branches of a text-book education. This is true for the same reason that it is found necessary to thoroughly re-teach a cadet's mathematics at West Point, no matter where he may have received his training. It may be no discredit to the methods of instruction possessed in the high school or college that they are not adapted to teachers, any more than to preachers; but it is a stubborn fact, attested by the experience of thousands of teachers and students in normal school work, that in order to get the complete mastery of a subject for professional use in the school-room, that subject must be studied with that end in view.

It is, therefore, laid upon normal schools as an imperative necessity, that they give attention to the *matter* of an education. But it is equally important that these schools be strictly method schools in the broadest and best sense of the term. They must be professional schools. They should be the fountains from which shall

flow the purest streams of thought upon the question of popular education.

The first and most important thing to attend to, if these schools be brought up to this very desirable standard, is the employment of competent teachers in the schools. Not competent in the general sense of sufficient book knowledge, and good character, for the schools are already well supplied with such teachers, but peculiarly able in technical skill, and in that power demanded of those who essay to teach teachers. They must have the most active and intense sympathy with the common public schools. Without this the conception of the proper work of a normal school teacher is impossible. Such a teacher must see what his students will do in their schools because of the influence of his work. He must comprehend the common school work as the work of the state, and be familiar with its needs, its faults, its virtues, and its aims.

But the thoroughly qualified teacher will be alive to the subject of method. He will know the whys and wherefores of the particular plans he uses in his own work, as well as progressive in devising and adopting new methods. He must grasp comprehensively the underlying laws of education, and be able to lead the mind of his pupils back from a specific method of teaching to the conditioning principles governing all true methods. He must see, and be able to make others see the relation of subjects taught to the mind of the learner, and be able to trace out with vividness the mental processes involved. Such teachers our schools demand; such they will have.

This would make possible the organization of every department of a normal school into a *method department*, and would make every class a *method class*. Herein is the key to the entire problem. Not only should a teacher in a normal school be required to teach all of the subjects belonging to the common school curriculum, but he should give thorough instruction in the method of teaching each subject in any grade of work. This will keep the teacher out of ruts, and prevent his withdrawing himself within the narrow circle of his own specialty. Students will be saved from becoming mere echoes of some teacher of methods. They will be made acquainted with various avenues of approach to certain subjects, and be continually referred to the principles of the science of education.

This plan would not do away with a special department for professional training; it would rather help to deprive the work of this department. It would enable the teacher of methods to greatly broaden out his work to enter the fields of the history and philosophy of method, and to thoroughly teach those laws had in common by all the subjects of the school course.

If thoroughly qualified teachers constituted the faculty of a normal school, there is nothing in the nature of the case to prevent the operation of such a plan. The teacher can follow through a subject according to the best method he knows, with a view of merely acquainting his class with the matter of the subject; then, on careful review, he may examine into his own method with his class; and require of them a thorough mastery of the methods by which this subject can be best presented.

After a while, when these students enter their own school-rooms, they will know *how* to teach other subjects than those only that they have studied with a "method teacher."

The little addition of time needed for this kind of work would be amply repaid to the state in the increased efficiency of the pupils from her normal schools. It would certainly greatly increase the value of the work done by the undergraduates. It would further tend to bring the schools into closer sympathy with the common schools, and cut off much of that false pride that would make normal schools nothing more than academies with patent-attachments.

* By Prof. T. J. Gray, (Normal School, St. Cloud, Minn.), in "New York School Journal."

Examination Questions.

ADMISSION TO HIGH SCHOOLS. Dec. 1882.

ARITHMETIC.

TIME—TWO HOURS.

10 Marks for each question.

- From 935 take 846 explain clearly the reason for each step. The difference between 82610 and the product of two numbers is seventy million three hundred thousand. One of the numbers is 9402; find the other.
- Find the amount of the following bill:—36 lbs. 8 oz. beef at 16c; 16 lbs. 10 oz. mutton at 14c; 7 lbs. 12 oz. pork chops at 12c; 15 lbs. 6 oz. turkey at 18c; 4 lbs. 10 oz. suet at 16c.
- Find the L.C.M. of 11, 14, 28, 22, 7, 56, 42, 81; and the G.C.M. of 40545, 124083.
- Prove that $\frac{2}{3}$ of $1 = \frac{1}{3}$ of 3.
Simplify $\frac{\frac{5}{14} + \frac{7}{12} \text{ of } 3\frac{1}{2} - (\frac{2}{3} \text{ of } \frac{3}{7} - \frac{1}{3})}{9\frac{1}{2} - 1\frac{2}{3}} + \frac{1}{3} \text{ of } \frac{1}{2} + \frac{2}{3} \text{ of } 5$.
- Prove that $1.025 + .05 = 20.5$.
Find the cost of .0625 of 112 lbs. sugar, when 1 lb. costs .0703125 of 16s.
- Reduce 45740108 square inches to acres.
- The bottom of a cistern is 7 ft. 6 in. by 8 ft. 2 in. How deep must it be to contain 3750 lbs. of water, a cubic ft. of water weighing 1000 ounces?
- A runs a mile race with B and loses; had his speed been a third greater he would have won by 22 yards. Find the ratio of A's speed to B's.
- A does $\frac{2}{3}$ of a piece of work in 6 hours; B does $\frac{1}{3}$ of what remains in 2 hours; and C finishes the remainder of the work in 30 minutes. In what time would all working together do the work?
- By selling tea at 60c. per lb. a grocer loses 20 per cent.; what should he sell it at to gain 20 per cent.?

ENGLISH HISTORY.

TIME—ONE HOUR AND A HALF.

- Tell what you know about the coming of the Danes into England.
- When did Henry II. become king of England? What did he do to make the government better and stronger? Tell what you remember about Thomas à Becket.
- Give an account of the Great Charter and the struggle by which it was secured.
- Tell what you know about the wars with France in the reign of Edward III.
- When did Henry VII. begin to reign? Tell of his troubles with pretenders. What was his policy towards the nobles? His foreign policy?
- Tell what you know about the following persons:—Lord Darnley, Villiers, Duke of Buckingham; Lord Strafford.
- We are told that "The Reform Bill marked a great advance in the English Constitution." Put down what you can in explanation of this statement.
Values—1, 10; 2, 10; 3, 10; 4, 10; 5, 10; 6, 12; 7, 10.

FOURTH BOOK AND SPELLING.

TIME—ONE HOUR AND A HALF.

- (a) Give an epitome of the lesson entitled "The Death of Montcalm."
(b) Who were Montcalm and Wolfe, and how came they to be engaged in hostilities against each other?
- Describe in your own words the battle of "Thermopylae", giving the date and location of the event.
- "Then followed nearly half a century in which France manifested little interest in these transatlantic possessions,—being too much occupied with civil dissensions within her own borders. This internal discord being brought to an end by the elevation of

Henry IV. to the throne, attention was again turned to the regions of the west. In the year 1603, Champlain sailed for Canada, thus beginning a course of labors of the deepest interest to the rising colony. He organized a system of trade with the Indians; he formed amicable confederacies with them, or humbled them in war by the superior science of European civilization. He fostered settlements of his countrymen, and laid the foundation of Quebec, in which city he was buried, in the year 1635. In the meantime, while France was consolidating her supremacy over the region traversed by the St. Lawrence, she had also gained an established footing in the territory bordering on the ocean—the present Nova Scotia, to which she gave the name of Acadia. In that country, as well as in Cape Breton, little French communities were being formed, and forts erected for the purpose of protection and defence."

Explain the following words and phrases in the above extract:—half a century, manifested, transatlantic, dissensions, borders, internal, regions of the west, colony, organized, Indians, confederacies, fostered, in the meantime, consolidating, supremacy, traversed, footing, Nova Scotia, communities, erected.

4. "Some words, similarly spelled, are distinguished by accent; others, similarly pronounced, are distinguished by spelling."

Apply this rule to the following:—adds, adze; air, o'er; council, counsel; courtesy; essay; digest; gallantry; present; ant, aunt; not, knot; dun, done; halve, have.

Values—1, 25; 2, 15; 3, 20; 4, 12.

ENGLISH GRAMMAR.

TIME—TWO HOURS.

- What is meant by the term 'alphabet'? "The consonants may be arranged under the heads—Labials, Dentals or Palatals, and Gutturals." Enumerate the consonants belonging to these classes, and account for the names, 'Labials', 'Dentals', &c.
- Enumerate the inflected Parts of Speech, and give the inflections of each with examples.
- "Number is a variation in the form of nouns and pronouns, by which we shew whether we are speaking of one thing or more than one." Give examples, shewing that this definition is inaccurate.
- "Some English nouns are used in the singular only; others, in the plural only; others have one meaning in the singular and two in the plural; others have two meanings in the singular and one in the plural."
Give two examples of each class.
- (a) Pluralize—beau, genius, chimney, lady, hoof, wharf, memorandum, cherub. (b) Give the feminine of abbot, songster, beau, czar, executor, drake. (c) Compare—beautiful, happy, bad, ill.
- "The English-speaking people of England were conquered in the eleventh century by the Normans, a French-speaking people; and by the mixture of the two their speech also came to be somewhat mixed, so that a part of our English comes from Germany and another part from France, to say nothing of the words we have gathered from other sources."
(a) Analyze from 'The English-speaking' to 'mixed.'
(b) Parse the words in italics.
- Make the necessary corrections in the following sentences, and give a reason for each change:—
(a) More than one emperor has prided himself on his skill as a swordsman.
(b) He was a child of six years old when he seen the comet.
(c) I feel coldly this morning.
(d) Can you see a red and white flag? I can see neither.
(e) Whom do you think called on me yesterday?
(f) Shakespeare is greater than any dramatist.
(g) He is not one of those that interferes in matters that do not concern him.

Values:—i, 10; 2, 8; 3, 4; 4, 9; 5, 9; 6 (a), 6; (b), 34; 7, (a), 4; (b), 4; (c), 2; (d), 2; (e), 2; (f), 2; (g), 4.

COMPOSITION.

TIME—ONE HOUR AND A QUARTER.

- Write a short letter to a gentleman in Toronto, describing the locality in which you live.

2. Paraphrase the following stanza, i. e. give its meaning in other words;—

"Few, few shall part where many meet;
The snow shall be their winding sheet;
And every turf beneath their feet
Shall be a soldier's sepulchre."

3. Express in another form—"I wish," said my uncle Toby, with a deep sigh, "that I was asleep." "Your honour," replied the corporal, "is too much concerned."

4. Distinguish the meaning of the following:—

- | | | |
|----|---|--|
| a. | { | He had a taste of tobacco. |
| | { | He had a taste for tobacco. |
| b. | { | Few men have been more unhappy. |
| | { | A few men have been more unhappy. |
| c. | { | The secretary and the treasurer will be appointed. |
| | { | The secretary and treasurer will be appointed. |
| d. | { | He was happier than any poet. |
| | { | He was happier than any other poet. |
| e. | { | Fetch me the book. |
| | { | Bring me the book. |
| f. | { | I will go. |
| | { | I shall go. |

5. "Every one," said the teacher, "was cross." Punctuate the foregoing so as to convey a different meaning, and explain the sense according to punctuation.

6. Embody the following statements in a simple sentence:—

Martin Luther was at first destined for the legal profession.

Martin Luther was born at Erfurt, in Saxony.

Martin Luther was born in the year 1484.

Martin Luther was the son of a miner.

7. Express, by using passive forms of the verbs—"Caesar, having conquered the Gauls, led the forces to Rome."

Values:—1, 20; 2, 8; 3, 10; 4, 12; 5, 6; 6, 12; 7, 4.

GEOGRAPHY

TIME—ONE HOUR AND A HALF.

