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## OFFICIAL ANSWERS TO SCHOOL QUESTIONS.

In addition to the reports of school cases (tried before the superior courts), which we insert in the *Journal*, it is our purpose, from time to time, to answer in this form a few of the more numerous class of questions which are constantly being asked in official letters addressed to the Education Department.

## 1. TEACHERS' QUARTERLY EXAMINATION.

*Question.*—A teacher asks, "How often should school examinations be held? Who is responsible for holding them—the trustees or teacher?"

*Answer.*—The law requires the teacher to hold an examination of his school *once a quarter*. He alone is responsible for neglect in not holding them. The trustees have no power to prevent them being held. They, as well as the parents, should, without fail, be invited to attend and witness them, as required by law. A written notice of the time of examination should be sent by the teacher to the trustees, but it will be sufficient to notify the parents verbally through the children.

Teachers are public officers, and are required by law to hold these examinations at the end of every quarter. The parents and public have a right to know how the school progresses, and the best popular evidence that can be given is generally afforded at the Quarterly Examinations.

In order to test the real condition of the school, the Local Superintendent should not be satisfied with the results of the Quarterly Examination. He should choose an ordinary school working day on which to hold his inspection, which should be thorough and minute—but of his visit no previous notice should be given to the teacher.

Should teachers fail to hold the Quarterly Examination of

their school, it is proposed to deprive them of any share in the school grant for such neglect.

## 2. USE OF THE SCHOOL HOUSE FOR NON-SCHOOL PURPOSES.

*Question.*—A ratepayer objects to the use of a School House for other than school purposes, and asks is there no way to restrain trustees in such matters.

*Answer.*—Trustees have no legal power under the School Act to permit their School House to be used for other than school purposes. Usage, however, has invested them with a sort of discretion in this respect. If they should abuse their trust, an application can be made by any dissatisfied party to the Court of Chancery for an injunction to compel the Trustees to confine the use of their School House to school purposes; although no mandamus from the Court of Queen's Bench would likely be granted to compel the Trustees to allow it to be used for other than school purposes, unless there was an express provision in the deed, requiring the Trustees to open it for public or religious meetings.

## 3. CUSTODY OF THE SCHOOL HOUSE.

*Question.*—A teacher asks, What control has he over the school house, and what is his responsibility in the matter?

*Answer.*—The teacher has charge of the School House on behalf of the Trustees. He has no authority to use the School House other than as directed by the Trustees; nor to make use (or prevent the use) of it at any other time than during school hours, without the sanction of the Trustees. At the request of the Trustees he must at once deliver up the school house key to them, or else lose his legal right to claim any salary from them.

## 4. SWEEPING OF SCHOOL HOUSE.—FIRES, ETC.

*Question.*—A teacher complains that the trustees require him to sweep out the school-house, and perform other menial offices in regard to it. He asks: What protection has he in such a case?

*Answer.*—It is not the duty either of the teacher or pupils to make the school house fires, or to sweep the house itself. The teacher is employed to teach the school, but he is not employed to make the fires or clean the school house, any more than to repair it.

It is the duty of the trustees to provide for warming and cleaning the school house; and it is the duty of the teacher to see that the provision thus made by trustees for these purposes.

is duly carried into effect by the parties concerned. If the teacher undertakes to see these things done, for a certain remuneration, or for what he may have to pay to get them done, very well; but it is clearly the duty of the trustees to make provision for having them done at the expense of the section.

#### 5. POWER OF TOWNSHIP COUNCIL TO ALTER SCHOOL BOUNDARIES.—TAXATION.

A Town Reeve inquires as to whether a township council can alter the boundaries of school sections without the actual consent of the majority of the inhabitants of the several school sections concerned,—remarking that if such were the case, no alterations would ever be made, however necessary, as a majority of one or other of the sections concerned would always be opposed to such alteration. He also wishes to know whether trustees can levy and collect a rate, after the adoption by the majority of a school meeting of a resolution against "all taxation," in order to prevent the trustees from keeping open a school longer than the public school fund would defray the expenses of it. The following is the answer to his questions:

"The object of the fortieth and following section of the Act was not to deprive a township council of the power of altering the boundaries of any school section without the consent of the majority of such school section; the object of the Act was to prevent changes from being clandestinely made in the boundaries of school sections, without giving all parties concerned notice of any alteration or alterations proposed, that they might have an opportunity of putting the council in possession of all they might wish to say for or against such alterations. But after all parties have thus had an opportunity of a fair hearing, the township council has authority to make any alterations in the boundaries of school sections it may judge expedient, provided such alterations take effect only at the close or on the 25th December of each year, so as not to derange the calculations or proceedings of the Trustees in the course of the year. The only case in which the formal consent of the majority of the inhabitants of school sections is requisite in order to an alteration in their boundaries, is in uniting two or more sections into one.

"2. In reply to your second question, I remark that the last part of the resolution of the school section meeting which you enclose, containing the words "and no taxation," is null and void, and of no more effect than if it had not been adopted; as the last part of the 10th clause of the 27th Section of the School Act expressly authorizes the trustees to levy any additional rate they may think necessary to pay the balance of the school expenses; and this rate, as the Attorney General has decided, cannot be merely on parents sending their children to the school, but must be on all the ratable property of the school section.

#### 6. TAX ON PARENTS AS SUCH UNLAWFUL.

A majority of a school section meeting adopted a resolution in favor of supporting their school by taxing every man in the section according to the number of his children between the ages of five and 16 years; a local superintendent inquires if such a tax is lawful. The following is the answer returned:

"It is contrary to law to levy a rate on children of school age without regard to their attending the school: or, in other words, to tax a man according to the number of his children between 5 and 16 years of age. The School Act authorises three modes of providing for the expenses of the school—namely, voluntary subscription, rate bill on parents sending children to the school, and rate on property; and if the sum authorized by either of these modes of supporting the school be insufficient to defray all the expenses incurred by the trustees, they then have authority, by the latter part of the 10th clause of the 27th section, to levy any additional rate on the property of the whole section, (not, as the Law Officer of the Crown has decided,—merely on parents sending children to the school) to provide for the payment of such expenses.

#### 7. POWERS OF TRUSTEES.—ANNUAL AND SPECIAL SCHOOL MEETING. UNION SCHOOLS.

A local superintendent proposes seven questions, the import of which may be inferred from the following answer to them:

"1. If the trustees of a school section do not keep open their school, though abundantly able to do so, the constituencies that elected such persons as trustees must suffer the consequences of their conduct, like the constituencies of an unfaithful member of Parliament or a Municipal Council.

"2. The 44th section of the Act states the way, and the only way, in which school sections can be divided, and their school house property be disposed of.

"3. The electors who neglect to attend the annual school meeting of their section, have no just reason to complain of any deci-

sions of such meeting, any more than electors who neglect to vote at the election of a councillor or member of the Legislature, have just reason to complain of the result of