1. Tell what you know about the earth's shape, size, motions and distance from the sun.

2. What place has latitude 0° and longitude 0°? In about what latitude do we live? Where do all meridians meet? Where is a degree of latitude longest? What zone is Ontario in? How many degrees broad is the torrid zone?

3. Bound the Dominion along the south from ocean to ocean. Give the provinces of the Dominion, their capitals and positions. Put down in order the names of the rivers, lakes, canals or rapids through which a vessel passes in a voyage from Duluth to Quebec.

4. Tell what you know about the chief seaports of the Dominion.

5. The province of Ontario is partly bounded by Lake Ontario. Draw a line indicating the course of this boundary, and mark the position of the principal towns and cities.

6. Define—Delta, Oasis, Longitude, Zenith, Horizon, Zone, Watershed.

7. Where and what are the following:—Alexandria, Blanc, Capricorn, Euphrates, Iowa, Jersey, Kars, Land's End, Potosi, Queenston, Riga, Madeira, Congo, Vienna, Tel el Kebir, Hobart Town, Funen, Heligoland, Arran.

8. State the population of the Dominion, and mention the chief exports of each province.

Values:—1, 6; 2, 6; 3, 16; 4, 6; 5, 6; 6, 7; 7, 19; 8, 6;

DICTATION.

TIME—TWENTY MINUTES.

(Two marks to be deducted for every misspelled word.)

Turning to the Southern Continent, we find at least two of the peoples inhabiting it provided with similar substitutes. In Brazil, two plants belonging to the verbena family are made use of sometimes to adulterate Chinese tea, but more frequently to usurp its place altogether. One of these is sold extensively in the Austrian dominions, under the name of Brazilian tea, the other is highly esteemed by the South American people. It is known by the name of maté, and flourishes in the republic of Paraguay, whence it is

called Paraguay tea. Even in the Eastern Hemisphere, the Chinese shrub is not allowed to have it all its own way. The Malays of Sumatra and the other islands of the Eastern Archipelago, as well as the Australians, employ the leaves of certain trees of the myrtle family, one of which they call "The tree of long life," in the same manner as more civilized peoples their pounds of tea and coffee.

Value, 22.

Practical Department.

THE PROBLEM OF TEACHING TO READ.

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

(Continued from last month.)

To put all this in a few words: *The character of our Notation prevents the formation of habits.* How serious a matter this is in education, how serious an expense it is to the country, a little reflection will show. The whole aim of Education is to form habits. Habits are formed by the perpetual repetition of small acts of the mind or of the body; and the more often these acts are repeated, the more easy it is to perform them, until at length they become a part of the spontaneous nature, and are performed with perfect ease and pleasure, and beneath consciousness. In other words, power has been produced; and the exercise of power is always accompanied by a reflex of pleasure—stronger or weaker according to circumstances. But not only is power produced by the repetition of innumerable acts of attention: a method or path is beaten through the subject itself by this perpetual treading of the feet of thought; and the trained child can use the knowledge he has gained for the conquering of the unknown. He does not need to be told this and that and the other thing; he knows himself how to learn—he has a method; and he takes hold of every new appearance by the right handle. But these perpetual inconsistencies, these constantly recurring self-contradictions, this interminable challenge to the child not simply to recognise so many letters, but to ask himself what is their value here and there—to ask himself whether he must not ignore and cut them altogether—prevent the growth of habit, the production of power, the formation of a path or method. They almost compel both teacher and pupil to learn every word as a separate and individual entity—just as he learns to know men and women. If, when the symbol varies and the sound remains the same, the child cannot believe his eyes; and when the sound varies and the symbol remains the same, he cannot believe his ears; and if the eyes and the ears are the two main avenues to knowledge, it follows that we begin the mental education of most of our children by demoralising and confusing these two all-important organs. We invite the children to walk in what ought to be a plain path—the smooth and delightful road to the city of knowledge, but this path is strewn with rough historic boulders, which delay their goings and weaken their intellectual limbs. For, as I have said, most of the letters have only geographical values; and the young child's mind has to solve the difficult practical problem of Sir Boyle Roche, and to be 'in two places at once.'

The two sets of difficulties I have described so interlace with and ramify into each other, as to entirely prevent the formation of habit. In fact, they destroy mental habit, and habit, as has been said, is power; and these two difficulties really go therefore to paralyse all mental power in the child—so far as reading is concerned. The logical conclusion that our English children must learn each word as an individual, is borne out by the fact that they do learn to read in this way. Every person I have spoken with—

H. M. Inspectors, Teachers, Managers, and many others—have expressed to me their conviction that English children learn their words as separate and individual existences; and many of them go farther, and affirm that classification is useless, if not impossible. Thus, for the child, our language sinks nearly to the level of Chinese. The essence of European thinking is classification; but, so far as the notation of our language is concerned, we are out of the European sphere. And it is this tedious and mindless process that costs the country so much: the improvement of our methods would result in an enormous cheapening of the process. This is a consideration which cannot be too earnestly pressed upon the attention of the education department, school boards, and school managers. In the schools I have visited in every part of the country, I have always found both teachers and children working with far too much strain against these difficulties, beating up against contrary winds, driven hither and thither by the cross currents and chopping seas of our different notations, and accumulating solid and trustworthy experience—at the expense of the country—in the slowest and most laborious possible fashion. Just as twenty-five per cent. of base or depreciated coin thrown into the circulation of the country would upset all commerce, and turn bargaining into barter or merely individual transactions, the twenty-five per cent. of anomalous notation (and this is a very moderate estimate) turns almost all the mental effort of the child into a momentary shift—into a series of hand-to-mouth transactions. In other words, the child cannot accumulate experience with ease or economy; he is constantly meeting with new complications which his past experience cannot unravel—in fact, he works as if he had no past, or—what is worse than no past—a past of broken habits and loose perceptions, behind him. No wonder, that the lower classes find it difficult to learn to read; and that even the middle classes find it difficult to learn to spell.

There is a passage in "Alice through the Looking-glass" which describes, as if in a parable, the difficulties felt by most children in their attempts to master the reading of our mother-tongue.

"Whenever the horse stopped (which it did very often), he fell off in front; and whenever it went on again (which it generally did rather suddenly), he fell off behind. Otherwise he kept on pretty well, except that he had a habit of now and then falling off sideways; and, as he generally did this on the side on which Alice was walking, she soon found it was the best plan not to walk quite close to the horse.

"I'm afraid you've not had much practice in riding," she ventured to say as she was helping him up from his fifth tumble. The knight looked very much surprised and a little offended at the remark. "What makes you say that?" he asked, as he scrambled back into the saddle, keeping hold of Alice's hair with one hand, to save himself from falling over on the other side.

"Because people don't fall off quite so often when they've had much practice."

"I've had plenty of practice," the knight said gravely, "plenty of practice!" Alice could think of nothing better to say than "Indeed!" but she said it as heartily as she could. They went on a little way in silence after this, the knight, with his eyes shut, muttering to himself and Alice watching anxiously for the next tumble.

"The great art of riding," the knight suddenly began in a loud voice, waving his right arm as he spoke, "is to keep"—Here the sentence ended as suddenly as it had begun, as the knight fell heavily on the top of his head exactly in the path where Alice was walking. She was quite frightened this time, and said in an anxious tone, as she picked him up: "I hope no bones are broken?"

"None to speak of," the knight said, as if he didn't mind breaking two or three of them. "The great art of riding, as I was saying, is—to keep your balance properly. Like this, you know— He let go the bridle, and stretched out both his arms to show Alice what he

meant, and this time he fell flat on his back, right under the horse's feet.

"Plenty of practice!" he went on repeating all the time Alice was getting him on his feet again. "Plenty of practice!"

"It's too ridiculous!" cried Alice, losing all her patience this time. "You ought to have a wooden horse on wheels, that you ought!" "Does that go smoothly?" the knight asked in a tone of great interest, clasping his arms round the horse's neck as he spoke, just in time to save himself from tumbling off again. "Much more smoothly than a live horse," Alice said, with a little scream of laughter, in spite of all she could do to prevent it. "I'll get one," the knight said thoughtfully to himself. "One or two—several."

"The great art of riding is to keep your balance properly; and the great art of reading is to know when to give this sound, and when to give another sound to the same letter, and to keep your mental balance among all his confusion. Alice found it was the best plan not to keep quite close to the horse; and children very soon instinctively learn that it is the best plan not to keep quite close to the letters, but to be ready to give a new sound to the old friends at discretion or indiscretion. And thus a want of firmness, confidence, and mental clearness is generated which probably delays the acquisition of other subjects, and which may in fact stick to the pupil all his life. For the attitude of the mind in learning to read English is not a simple one—like the mental attitude of the German child. It is a threefold state of mind. The child has to do not one thing, but three things:

1. He has to notice when he must not notice (in the case of silent letters);
2. He has to notice when he must alter his translation of a symbol—or be false to his past experience;
3. He must notice when to give the old translation, or keep true to his past experience.

It is very difficult to make one set of movements with the right hand, and a different set with the left; but if we had to keep up a third and still different set of movements with one of the feet, it would be a very slow and difficult thing to learn.

The language contains more than 1300 words the notation of which is not in harmony with the pronunciation; and these 1300 words are the commonest—the most in daily use. Of these, 800 are monosyllables—and these, too, in most common use—words like *too*, *said*, *they*, *brought*, *one*, and *once*. The problem of teaching to read a true notation, is to train children to co-ordinate with and fit to the *eye-language* (the printed symbol), which they do not yet know, the *ear-language*, which they have known from their earliest days. But what if the eye-language refuses to be fitted to the ear-language? What if they have long bid each other good-bye and taken separate paths? What if the task becomes for the child a merely arbitrary and entirely forceful linking of the one to the other?

The important question now arises. *Is there an antidote to this state of things?* The two diseases or malformations in the language are plain to every one; and they are perpetually present to the elementary teacher. What are we to do?

The analogy in human affairs points to the fact that the presence of a great defect in one direction, points to the presence of a great power in another direction; and the question arises: Is there, for the enormous deficiencies and absurdities in our notation, some countervailing advantage in the language?

I believe there is an antidote—a very simple, but a very effective one. The antidote is to be found in the language itself. It is easy, by the invention of diacritical* marks, to guide the child to the ordinary pronunciation, but then these diacritical marks are

* Such marks, I mean, as are used to indicate silent letters, &c., &c.

themselves a new notation. The cure is not to be found in that direction. The language is poor in letters; but it is rich in words. The wealth of the vocabulary may make up for the poverty of the alphabet. There is no more common experience in the writing of English than the quickness which the mind soon acquires in rejecting this phrase and preferring that—in substituting one word for another, in selecting, among a number of candidates, the aptest word for the purpose. There is probably no European language with so many different words for the same notion; and it is quite possible to write one's ideas in two perfectly different kinds of English—Latinised English or pure English. This then raises the hope;—is it possible that, by conscious selection, we should come to write English which should present no difficulties to the learner, and which should be printed in a self-consistent notation?

(To be continued).

LANGUAGE LESSONS.

INTRODUCTION.

To teach pupils to think and to express their thoughts in good language is admitted by all to be an essential school duty. But how they shall be taught to think, has been often overlooked; still oftener, how shall they be taught to express their thoughts.

As a rule, pupils do not think severely while pursuing their studies, because they can so much more easily commit to memory enough of their daily lessons for the purposes of the recitation; and the lesson well recited is too often considered sufficient. Again: they fail to think because from their first entrance into the school they have not been taught to enlarge their vocabulary, or how to classify, and express in their own language, the ideas that are crowded upon them from day to day. Hence the necessity not only of requiring pupils to think, but also of securing good expression of the thought.

The child from six to eight talks freely and fearlessly, so far as being retarded by any doubt of the correctness of his language is concerned, but, as a rule, from this period thought and expression are hampered by lack of fitting words, or aptness in arranging those at his command. This is a result of learning to read by a method which presents a multitude of ideas that do not accord with his habits of thought, or rather, do not take a natural place in his thoughts. A legitimate result of teaching by the old alphabetic method, with no effort made to connect the new ideas with those of his daily life, is that monotonous, high pitched drawl which, having become habitual, is so difficult to correct. Such results are easily avoided by the use of the word and phonic methods, accompanied by familiar conversations upon the ideas found in the lessons from the first day of school. There is perhaps no period of life when so many new ideas are poured in upon the mind as during the first few months at school. For this reason special efforts should be put forth to have the pupils' ability to use and express those ideas keep pace with their acquisition.

To aid in this, language lessons are devised by which the pupil is expected to gain information, to gain a larger vocabulary, and especially to study out the best methods of expressing ideas.

To the teacher of this work we would say, that, to secure the best results, the work should be frequent, easy, and attractive, but thoughtful. The gaining of ideas, learning of words, and facility in expression, must keep pace with each other. No rules or directions can be given that will apply to all cases. Perhaps in no other study is it so essential that the teacher should have an active sympathy with the pupil, and the pupil a thorough confidence in the teacher.

By too great exactness, too much formality, and in numerous ways, the interest in the work may be destroyed. By just what

means the pupils are to be drawn out into regular and enthusiastic action is in each instance a new problem. But the skillful teacher will solve it. In applying the work which is to follow in a few brief articles, the teacher will find that a degree of perseverance and enthusiasm, together with discretion, will often lead to excellent results when least expected. The teacher should let the pupils join her in a pleasant criticism of the errors made by them either in talking or writing; but dealing with errors made by those outside the school-room, as well as with those collected in grammars, should be avoided. It is better to spend the time in reading and discussing the thoughts of good authors and their manner of expression.

Pupils can learn more by studying a good model than by trying to improve a bad one. Take a little time each day for the presentation or discussion of topics. In ungraded schools, divide the pupils into a few divisions, and present the work to each separately.

Neither the simplest exercises nor the more advanced essays can be written until there is material for the writing; hence be sure that the pupils are well informed, and then be sure that the work is well done.

It is not expected that the following exercises will be taken up in any school in the exact order given here. The teacher must judge as to the proper work to give a class, the number of times it be given, and much other minutiae that can only be determined upon when the conditions are fully known. The teacher alone can do this. The amount of explanation, of giving information, of personal assistance, and of criticism will vary much for the different grades, and will require great care and discretion, especially on the part of the country school-teacher who has all grades. But remember the old maxim, "Never tell a child that which he can find out himself;" only be sure that he has the means and opportunity for finding out, and that he does it.

FIRST YEAR.

By skillful questioning and pleasant conversation about things of interest to the pupils, the teacher may beget such a feeling of ease and confidence on their part that they will talk freely.

So essential is this confidence that, if necessary, the teacher must for a while sacrifice other objects to secure and retain it. Criticism must be guarded; even serious faults in articulation and choice of language may often be overlooked. Liberal praise for good work and correct expressions will excite the ambition and strengthen the confidence of the pupil, while severe censure may do much harm. A quiet repetition of an inaccurate sentence, in correct form, is often more effective than more direct criticism.

If the pupils are animated and eager to ask and answer questions, a good beginning has been made. The following exercises are suggestive merely. Supply others of a similar character, taking care that they are not beyond the easy comprehension of the pupils.

1. Begin the language work with the first reading lesson. Ask questions about the picture which illustrates it—a cat for example. Get the pupils to talk about their cat at home. Show them the printed word *cat*, and ask them to find the word in other places on the page; then follow with some general talk about cats, or other things that are of interest to them.

2. In subsequent lessons continue the talks about the pictures, etc., leading them easily to the succeeding words; and take up other things, such as asking them to give the names of several things in the room. Ask them the uses of such things, or any other questions likely to excite interest and discussion.

3. Ask for the names of things which they can see out of doors. Get them to talk about the form, color, use, and other plain qualities of each.

4. Ask for the names of some things at home. Find out something about each.

5. Ask for the names of as many things as they can remember having seen while coming to school. Ask them which were alive, which were made by man, which could walk, crawl, fly, or swim. Ask them to remember and be ready to tell the next morning what they saw on their way home or to school.

6. Ask for the names of things which they can see that are black; also for the names of some which they cannot see. Find out some other quality of each. In the same way take up some of the common colors, such as white, red, green, blue, and yellow.

7. Ask them to tell you what they do at home, at school, on Saturdays, etc.

8. Ask for the names of some animals which they have seen, and have them tell what each can do.

9. Ask for the names of birds. Have them tell what birds they have at home, and what the birds can do. Ask them if chickens, ducks, etc., are birds. Have the birds and animals described as far as possible as to size, color, habits, etc. Ask which runs, which can swim, which can fly, etc.

10. Ask them to find the picture of an animal in their books, and to tell what it is doing. Have them tell what else they find in the pictures, and how many have seen the things pictured, and where they saw them.

11. By means of a rule develop the idea of a foot, and of an inch, and have the pupils compare objects within their sight as to size, shape, etc.

12. As early as possible have the pupils write their names, name of town, county, and state; also short sentences from dictation; as, I can play ball, I can pile wood, I can write a letter to — who lives in —.

SECOND YEAR.

1. By the comparison of objects, when possible, develop the use of words of comparison; such as good, better, best; long, longer, longest; soon, sooner, soonest. After a number of oral exercises with the objects and without, write on the board sentences in which spaces for words of quality or comparison are left blank, requiring that such blanks shall be filled correctly. *Examples:* The apple is —. The bird flies —. John is — than his brother. That maple is the — tree in the yard.

2. Have the full name of one of the pupils written on the board, then teach the meaning of family or surnames, the given or Christian name, also the term nickname. Have the names of the town, county, state, and country in which they live also written on the board, and by the pupils on their slates, on several different days. Require in this practice the proper use of capitals and punctuation.

3. Teach also the use of capitals at the beginning of sentences, and that I and O are always capitals when written alone.

4. Teach the use of the hyphen in compound words, and words divided at the end of the line.

5. As early as practicable the pupil should write short sentences from dictation; as, I can see a chair; I can play ball and horse; I can pile up wood.

6. Have the pupils write from memory very short or simple stories that have been read or told by the teacher.

7. Have the pupils write about visits to town, to a fair, or what was done last Saturday, or what they would like to do next Saturday.

8. Let them tell or write what things they would like to have, and what they would do with them.

9. Have them write letters to each other describing things at home, at school, what was done on some holiday, etc. See that proper headings and endings are used; as,
Dear George—

What did you do yesterday? I went with Henry to see his cousin John, and we, etc.
Your friend, JAMES.

10. By the means of questions get the pupils to name the parts of the head, face, arms, hands, legs, and feet; also the motions of each; as raising, bowing, shaking, nodding, and turning the head; bending, stretching, twisting, folding, swinging, and thrusting the arms; walking, hopping, skipping, jumping, dancing, kicking, and other motions with the legs. Avoid strictly technical terms for the parts of the body, unless they are such as are used in common conversation.

11. Require pupils to write sentences using one of the following words in each; marbles, picture, nest, kite, etc. Afterwards give them lists of words, two or three of which shall be used in each sentence; as horse—cow, tree—road, fire—water, story—in reader—boys.

12. Encourage the pupils to bring plants and other objects, such as can be used to illustrate the terms root, stalk, branch, leaf, bud, flowers, fruit, seed.

13. As much as possible by use of objects, teach pupils such qualities as square, round, triangular, straight, curved, crooked, irregular, rough, smooth, plane, hard, soft, sticky, and brittle. Have the objects in the room described by means of these terms until they can use them readily.

14. In brief lessons teach the modifications of the common colors by means of the words light and dark; as light green, dark blue, etc.; and have these terms used in the description of objects.

15. Require each of the class to write as many sentences as he can about some object which he can see and examine; as table, chair, knife, etc.

Note.—These exercises are not intended as single lessons. Many of them contain material for several. The inexperienced teacher will be likely to undertake too much rather than too little in a single lesson. Time should be spent on this work every day, but it should be short, perhaps not more than ten minutes at a time.—*W. R. Comings and H. C. Knox, in Ohio Educational Monthly.*

PROFESSIONAL RESPONSIBILITY.

The following extract is from *Our Public Schools*—London, 1881. We hope the writer's remarks on Eton do not apply too exactly to some "persons in high places" in Ontario.

"After a lapse of twelve years, it may not be presumptuous to ask how these high expectations have been fulfilled. Dr — had a fair field and considerable favor, and one not unnaturally looks to see what he has done in it. The numbers of the school have not fallen off..... But these outward and visible achievements are not adequate symbols of a head master's success. It is scarcely within the compass of human incompetency to keep down the numbers of a school which is fashionable among most parents who have money to squander. A genuine interest, and a real knowledge of what the conditions and circumstances of a school are, lead to the examination of other than statistical signs. We challenge contradiction when we say that discipline has never been at so low an ebb as it is now. But there are other things as important as discipline. The head master is personally entrusted with the teaching of the first thirty-two boys in the school, including in almost every case those who obtain open scholarships at Oxford and Cambridge. Such a task is of the greatest delicacy and importance, and it is one which it might be thought that any man with a heart or a head would value greatly and discharge conscientiously. But there are persons in high places who have to learn that the responsibility of a teacher is not discharged by a mechanical adherence to routine, and that indifference far more than inaccuracy discourages the aspirations and impedes the progress of a student. How people who do not take an intense interest in the minds and characters of boys (and students) contrive to endure the drudgery of teaching, we cannot pretend to understand. Sure we are that there is no influence more deadening to the intellectual life, and paralyzing to the advancement of a great school than that it should be presided over by a man who fulfils his duties in the dead letter and violates them in the living spirit, who administers instruction according to the contract, and cares not how it is received, who, if we may slightly alter the words of Prior, in dealing with those that are set under him,
Is to their virtues very blind,
Is to their faults a little kind,
Lets all their ways be unconfined,
And claps the padlock on their mind.

THE TEACHER'S "NECESSARIES."

Locke says—"The greatest study of mankind is man;" our first great object should be to know ourselves, and by this means to become thoroughly satisfied that we possess the powers necessary to make successful teachers. I use the term *successful* advisedly, for if we have not a natural aptitude to teach, nor a goodly share of those qualities that are essentially requisite in a successful teacher, we make a grave mistake by even entering on this, the most trying of all professions.

We must have *method*; for without place and order there can neither be rapid advancement nor any satisfactory result from our labor.

We must have *memory* or the power of accurate remembrance; our knowledge should be laid up in regular places in the brain, like shelves in a store-house, to be called upon for use at will.

We must have *prudence*; we should not judge hastily, nor condemn lightly.

We must have *originality*, and boldly strike out new paths for ourselves, when we find that old methods are unsatisfactory in their results.

We must have *sympathy*; without love for children our rule will simply become one of brute force, than which there is, perhaps, nothing more harmful to the better qualities of the heart in those governed. If the moral as well as the mental faculties be not truly educated, our teaching is a failure.

We should aim at making good men and good women, not walking encyclopedias. The work done in this direction among boys, by perhaps the most distinguished and successful teacher of this century—Dr. Arnold of Rugby—furnishes us with a useful lesson.

We must have *self-reliance*, and *perseverance*; be sure we are right then go ahead without fear or favor.

Finally, we must have *good principles*; if we are true gentlemen and true ladies our efforts will be successful in really *educating* (in the highest sense of the term) those intrusted to our care.—*J. A. Wismer, Parkdale, Ont.*

Promotion Examinations.

WEST MIDDLESEX PROMOTION EXAMINATIONS.

READING.

SECOND TO THIRD CLASS.

1. Tell in your own words the story of "Brave Bolly."
2. Write two verses of "Things to be kept in mind." Give the meanings of employment, infants, and ascend.
3. "Open your hospitable door,
And shield me from the biting blast;
Cold, cold it blows across the moor,
The weary moor that I have passed."

What is meant by hospitable door? Give the meaning of the second line. Name the marks used before open, and after passed.

4. Compose four sentences: the first having a question mark at the end of it; the second a period; the third showing you know how to use quotation marks; the fourth must have a capital letter and a comma.

5. Give another word, or words that mean the same as remembering, composure, distracting, persevere, perceived, finally, cobbler, sedate, resided, envied.

6. Carefully write one verse from each of the following: "By-and-By," "A little word," "My father's at the helm," "Evening Hymn," "The child's first grief."

7. What words would you change in these sentences:
 1. Him and me did it.
 2. I begun my lesson.

3. It wasn't me that flied the kite.
4. What like of a book is that?
5. There's the men.

Six questions a full paper.

THIRD TO FOURTH CLASS.

1. Tell in your own words the story of "John Adams and his Latin." Write a sentence containing the words abominable and distinction.

2. Give the meanings of "huge recess," "precipice," "remote," "cultivate." Write the verse in which these occur. Where is Helvellyn?

3. If e'er thy breast with freedom glowed,
And spurned a tyrant's chain,
Let not thy strong oppressive force
A free-born mouse stain."

What is the meaning of 'he first line? Of the second? Give the reason of the marks used in e'er, tyrant's, free-born.

State clearly the meanings of italicized words:

1. The beaver is the *original lumberman*.
2. They are not *addicted to works of supererogation*.
3. Their great *original* proclaim. How do they do this?
4. Move round the dark *terrestrial ball*. What moves round?
5. They are fit for neither *warriors* nor *councillors*. Who were not fit?

5. Write some Indian rules of politeness. Give six rules of politeness practised in your school.

6. Jesus asked the lawyer two questions, and the lawyer asked him two. Write out these questions in full and their answers.

7. Why is the 1st of June a glorious day in the annals of the British Navy? State the leading points in the fight between the Chesapeake and the Shannon.

Five questions well answered a full paper.

ARITHMETIC

SECOND TO THIRD CLASS.

1. From one million take eight hundred thousand and sixty one. Prove your answer (1) by addition (2) by subtraction.
2. The multiplier is 3897, the product 292225530049; find the multiplicand.
3. Find the value of $69225510 - 1382$ divided by $187 + 496 + 375 + 897 + 690 + 107$.
4. By using factors, solve the following questions:
 - (a) 769387×72 .
 - (b) $610933 \div 108$.
 - (c) $916873 \times 88 \div 42$.
5. How many pounds of tea at 89 cents per pound can be bought for 178 boxes of fruit worth \$5.89 per box?
6. A has 4278 dollars more than B, and 1225 dollars less than C, who has 7864 dollars? and D has as much as A and B together. How much has D?

Full work required. Five questions make a perfect paper.

THIRD TO FOURTH CLASS.

1. Cameron has manufactured in four years 2236 pair of shoes, making each successive year 180 pair more than the year before; how many pair did he manufacture the first year?
2. Find the highest common factor of 14385, 20319 and 49267.
3. John's money equals $\frac{1}{11}$ of \$1999, and Joan's is $3\frac{1}{2}$ times Tom's; how much money has Tom?
4. Compare these fractions, $\frac{5}{8}$, $\frac{1}{2}$, $\frac{3}{4}$, $\frac{1}{3}$. Find the sum of the greatest and least, the sum of the other two, and the difference of these sums.
5. Simplify the following expression:
 $2\frac{1}{2} + (3\frac{1}{2} - \frac{1}{4}) \div (3\frac{1}{2} + \frac{1}{4}) - 2\frac{1}{2}$ of $\frac{1}{3} - \frac{5}{7}$.
6. What is the least number that must be taken from $71\frac{1}{2}$, so that the remainder may exactly contain $7\frac{1}{2}$?
7. Reduce $\frac{7}{1}$ to an equal fraction whose denominator is 21 more than its numerator.
8. Name each of these fractions, $\frac{2}{3}$, $\frac{7}{7}$, $\frac{7}{3}$, $\frac{1}{2}$ of $\frac{0}{15}$, $\frac{2\frac{1}{2}}{3}$, $7\frac{1}{3}$.

Find their sum and product.

The work must be well indicated. Six questions make a complete paper.

GEOGRAPHY DRAWING, OBJECT LESSONS, WRITING.

GEOGRAPHY.

SECOND TO THIRD CLASS.

1. Define cape, sea, continent, ocean, strait. Name five divisions of land, and five of water that don't flow.
2. Name the townships of Middlesex. State the name of one railroad in each. Also give the incorporated villages. Answer this question by a table of three columns headed Township, Railroad, Village.

DRAWING.

1. Make as nice a map as you can of the County of Middlesex. Show on it the boundaries of townships and their names, the railroads and villages.

OBJECT LESSONS.

1. In ten sentences tell the most important facts you know about the whale.
2. Where are elephants found? How are they caught? Describe an elephant as well as you can. Tell why they could not live in Middlesex.

WRITING.

1. Make the first ten capital letters.
2. Open Second Book at page 210, and write the last paragraph of the lesson about "The Liar and the Truthful Boy," from trusting to truth. Put in all the marks.

GEOGRAPHY.

THIRD TO FOURTH CLASS.

1. By means of a table having three columns, give the state and part of the state in which each of these is situated: Milwaukee, Chicago, Memphis, Mobile, Sacramento, Rochester, Cincinnati, Detroit, Cleveland, and New Orleans.
 2. Give the names and direction of each of two rivers which empty into Superior, Ottawa, St. Lawrence, Mississippi, Amazon. Tabulate your answer.
 3. One stream discharges its water into another. How would you determine which is the tributary? Illustrate by a diagram and get the material for your answer from question 2.
 4. In the order of their distance from Sarnia, arrange Toronto, Quebec, Halifax, Barrie, Clinton, Woodstock, Brandon, Winnipeg, Duluth, and Victoria. If you think it easier, arrange the order of their distance from the Atlantic ocean.
 5. What waters border on Essex? Why is Essex such a good grape-growing county? If you say because it is one of the warmest, tell why it is the warmest?
 6. A badly taught boy says, "The North Pole is in London," and that "The Equator passes through New York." Prove that his statements are wrong.
 7. Explain fully one of the following: Cause of day and night winter and summer; Rain; days longer in summer than winter; north winds being cold or south winds being warm.
- Five questions make a full paper.

WRITING.

THIRD TO FOURTH CLASS.

1. John Henry bought goods from Murray & Co. amounting to \$37.90. He paid on the account \$21, and gave his note at three months for the balance. Write the receipt and the note. Both live in Strathroy.
2. Carefully write all the capital letters.
3. Transcribe the following:

Deep in unfathomable mines
Of never-failing skill,
He treasures up His bright design
And works His sovereign will.

4. What is meant by shading, sloping and spacing? State the height of each small letter occupying more than one space. Questions 2 and 3, well answered, count a full paper.

DRAWING AND OBJECT LESSONS.

DRAWING.

THIRD TO FOURTH CLASS.

1. Make a map of Ontario. Show the boundary lakes and rivers, and the cities with their connecting railroads. Print in their proper places, the names of cities, lakes and railroads. This map is expected to be accurately and neatly drawn. This question was given for preparation weeks ago.

WHALE, ELEPHANT, LINEN.

1. Name the commercial products obtained from the whale. State from what part of the whale each is taken, and the use to which it is put.
 2. What is meant by spouting? Why can't the whale live under water? Tell how it feeds its young, and how it collects food for itself.
 3. In a few sentences, not more than six, tell the most wonderful things you have learned about the elephant.
 4. From what plant is linen obtained? From the time the plant leaves the ground till the linen appears in an article of dress, describe fully what operations take place.
 5. How could you tell linen from cotton?
- Four questions a complete paper.

CIRCULATION.

THIRD TO FOURTH CLASS.

1. What is an organ? Name some organs of the body that are hidden from our sight.
 2. Where is the heart situated? How many cavities in it? Which side contains pure blood? What carries the blood to the heart?
 3. How many lungs have we? Give their position and use.
 4. Tell the difference in use and construction of veins and arteries. How do we know when one or the other is cut?
 5. Make a drawing of the heart and show how the blood is sent to all parts of the body, and how it is brought back again.
- Four questions make a full paper.

GRAMMAR.

THIRD TO FOURTH CLASS.

1. Re-write the following and omit the unnecessary words:

The man pursued after the deer.
He gave it to me free, gratis, for nothing.
Willie is certain sure to come.
That little wee mouse ate the cheese.
His potatoes were frozen hard last night.
2. Name the parts of speech. Form a sentence having all the parts in it. Tell which part each word is.
3. Correct the following expressions:

They eint got no apples.
My master learns me grammar and geography.
Neither him nor me seen him do it.
June is larger than any girl in her class.
There's threes of us going to the fair.
4. Classify sentences. Give one example of each. How do you know what to place in the completion and extension?
5. According to scheme analyze

"Far down in the depths of the dark blue sea
An insect train work ceaselessly."
"A little girl, named Lucy, the daughter of a rich gentleman, was playing one day by the edge of a pond near her father's house.
"One hot summer day, a fox, parched with thirst, tried in vain to find some water."
"Bertha was a dear little girl, with brown eyes, curly hair, and merry ways."

SPELLING.

SECOND TO THIRD CLASS.

To be read slowly not more than three times.

1. Mousie cried, out "Oh!"
2. His wife didn't do a day's work.
3. Do not grasp at too much, or you may lose all.
4. Then Ann sings some pretty hymn.
5. Annie throw her arms about Alred's neck.
6. Round we circle in a sphere.
7. Aunts and cousins came to see Susy.
8. She got a severe scolding for her pains.
9. I would shake them among almonds and carraway comfits.
10. He would not believe me again.
11. David was the youngest son of Jesse.
12. A giant defied all the men of Israel.
13. He wrote many beautiful psalms
14. Doesn't Lucy look pretty?
15. Two men were painting a ceiling.
16. They've caught and killed scores.
17. But the weight of his clothes began to tell on him.
18. Urchins stood by with their thovish eyes.
19. It tossed the colt's manes all over their brows.
20. Frolicsome, complaisance, acceded, brazier, grieve.

THIRD TO FOURTH CLASS.

1. He planted his talons round his adversary's throat.
 2. What should appear but a miniature sleigh and eight tiny reindeer.
 3. In vain wretched victim, for mercy you plead.
 4. The beaver is too highly civilized for a nomadic life.
 5. There sit, and now discreeter grown.
 6. Everything was brought within the cattle-kraal.
 7. My life was in imminent jeopardy.
 8. It was something like the coo of a pigeon.
 9. This act mutilated him for ever.
 10. Rosoletta, the partridge, sat in a corner of the aviary.
 11. Give words ending in able, ible, tion, sion, ocs, ose.
 12. Write six words pronounced the same as meat, in, there, blue, one, air.
 13. Spell the names of the days of the week and the months of the year.
 14. Give some words spelled with an apostrophe.
 15. Nominative, Transitive, dulness, heifer, trousers, pepper, oak, Cairo, wreck, Falieri.
- 11, 12, 13, 14 should be written plainly on the board.

DIVISION No. 1, LAMBTON.

SPELLING.

FIRST TO SECOND CLASS.

Children must learn their lessons, in pretty colors, six months Charlie's sisters; broken her stick; friends thought; quite tame full of glee; truant; groom; rough, shoe, thread; means; bright blaze; written.

SECOND TO THIRD CLASS.

Chilled with hunger; church spire; pitch; muffler; guard chain; a couple of good sickles; galloped; feathers; yellow canary; repeated his challenge; guardsman; neighboring carpenter's shop.

Page 189—So it swept. . . . gingerbread stalls.

Page 228—The gratitude of. . . rich treasures.

THIRD TO FOURTH CLASS.

Foreign aggression; ignominious retreat, the schooner collided with the steamer; the collision occurred; exceedingly convenient; remnants of furniture; poison; comparatively; district; paroxysm; dainties; propensities appalling; appeasing; miraculous.

Page 237—A sortie. . . . and the shipping.

Page 83—Delighted. . . . many months.

FOURTH TO FIFTH CLASS.

Pithy telegram; received the message courteously; sieges, triumphs, exploits; sculptured in alabaster; exhaustless munitions;

enigmatical grimaces; miraculously supplied; legitimate claimants; principles of patriotism: contemptuous and severe.

Page 230—It is impossible. . . insatiable desire.

Page 256—Seneca tells. . . mighty stream.

Three marks deducted for each error in all classes.

GEOGRAPHY.

SECOND TO THIRD CLASS.

1. What is a river, lake, mountain, sea, continent? Give an example of each.
2. Name the countries of N. America, and the Provinces of Canada.
3. (a) Tell in what direction from the school does the sun rise; in what direction does it set.
(b) Give the names of three cities, three towns, three villages.
4. Draw a map of Lambton; mark the railways; locate Wyoming, Watford, Alvinston, Thedford, Arkona, Forest.
5. Name the lakes around Ontario; and tell where we get oil, salt, gold.

Values:—1, 20; 2, 20; 3, 20; 4, 20; 5, 20.

THIRD TO FOURTH CLASS.

1. Name five largest rivers in America; also five largest islands, gulfs, and bays; and name the countries through which the rivers flow.
2. In what provinces of Canada are gold, coal, oil, salt, and timber obtained?
3. Name the States bordering on the Mississippi river, and those on the Atlantic ocean.
4. (a) Describe the Amazon and Mississippi rivers.
(b) Name the countries of S. America, and capitals.
5. What form of Government exists in Canada, the U. States, Brazil, Peru, Ecuador?
6. Draw a Map of Canada, marking the boundaries of each Province as nearly as possible, and the principal rivers of each.

Values:—1, 16; 2, 3 x 4; 3, 8 x 2; 4, 10 x 2; 5, 3 x 5; 6, 21

FOURTH TO FIFTH CLASS.

1. What is the general direction of the mountain ranges of the Old World? and name the largest river flowing into each of the following, viz.: Caspian, Black, Mediterranean sea.
2. Name the Kingdoms, Empires, and Republics of Europe, and the capital of each; the rivers of Asia, and the mountains of Europe.
3. Through what bodies of water would a ship sail in going from Bombay to Constantinople?
4. Locate Trafalgar, Land's End, Race, San Francisco, Milwaukee, Chicago, Montreal, Pictou, Golden Horn, Bordeaux, Brussels, Calcutta, Cairo.
5. Name the principal products of Canada, the United States, Brazil, England, and Russia; and the form of Government in each.

Each question in promotion from 4 to 5, counts 20 marks.

ARITHMETIC.

FIRST TO SECOND CLASS.

1. Add 4736 + 70894 + 19 + 1073645 + 987429.
2. Write in words, 906; 473; 510, and in figures, sixty-one; four hundred and three; one thousand and two.
3. How many bushels of wheat in three loads, each containing 47 bushels, and in four loads, each containing 93 bushels?
4. In a city there are five schools, in the first there are 789 pupils; in the second and third, each, 935; in the fourth, 1100; and in the fifth, 886. How many pupils in all?
5. From 390736492 take 298676397.
6. 73 + 96 - 48 - 17 + 92 + 15 - 106 + 3974 - 8.
7. A man put in the bank \$238; and then put in \$472, and then \$684; and then drew out \$997. How much has he left?

Values:—1, 15; 2, 6; 3, 20; 4, 20; 5, 15; 6, 15; 7, 9.

SECOND TO THIRD CLASS.

1. 90374005×9390800 .
 2. How much more will be given for 307 head of cattle at \$57 each, than for 75 horses at \$193 each?
 3. If there are 12 ounces in a pound, how many ounces are there in 73694 lbs.?
 4. Find the difference between the quotient of 14784, divided by 37 and 872127 divided by 999.
 5. Write in words, 10010201401; and in figures, one million, twenty-three thousand and one. Add the numbers together, and from their sum subtract their difference.
 6. The divisor is 87, the quotient sixteen times the remainder, less 19; and the remainder is 47. What is the dividend?
 7. A drover bought 364 sheep at \$5 each; twice as many calves at \$7 each; 23 cows at \$47 each; and three times as many horses as cows at twice as much each. What did all cost him?
 8. Find the number from which, if 13675 be taken, the remainder will be 45909, less 27646.
 9. Of what number is 99995 both the divisor and quotient?
- Numbers 1, 4, 9 to be absolutely correct, or no credit given.
 Values:—1, 7; 2, 10; 3, 8; 4, 10; 5, 19; 6, 16; 7, 16; 8, 13; 9, 10.

THIRD TO FOURTH CLASS.

1. Find the H. C. F. of 1581227 and 1678766.
 2. Find the least number which, divided by 13, 15, and 17, leaves a remainder of 12 in each case.
 3. Simplify $4 \div [6 + 3 \div \{5 + 9 + (2 + \frac{1}{4})\}]$
 4. Find two numbers whose sum is $4\frac{1}{2}$ and difference $2\frac{1}{4}$.
 5. How many times is £17 12s. 9½d. contained in £1393 8s. 10½d.?
 6. What will 11 pecks 3 qts. strawberries cost, at 12½c. per qt.?
 7. A man spends \$61.60 every 35 days, and saves \$400 per year. What is his annual income?
 8. Multiply 4987639 by 498437, using only three lines of multiplication.
 9. If $\frac{1}{4}$ of a vessel be worth \$13056, what is the value of $\frac{3}{8}$ of it?
 10. From the sum $4\frac{2}{3}$ and $9\frac{1}{2}$ take their difference.
- Values:—No. 1, 8; 2, 12; 3, 10; 4, 10; 5, 12; 6, 8; 7, 8; 8, 12; 9, 10; 10, 10.

FOURTH TO FIFTH CLASS.

1. On a railroad 149 miles, 234 rods, 4 yards, 2 feet long, there are 18 stations, including one at each end of the road. What is the average distance between the stations?
 2. How many boards, 12 feet long and 4 inches wide, are required to floor a room 36×27 feet?
 3. What is the cost of 73590 lbs. of coal, at \$6.55 per ton of 2000 lbs.?
 4. Paid \$2225 for 180 sheep, and sold them for \$2675. What should I gain on 1200 at the same rate?
 5. A person after spending $\frac{1}{3}$ and $\frac{1}{4}$ of his money, and \$20 more, had \$80 left. What had he at first?
 6. What is a Composite Number? Find the prime factors of \$320; and the L. C. M. of $3\frac{1}{2}$, $4\frac{1}{3}$, and $\frac{5}{6}$.
 7. A pile of wood is 6 feet high, and 4 feet wide. How long must it be to contain 10 cords?
 8. Add $3.45 + 4.1627 + 9.32546$.
 9. Divide fifty-one hundredths by fifteen thousandths.
 10. A man divided 367 acres between a son and daughter so that the son's share, plus 24 acres, was to the daughter's as 8 to 9. How many acres did each receive?
- Each question counts 10 marks.

GRAMMAR.
 THIRD CLASS.

1. Correct the following:—
 - (a) the canadian pacific railway from emerson to brandon.
 - (b) The chimney was built of brick.
 - (c) Uncle William has two son-in-laws.

- (d) There were a crowd of boys in the room.
- (e) Was that pen broke when I give it to you.
- (f) The banks of the river were overflown.

2. Write sentences containing the following words properly used:—

- (their, there) (two, to, too) (fair, fairer) (hire, higher) (sailer, sailor.)

3. Analyse the following:—

- (a) A little old man dressed in tattered clothes passed by our door.
- (b) Having conquered Gaul, Cæsar sailed over to Britain.
- (c) Under her torn hat glowed the wealth Of simple beauty and rustic health.

4. Combine the following statements into a simple sentence:—

- A balloon is a bag.
 It is a thin bag. It is a tight bag.
 It is made of silk. It is generally shaped like a globe.
 It is filled with a fluid.
 This fluid is lighter than common air.

Values:—1, 18; 2, 30; 3, 30; 4, 22

FOURTH TO FIFTH CLASS.

1. Name and define the different kinds of pronouns and adjectives.
2. When is a verb in the active, and when in the passive voice?
3. Analyse and parse the following sentence: Sin has a great many tools, but a lie is a handle which fits them all.
4. Write a sentence containing *that* as a relative. Also, one containing *that* as a conjunction.
5. Parse words in italics: *He could have gone; Have I no friend? quoth he.*

Values:—1, 12; 2, 8; 3, analysis 10, parsing 35; 4, 10; 5, 25.

HISTORY AND LITERATURE.

FOURTH TO FIFTH CLASS.

[To be supplied by the Teacher].

Stories and News.

ONTARIO.

Whitby has secured the services of Mr. Schrapnel as a teacher of drawing.

Industrial drawing is about to be introduced in the public schools, Oshawa.

R. B. Orr, M.A., formerly head master of Brighton high school, has taken a position in Whitby collegiate institute.

Port Hope high school, under the successful management of Dr. A. Purslow, reports the highest attendance it ever had.

The North-street school, Whitby, is progressing well under the careful management and tuition of Mr. Willis, who is an old and well-tried teacher.

We regret to learn that Mr. D. Stephenson, the energetic principal of one of the Cobourg public schools, has been suffering from congestion of the lungs.

An increased amount of attention is now given to the study of botany in the high schools of Ontario. As this is left an optional subject, many lady students prefer it to algebra.

Mr. Charles S. McMinn, an experienced and successful teacher, and for many years principal of Brougham public schools, has recently been appointed principal of the central school, Oshawa.

Two active, enthusiastic young teachers have been appointed to schools in Oshawa. Mr. J. H. Reid, formerly of Peterboro', has taken charge of Mary St. school, and Mr. W. A. Hoath, a graduate of Ottawa normal school, has become principal of Albert St. school.

W. W. Tamblin, principal of the high and public schools, Bowmanville, strongly advocates the separation of the supervision of these schools as conducive to better work and more effective results.

Mrs. Fraser has been appointed to the third room, Bowmanville public schools.

The immediate class, under the tuition of W. E. Tilley, M.A., Lindsay, numbers 44.

Mr. T. M. Henry, formerly assistant in Brampton high school, is now second master in Port Hope high school.

Mr. R. M. Pascoe, fourth year man, Victoria University, has been appointed English master, Bowmanville high school.

The St. Catharines school board has arranged to have half-yearly promotion examinations, instead of yearly as formerly.

Mr. Narroway, late of Oshawa, has been appointed to the principalship of central school Belleville *vice* Irwin resigned.

The Protestant teachers of Montreal are endeavoring to have the Pension Act repealed as an injustice to the majority of the teachers.

We record with pleasure the re-engagement of Mr. J. Turnbull as head master of the Clinton high school, at an increase of \$100 salary.

Two boys in the Belleville high school were recently punished by being suspended for four days and compelled to study a portion of "Marmion."

Mr. Grace, who for about 10 years, has been chairman of the Lindsay Board of Education, has been re-elected to the same position this year.

Under the able management of D. C. McHenry, M.A., and his assistants, the Cobourg collegiate institute reports a larger attendance this year than it had ever before.

Trenton high school is progressing prosperously under the efficient head mastership of H. E. Kennedy, B.A. We predict a good record for it at the midsummer examinations.

Mr. Ross, a teacher in one of the Hamilton public schools, was recently fined \$10 for severely punishing a pupil. The Board of Education has determined to appeal the case.

Inspector Knight, who is alive to the interests of elementary education, has done very much towards introducing the study of Phonography among the teachers in his inspectorate.

Mr. Craig, the energetic inspector of schools for South Wellington, has removed from Guelph to Fergus with the view of being more conveniently located in connection with the work of his inspectorate.

Our old friend Mr. J. Deacon, who has had a year's rest from teaching, by a sojourn in the Northwest, has again taken charge of Ingersoll model school. His re-engagement is an excellent compliment paid to his worth.

We learn with regret that John Dickson, M.A., principal, Peterboro' collegiate institute, is dangerously ill. He has asked for leave of absence, for three months, to regain his health. We hope to hear shortly of his convalescence.

We join the many friends of Mr. J. E. Bryant, head master of Galt collegiate institute, in congratulating him on his recent marriage. The happy event took place at Pickering, where Mr. B. spent several years in professional work.

Since the resignation of Mr. Jeffers, Mr. John Braden has had charge of the public schools in Peterboro'. For the past 15 or 16 years, Mr. Braden taught in or near Peterboro', and has invariably shown himself to be a skilful and faithful teacher.

Mr. J. Coyle Brown, the well-known inspector of schools in Peterboro' county, has removed to Norwood. Mr. Brown was recently appointed by the Education Department to take part in the examination of students in the Provincial normal school.

In Whitby attention has recently been called to the fact of the frequent change of assistants in the collegiate institute. We learn that a committee has been appointed by the school board to investigate the cause. It will now be Mr. Robinson's turn to rise and explain.

Charges were brought against Mr. E. Scarlett, the old and experienced public school inspector of Northumberland county. When these were investigated by the county council, they were found to be groundless, and Mr. Scarlett was exonerated from all blame by a unanimous vote.

The public schools, Seaforth, under the head mastership of Mr. L. L. McFaul, are reported to be in a very satisfactory condition. This is only what we should expect from the management of such an experienced and capable teacher as Mr. McFaul.

Lindsay high school has an average attendance of 96. W. E. Tilley, M.A., principal, has shown in his work, since he came to Lindsay, that he is one of our most active and progressive teachers. He is assisted by Mr. Smith, B.A., gold medalist, and two other efficient teachers.

In the Whitby collegiate institute there has been some difficulty in connection with the staff of assistants. The Board of Trustees held an investigation to enquire why so many assistants leave the institute. It will come the turn of the principal, Mr. Robinson, to rise and explain.

We learn that Mr. J. H. Reid, head master of the Mount Forest high school, was a candidate for parliamentary honors. Both the late provincial parliament and its predecessor contained ex-teachers. We need only mention the names Trow, Ross, Doroche, to show that teachers make good legislators.

A new direction Phonography is being taught in Pickering college; a type-writer has also been introduced for the instruction of the pupils. These are found to be useful and attractive features in modern education, and we hope to see the collegiate institutes and high schools follow such a good example.

During the past month, Inspector J. R. Miller, Goderich, has been visiting Toronto, and has passed his second intermediate examination in law, without oral. There are few in the province who have succeeded so admirably in the face of unusual difficulties. We predict for Mr. Miller still greater success.

The high school board, Seaforth, engaged Miss Hilton, of Yarmouth, Nova Scotia, to fill the place of H. J. Gosgrove, who left in October to complete his fourth year at Toronto University. We hear most excellent reports of Miss Hilton's success. Her teaching is described as something unusually impressive and attractive.

In Belleville all of the old staff of teachers have been retained in the public schools. One of them, Miss Sangster, has been recently appointed to Octave street, as first assistant. Miss Sangster is the daughter of Dr. Sangster, well-known to the teachers of Ontario as the late principal of the Toronto Normal school.

Industrial drawing has been introduced by Inspector J. H. McFaul into the schools of St. Catharines. At a recent examination, specimens of work done by pupils were exhibited, and all who saw them were surprised at the results accomplished in so short a time. Great credit is due to those who had the teaching of the subject in hand.

Fears were entertained that Pickering college would suffer by the death of the late estimable and talented principal, S. P. Davis, M.A., who was one of the most promising educators in the country. We are glad to learn that such fears are groundless, for the college is progressing most favorably and satisfactorily under the care of the new principal, J. Huston, M.A.

The Belleville high school is reported to be in a prosperous condition under Dr. Wright who has recently been appointed its principal, in place of Prof. Dawson. The average attendance is at present 125, with an intermediate class of 35. Miss Hunter, one of the most efficient assistants in high school work, has introduced Industrial Drawing, and now she has a class of over 100.

We are pleased to learn that Mr. A. M. Taylor, late head master of Ingersoll model school, has been appointed second master in the provincial model school, Ottawa, at a salary of \$800 a year. Mr. Taylor has already shown promise of more than ordinary ability in the publication of a volume of poems, and his rapid advancement is indicative of a high position in the profession in the near future.

Belleville employs a writing master, Mr. Swayze who for the last four or five years has held his position, and has done much to improve the teaching of penmanship. There are 21 teachers employed in the public schools of Belleville, Mr. Johnston, the inspector, is to be congratulated on the efficiency of his staff; he has succeeded in securing some of the best lady teachers to be found anywhere in the province.

A very accurate Map of the Railways of Ontario, prepared by Mr. Knight, the able and popular inspector of schools of Lindsay and North Victoria, has recently been republished in Gage's Map Geography Primer. This map is accompanied by descriptive text, carefully compiled by the editors, Messrs. Hughes and Lewis, giving a full account of all the Railways in the Province.

Mr. G. H. Robinson, Whitby collegiate institute, has resigned his position as principal, to take effect 1st April.

Miss Keefer, Miss Watson, and Miss Palmer, have recently been appointed on the staff of teachers in Trenton.

Mr. Thomas T. Moore is doing good work in the public schools, Acton West, and enjoys the confidence of the trustees and the esteem of the inhabitants.

Good, steady work is being done at New Hamburg public schools, by the head master, Mr. Wm. Linton, and his assistants. Much satisfaction is expressed thereat in the locality.

Mr. Sellers, who is a very energetic teacher, is endeavoring to work up the schools at Brucefield, to which he has been lately appointed. We shall expect to hear of his success in due time.

Last year there were 50 pupils, children of non-resident parents, attending the high school, Port Hope. The total number of pupils on the roll was 146, with an average daily attendance of 98.

Mr. D. M. Malloch, head master, Clinton model school, has recently been laid up with an affection of the throat and chest, the result of a cold. We are glad to know he is again able to resume his onerous duties.

The Galt collegiate institute is making good progress under the able management of J. E. Bryant, M.A., principal, and the valuable assistance of Messrs. Brown and Carscadden. There are now over 90 pupils in attendance.

Mr. S. Nethercott, principal, Mitchell public schools, with the aid of his assistants, has organized a society among the pupils for the purpose of preventing improper language and discouraging the use of intoxicating drinks and tobacco. This is a step in the right direction.

In the Galt public schools, of which Mr. R. Alexander is principal, there is a want of more accommodation. The apartments in the central school are too small for the number of pupils in each class, and this contracted state of affairs is found to be extremely inconvenient.

The central school, Waterloo, is continuing to uphold its position in the county. A good record has been made by the principal, Mr. W. F. Chapman, in the work done in the school. Diligence and complete order are the characteristic features conspicuous to a visitor.

The appointment of W. Elliot, B.A., to the head mastership of Mitchell high school, last September, has given much satisfaction. Mr. Elliot is a graduate of Toronto university, and was assistant in Morrisburg high school. Mr. G. Malcolm, undergraduate of Edinburgh university, assists him. The average daily attendance is 60.

We understand that Mr. J. Groh is about to resign his position as assistant in Galt central school, through ill health. In this school the half-time system is adopted, and Mr. Groh has the management of the department in which amusement combined with instruction is carried on. The loss of a man so well adapted to this specialty will be greatly felt.

We regret to learn that Mr. A. Campbell, Kincardine, the efficient and courteous inspector of schools for West Bruce, has met with a painful accident. Falling off a ladder, while employed in some arrangements in connection with his removal to his new residence, he broke his left arm, quite close to the wrist. The limb is still almost useless, but is progressing favorably.

In Kincardine high school, which is under the head mastership of B. Freer, M.A., two pupils are being prepared for first class, nine for second, and thirty for third; one for senior and five for junior matriculation. The average daily attendance is about sixty. R. Moir, B.A. (Tor. Univ.), has lately been appointed as teacher of junior Latin and English.

The simplicity with which the motions of the earth can be illustrated, is well exemplified by Mr. Bowerman, of Napanee model school. A globe is suspended by a cord from the ceiling, which by the motions of a pulley can be lowered or raised according to pleasure; this can be made to show, not only the revolutions of the earth on its own axis, but also the motion of the earth around the sun.

Few villages have a better school than that at Blyth, which is under the head mastership of Mr. R. Henderson. This gentleman has won the thorough appreciation of the trustees by his faithful and diligent work. It is pleasant to note that the children under his care show evidence of careful tuition in polite and courteous behaviour—a branch of education which should not be neglected in any school.

The harmony of the Hamilton collegiate institute was broken last year by discord between Mr. Dixon and Mr. Vanslyke. The board saw fit to stand by the principal, Mr. Dixon. Mr. Vanslyke resigned in consequence and accepted a situation in London. In the latest phase of the matter, Mr. Vanslyke prefers charges, and a Masonic lodge censures Mr. Dixon.

The last session of the Kincardine model school, under the head mastership of Mr. T. C. Powell, was distinguished by the largest number of teachers in training that were ever present in it at one session. They numbered 37, of whom nearly all succeeded in passing.

Mr. James Brown, who was appointed head master of Whitby model school, in 1874, continues to give the very best satisfaction in his duties. The excellence of his work is indicated by the fact that Mr. J. McBrion, I. P. S., Ontario County, has spoken very highly of the efficiency of the teachers trained under Mr. Brown, who have taken schools in his inspectorate. It also is a point in favor of the model school system.

The duties of an inspector are often onerous and difficult, especially so in such counties as those of Lennox and Addington. A great deal of laborious work must be done both by travelling on roads which are almost impassable during a considerable portion of the year, and in office work necessary in the proper furnishing of reports, etc. We are sure that Mr. Barrows, and other inspectors similarly situated, have before them no easy task.

The report of Port Hope high school, given recently by Dr. J. A. McLellan, H. S. I., may be summarized as follows:—1. The school continues to do excellent work; all the classes examined gave evidence of careful teaching. 2. Drawing has been begun, and good progress made. Dr. Puralow recognizes the value of the subject, and has made provision for carrying out the instructions of the department. 3. The tone of the school is excellent. I regard the school as amongst our very best institutions.

Mr. Johnston, inspector of schools for Belleville and South Hastings, has on his list of teachers over 100 in the county and 21 in the city. The recent vacancies have been filled by the Education Department granting certificates to applicants recommended by the inspector. Mr. Johnson has school matters well in hand, and is spoken of as one of the ablest and most popular inspectors in the Province.

The public school board in St. Marys recently established a fifth class. At a late meeting they appointed an additional assistant to aid in carrying out the work. The expense involved has produced a vigorous newspaper discussion between members of the institute board and those of the public school board, in which the two head masters have also participated. It seems that the school has ceased to send up its usual quota of thirty to fifty pupils annually to the institute.

Under the skilful management of Mr. D. J. Goggin, Port Hope public schools, have been brought to a remarkable state of efficiency. Few men in the Province have given so much attention as Mr. Goggin has to the study of methods of teaching. A visitor cannot help noticing the special attention that is given to literature and composition in the schools, and to the amount of interest manifested by the pupils in these subjects. Mr. Goggin is in the habit of selecting pictures—illustrations from the best magazines—and placing these before the class, requires a composition to be written descriptive of what appears to be conveyed by the designs. In each room a well-known author is selected, the children clubbing together to procure a handsome portrait of the same, such as Longfellow, Tennyson, Dickens, &c.; and the life and works of each author are so presented to the pupils that a lasting interest is at once excited, and the study is made pleasant and profitable.

High school matters are in good shape in Napanee. Mr. Fessenden, formerly head master of Brampton high school, has now charge: he is ably assisted by Mr. George Chase, M.A. and Mr. N. Wager, B.A. With such a staff the best results are insured. The average attendance at present is 90 with an intermediate class of 30. Mr. Fessenden, in being placed in charge of Napanee high school, has been fortunate in securing a most delightful home. The buildings now used for the high school were formerly a private mansion belonging to the Roblin estate—a magnificent structure with some six acres of grounds most tastefully laid out. The master's residence occupies a portion of the building. The estate, worth some thirty thousand dollars, was secured by the School Board for twenty-five hundred dollars. All the public school buildings in Napanee are of the very best character; fine large rooms, well ventilated and furnished with all the modern improvements. Mr. Bowerman, an experienced and thoroughly efficient teacher, still continues to have charge of the model school, assisted by an able and efficient staff. The visitor is pleased to find the walls attractively decorated with colored crayon sketches, finely executed by Miss Ballantine; these of themselves are conducive to an art education.

A noticeable feature in the Ontario Business College, Belleville, which is under the management of Messrs. Robinson and Johnson, are the specimens of penmanship which hang on the walls. These are of such rare excellence that it is difficult to distinguish them from steel engravings, and to many of them are attached first prize cards, obtained in competition at Dominion and Provincial exhibitions. In this establishment, banking and commercial transactions are carried on exactly as if occurring in ordinary business; wholesale trade is acted as if the institution depended on the profits of that branch; and telegraphy is performed with the alacrity and despatch characteristic of the best offices. The principals are ably assisted by Mr. McCormick, Mr. Timmins, and other highly qualified teachers.

Mr. Hughes, Inspector, Toronto, has recently been delivering lectures at some points on behalf of the Ryerson Memorial Fund. The following taken from the Uxbridge *Journal* speaks for itself: "On Friday night, according to announcement, J. L. Hughes, Esq., inspector of public schools for the city of Toronto, delivered his very interesting and profitable lecture, entitled "School-Room Humor," in Ontario Hall. He was greeted by an enthusiastic audience, which he held spell-bound for about an hour and a half, as he poured forth an incessant volley of wit, practical truth, and eloquent appeal, made irresistibly fascinating by his inexhaustible store of comic and touching anecdotes. The peroration was singularly touching and beautiful as he portrayed the imperial power of simple goodness to command respect and reproduce itself. Should Mr. Hughes visit Uxbridge again we bespeak for him a full house."

MANITOBA.

THE CITY SCHOOLS.

The following is the report of the school management committee, adopted by the Protestant Board of School Trustees. The school management committee beg to report upon the work done during the year which closed 31st January, 1882, as follows:—Eighteen additional new school rooms have been provided, which for convenience of arrangement, ventilation, and lighting, are not surpassed in the Dominion. For the occupation of these rooms, fourteen additional teachers have been engaged, making a staff of thirty-six. **The year upon which we have now entered finds the buildings as follows:**—Old Central School—Normal Department, in charge of E. L. Byington, M.A.; Collegiate Department, in charge of John Fawcett, B.A.; Standard 9 and 10, W. A. McIntyre; Standard 8, E. A. Garrett; Standard 7, boys, E. A. Blakely; Standard 6, boys, J. T. Reid; Standard 5, boys, J. A. Greig; Standard 4, boys, Jno. Acheson; Standard 3, boys, Miss S. L. Harvey; Standard 2, boys, Miss L. Garwood; Standard 1, boys, Miss L. McElroy. New Central School:—Standard 7, girls, John D. Hunt; Standard 6, girls, Miss S. A. Wright; Standard 5, girls, Miss J. McEwan; Standard 4, girls, Miss Agnes Eyres; Standards 2 and 3, girls, Miss Margaret Johnston; Standard 1, girls, Miss Kate Saunders. Carlton Street School:—Standard 5, Daniel McIntyre; Standard 4, Miss Margaret Inglis; Standard 3, Miss A. A. Dickson; Standard 2, Miss Margaret E. Paterson; Standard 1, Miss I. Hargrave. Argyle Street School:—Standard 5, N. Hewett; Standards 3 and 4, Miss M. A. Maybee; Standard 2, Miss McKibben; Standard 1, Mrs. S. J. Tip-lady. Dufferin School:—Standard 4, F. F. Kerr; Standard 3, Miss J. H. Archibald; Standard 2, Miss S. E. Sharpe; Standard 1, Miss Janet D. Todd. Louise Street School:—Standards 3 and 4, J. F. Bamford; Standards 1 and 2, M. L. Barber. Euclid Street School:—Standards 3 and 4, F. F. Shore; Standards 1 and 2, E. M. Attwood. The following is the Inspector's annual report:—The following brief review of the condition and progress of the schools during the year ending the 31st January, 1883, is respectfully submitted: Teachers.—The school year opened with a staff of twenty teachers, an increase of nine over the number at the commencement of the previous year. Additions, to the number of sixteen, have since been made to the staff, including those in charge of the normal and collegiate departments. These additions have enabled me to make a more effectual grading of the classes than was before possible. Every teacher is now in charge of a single grade, with the exception of those at Louise street and Euclid street schools, and one each at the Central and Argyle street schools. The professional standing of the teachers is as follows: Eight hold first-class and twenty-six hold second-class certificates, the remaining two being graduates. The rules of the board regarding appointment and promotion are calculated to secure the best talent obtainable, and to make it advantageous to them to retain their position. There are thirteen male teachers and twenty-three females, there being eight males at the

Central school and one in charge of each of the five primaries. Pupils.—The number of pupils entered on the rolls for the last five months of the year was 1,836, and the largest number entered in any one month was 1,484, in November, the average for the same month being 1,030. The enrollment at the opening of the year was 926 and the average attendance 675.9. The percentage which the average has been of enrollment has varied from 65 to 85, not a satisfactorily regular attendance, unless the various causes militating against regularity incident to a new community like this be considered. Classification and Studies.—A programme of studies, issued by the Superintendent of Education, in February last, and adopted by the Board of Education in November, after full trial and approval by the teachers and others engaged in practical school work, is now in use in the schools, by which ten grades or standards are used in the classification of the pupils, from standard 1, the lowest, to standards 9 and 10, in which pupils are prepared for the counting-house or for second and third-class certificates. In addition to these, standards 11 and 12 represent the collegiate department, in which students are prepared for first-class certificates for the university, for the Law Society, and other examinations. This department was established on Sept. 1st, and has now 27 pupils in Latin, 10 in Greek, 19 in French, and 12 in the highest mathematical and English branches. By agreement with the Provincial Board of Education there was also established at the same time a normal department for the training of teachers. As the result of the first term's work five students have been awarded diplomas, one of whom is now employed on the city staff, and eight more have entered for the present term. In the course of studies and the method of teaching pursued, every effort is made toward the proper development of the pupils in correctness of language and of thought, and the avoidance of that mechanical preparation for examination called cramming. The frequent additions to the teaching staff, as well as to the classes, hitherto have rendered uniformity of system difficult, but as our permanent staff increases and gains experience in our methods, I am confident of the results exhibiting the soundness of the system of education in use in our rising city.

THE HIGH SCHOOL.

The collegiate department of the city schools was organized in September last, under Mr. Jno. Fawcett, B.A. The attendance, which was small at first, has gradually increased, so that Mr. Fawcett's work is now pressing heavily upon him, and provision has had to be made for some assistance. Mr. W. A. McIntyre, teacher of Standards 9 and 10, in the Central School, and Mr. E. L. Byington, M.A., Principal of the Normal School, are at present taking certain portions of the collegiate work, but it is felt that the appointment of a regular assistant teacher at an early date is urgently necessary. The first inspection and examination of the department was conducted by Ven. Archdeacon Pinkham, Superintendent of Education, Rev. Canon O'Meara, and Rev. Prof. Hart. Mr. J. H. Stewart, who was also one of the examiners, was absent through ill health. In view of the deep interest manifested by Mr. Stewart in the welfare of the department, the Principal greatly regretted his absence. The classical department of the school work was the only one which the examiners on this occasion found time to inspect. The classes in mathematics, science, and English, will be examined at a future time. It was stated by the Principal that the number of students of languages was as follows: Latin, 31; Greek, 14; French, 25. There are three Latin classes, of which one began in September and is now reading Cæsar and Ovid; another is reading Cæsar; and the third only commenced on the 1st of February. There are two classes studying Greek, of which the more advanced is reading Xenophon's Anabasis, while the junior is just beginning. Two classes are taking French, one of which is reading Telemaque, while the other has but recently commenced the grammar of the language. After the several classes in the languages mentioned had been successively called forward, and every pupil's knowledge tested by brief oral exercises in reading, translating, parsing, etc., the examiners expressed individually their satisfaction with what they had seen and heard. Rev. Canon O'Meara, being obliged to leave early, had not the opportunity of addressing the school, but he stated to the other examiners that he was well pleased with the progress which was being made, and said that he had nothing to suggest in the way of improvement. Ven. Archdeacon Pinkham being invited by the Principal, at the close of the examination, to address the school, said that it was a great satisfaction to him to have the collegiate department in its present condition. He had been very anxious indeed to have a thoroughly good public school system. For those who simply wanted an English education, it was the aim

SCHOOL BUILDINGS.

to furnish one of a thoroughly practical nature, so that they would be able creditably to fill any position in business which they might be called upon to occupy. He gave an instance illustrating the disappointment sometimes felt by business men at the failure of pupils trained in public schools when required to turn their training to practical account. The members of the Board of Education were, he said, especially anxious that the education provided by the public school system of Manitoba of so practical a nature that pupils who were content with the simpler English branches would be fitted for the positions in life which they might take. At the same time, the Board was anxious that pupils who desired to go on and take higher work should be able to do so. This opportunity was now being afforded in a very excellent manner. He was satisfied from what he had seen that Mr. Fawcett was the right man in the right place. In a few years, a large number of students would be going up every year to present themselves for examination before the University of Manitoba. He was sure, from what he had seen of the work done here, that the department in charge of Mr. Fawcett would do its duty creditably. He could see that in a very short time it would be necessary for Mr. Fawcett to have help. Previously to the establishment of this department, Manitoba College, St. John's College, and St. Boniface College, had had all the higher educational work of the Province to do. The examiners who were present today were all connected with those colleges, and they were also members of the University of Manitoba. He was just as proud of this university as of the public school system. Those connected with the university would be glad to see the number of students presenting themselves for examination from year to year greatly increased, no matter from what institution they came. The Legislature had hitherto assisted the university with only a very small grant that was hardly worth speaking of; but he hoped that that body would soon take up the question of grants for higher education, and that the time would come when the colleges, which had been doing their higher educational work for years, would be recognized for the excellence of the work by the making of grants to them. He also hoped that a special grant would be made to the collegiate department here, and to the others that might be established. A collegiate department had been established at Portage la Prairie, at the commencement of the present school year; and no doubt one would be established at Brandon, also one, in a year or two, at Emerson, and others at Rapid City and one or two other places. The speaker went on to refer to the importance of the education which the pupils were receiving. He spoke in particular of the utility of a knowledge of the French language, and observed that the study of this language was made compulsory upon all candidates for degrees in the University of Manitoba. Rev. Prof. Hart indorsed the complimentary remarks of the Superintendent of Education. He was very much pleased, indeed, with the results of the examination, and thought that they were very fortunate in having secured the services of a teacher so painstaking and successful as Mr. Fawcett. It was surprising that in so short a time under his charge such results should have been brought about. He (Prof. Hart) had co-operated to the extent of his ability with the Superintendent in getting a collegiate department established in Winnipeg. He had long felt that high schools should be established in this country to do their share in the work of higher education, which had hitherto been entirely done by the colleges, and was still to a large extent. The colleges wanted to get rid of this work, so as to be able to devote themselves to the special work for which they had been established. He was glad to see this department established, because it encouraged the study of the higher branches of languages, mathematics, and English. In establishing the classical department, he would not interfere with the efficient teaching of the English branches. He was in favor of pupils learning thoroughly what they did learn, rather than learning a little about many things. He would not advise the studying of Latin and Greek by those who only intended to pursue them for a short time; but thought it better that such should spend their time in perfecting their knowledge of the English branches. He considered, however, that there was no better agent for the training of the mind than the study of languages along with other branches by those who could pursue the study to a sufficient extent. He gave some interesting illustrations of the benefits to be derived from the study of languages. In concluding, he referred to the tendency of the educational system in Ontario as being towards the study of too many things, thereby confounding the ideas of education and instruction. He was glad to see that the tendency of the teaching in this school was to thoroughness. Mr. Fawcett briefly expressed his pleasure in having the examiners present.

The following is the annual report of the building committee, adopted by the Protestant School Board. At the commencement of the year the following school buildings were in existence. Central school, Ellen street, 12 rooms, Carlton street school, Graham and Hargrave streets, 2 rooms, Argyle street school, Argyle and Common streets, 2 rooms, Dufferin school, Common and Patrick streets, 2 rooms, Louise street school, Market and Louise streets, 2 rooms. The rapid increase in the school population during the preceding year, from 900 to 1,610, showed the necessity of largely increased accommodation, the overcrowded state of the various school rooms provided indicated the necessity of prompt action. The board, in view of the above, proceeded to arrange for the erection of new buildings, and of additions to those already erected as follows. A new building of 8 rooms on the Central school grounds, a new building of 2 rooms on the corner of Euclid and Lusted streets, an addition to the Carlton street school of 4 rooms, an addition to the Argyle street school of 2 rooms, an addition to the Dufferin school of 2 rooms. These works have now been all completed, with the exception of such outside work as has to be deferred till warm weather. The cost of these buildings is as follows.

New Central School.....	\$19,000
Euclid Street School Building	5,000
" " " Site	3,850
Addition to Carlton Street School.....	12,000
" " " Argyle	5,000
" " " Dufferin	5,000

All these additional school rooms have been furnished with the most improved seats and desks at a cost of \$4,000. The total cost of the new buildings, with their furnishings, was \$54,000.

WESTERN TEACHERS.

The Provincial Teachers' Association, at its last meeting, decided that it was advisable to hold its sessions annually, in the month of August, this being the time when the members could most conveniently attend. It was hoped by this arrangement to secure a larger attendance of the teachers of the province, and at the same time obtain assistance from eminent educationists who might be visiting the province at that time. It was also thought that the objects of the semi-annual meetings that have hitherto been held could be to a great extent accomplished by the formation of local associations throughout the province. The executive committee accordingly determined to make the change referred to in the time of holding the meetings of the provincial association. Opportunely at this juncture, a movement was entered into spontaneously on the part of the teachers of the western part of the province, for the establishment of an association for that district, and the Superintendent of education was invited to be present at the instituting of the organization. Ven. Archdeacon Pinkham, the superintendent, accordingly left for Brandon on Friday morning with this object in view, and was accompanied, at his request, by Mr. J. B. Somerset, inspector of the city schools. On arriving at Brandon the same day, they found nearly twenty teachers assembled, some of whom had traveled long distances to be present. One gentleman in particular had walked 25 miles, in the latter 15 of which he had been accompanied by another teacher. The association was duly organized, the following officers and an Executive Committee being appointed: President, Rev. Mr. Boydell, Brandon; Inspector, of Schools; Vice-President, Mr. Lamont, teacher, of Brandon; Secretary-Treasurer, Mr. Jeffry. The Association is to be known as the "Teachers' Association of Western Manitoba." It is purposed that the meetings shall be held alternately in Brandon, Rapid City and Minnedosa. On Friday evening Ven. Archdeacon Pinkham, delivered an address to the teachers and to a number of citizens, including the Mayor and several of the Board of Trustees, in the new school house, which is just approaching completion, and which is a credit to the young and ambitious city. The speaker made reference to the wonderful growth of the city of Brandon, instancing the fact that thirteen months ago he had been present on the occasion of the establishment of the school, when the attendance of pupils numbered about thirty. He contrasted with this the present large building of six rooms and the attendance of about 250 pupils. He further spoke of the resources which should be at the disposal of the board of education from the school lands of the province, and expressed the hope that the time would soon come when the funds from this source would be available for the support of education. Mr. Somerset followed with an effective address, which was very well received. On Saturday the newly formed association took up the subject of the teacher's practical work in the school-room. Mr.

Somerset made observations on the teaching of reading and spelling. Mr. Lent and Mr. Shaffner, of Rapid City, read excellent papers on other subjects. It is expected that the example thus set at Brandon in the western district will be imitated elsewhere, and that similar associations will be established at Portage la Prairie, Emerson, Nelson and other centers.

Readings and Recitations.

THE MODERN SCHOOL TEACHER.

Tw'as Saturday night, and a teacher sat
Alone her task pursuing;
She averaged this, and she averaged that
Of all that her class was doing,
She reckoned percentage so many boys,
And so many girls all counted,
And marked all the tardy absentees,
And to what all the absence amounted.

Names and residences wrote in full,
Over many columns and pages;
Canadian, Teutonic, African, Celt,
And averaged all their ages;
The date of admission of every one,
And cases of flagellation;
And prepared a list of graduates
For the county examination.

Her weary head sank low on her book,
And her weary heart still lower;
For some of her pupils had little brains,
And she could not furnish more.
She slept, she dreamed; it seemed she died,
And her spirit went to Hades,
And they met her there with a question fair,
"State what the per cent of your grade is!"

Ages on ages had rolled away,
Leaving but partial traces;
And the teacher's spirit walked one day
In the old familiar places.
A mound of fossilized school reports
Attracted her observation,
As high as the state-house dome, and as wide
As Boston since annexation.

She came to the spot where they buried her bones,
And the ground was well built over;
But laborers digging threw out a skull,
Once planted beneath the clover.
A disciple of Galen, wandering by,
Paused to look at the diggers;
And picking the skull up, look'd through the eye,
And saw it was lined with figures.

"Just as I thought," said the young M. D.—
"How easy it is to kill 'em!
Statistics ossified every fold
Of cerebrum and cerebellum."
"It's a great curiosity, sure," said Pat,
"By the bones you can tell the creature!"
"Oh, nothing strange," said the doctor; "that
Was a nineteenth century teacher."

—Chicago Tribune.

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 used, and brief accounts of meetings held.

GLENGARRY.—The half-yearly meeting of this association was held in the brick school house, Alexandria, on Thursday and Friday, the 1st and 2nd February. From the lively interest manifested in the proceedings, and the remarks of many of those who were present, we think we may venture to state that no more successful meeting has hitherto taken place in this county. The theory of "Teaching" took up the

greatest part of the time of the session, and no one who followed the remarks made on this occasion could fail to be benefited by the same. Nearly sixty teachers gave close attention to the many valuable hints that were thrown out by the more experienced members of the association, and the lively discussions that took place from time to time, as well as the asking and answering of questions connected with school-work gave an unusually interesting turn to the meeting. The secretary read communications from J. A. McCabe, Esq., principal of the Normal School, Ottawa, and Dr. McLellan, H.S. Inspector, regretting their inability to be present. Dr. McDiarmid, I.P.S., gave a very practical lecture upon "Deficiencies of Teachers," in the course of which he touched upon attention, method, clearness, preparation, grammatical errors, mental culture, best means of securing order, discipline, etc. A number of excellent papers and addresses were given, among which we might mention the following:—J. D. Houston, Lancaster, "Drawing for Beginners," and "Philosophy of Questioning;" Miss McDonald, Lancaster, "Letter-writing;" C. A. McLaurin, "Object Lessons;" Alex. Kennedy, Martintown, "English Grammar;" Miss McCrimmon, "Discipline." W. D. Johnston, H.M. M.S., enlivened the proceedings with a couple of readings. The election of officers for the present year resulted as follows:—President and Treasurer (I.P.S.) Dr. McDiarmid; Vice President, Alex. Kennedy, Principal of Model School, Martintown; Secretary, W. D. Johnston, H.M. M.S., Alexandria; Librarian, F. McCabe; Management Committee, C. A. McLaurin, H. D. McDonald, J. H. McCormick, D. J. Hunter, F. McCabe; Auditors, W. D. Johnston, D. J. Hunter. A resolution was passed to the effect that in the opinion of this association the franchise should be extended to teachers actually engaged in teaching, and the secretary was instructed to forward a copy of this resolution to the member for the county in the Local Legislature. The association then adjourned until the first Thursday and Friday in September.—W. D. JOHNSTON, Secretary.

REVIEWS.

A new candidate for the favor of accountants, teachers, students, and all who have occasion to use the art of book-keeping, has just issued from the press, under the authorship of Mr. Connor O'Dea, secretary of the British American Business College, Toronto. The author we believe, is an experienced and accredited professional teacher, and from a careful and thorough examination of the work, we have no hesitation in pronouncing Mr. O'Dea's treatise a very valuable contribution to the science which it is designed to elucidate. In matter, it is full and exhaustive; in arrangement, clear and simple beyond the generality of similar productions. Both single and double entry systems are amply illustrated and adapted to every description of business; and the whole is so lucid in detail, definition, and explanation as to leave absolutely nothing to be desired. An instructive portion of the work is that upon banking business, discounting, and renewal of notes, &c. Then the examination questions for students ("Questions for Review" form a most useful and excellent feature. In short, the author has produced an admirable manual of book-keeping, a *multum in parvo* that ought to be in the hands of all who have occasion either to keep accounts or to give instruction in that important, not to say indispensable, branch of knowledge. A word on the mechanical execution of the work, which in not less entitled to commendation than the intellectual portion of it. The form is royal octavo, and makes a handsome volume of 175 pages, the whole beautifully printed on fine, tinted paper. And "last but not least" is the fact that, in order to ensure a large circulation, the price has been placed at the low figure of one dollar.

MAGAZINES.

The North American Review, March, 1883.—This number of this popular and valuable review contains eight articles upon different subjects, each of which is treated in an able manner by its writer, and all of them important at the present time. "Money in Elections," by Henry George, shows to what a deplorable extent bribery and corruption prevail among our cousins south of the lines, and the necessity there is for effecting public sentiment in the matter, and raising it to a much more healthy condition. "The Subjugation of the Mississippi," by Robert S. Taylor, must command general attention just now, when that mighty river has been causing such great and wide-spread devastation. No one can read it without being interested and instructed. "Gladstone," by Moncreu D. Conway, will scarcely satisfy either the admirers or opponents of the statesman who has now, for more than half a century, been connected with the parliamentary history of Britain, and has attained such an eminent position both as an author and a statesman. "The Pyramid of Onopos," by Richard A. Proctor, conveys some fresh information regarding that mighty structure, showing that it and other buildings of the same kind, whose erection must have cost treasures of money and human toil, were for at least a threefold purpose—religious worship, astronomy, and burial; in other words, they were temples, observatories, and tombs. "Some aspects of Life Insurance," by Ellzur Wright, bristles with figures, and close with a suggestion well worthy of consideration. Four writers treat of "Educational Needs," a subject which will never be exhausted, and on which difference of opinion must ever prevail. The other articles are "Railways Influence in the Land Office," by George W. Julian, which will be the first to be read by those in Canada who have been watching the construction of the Canada Pacific, and "Protective Wages and Taxes," by Prof. W. G. Sumner. We cordially commend the number.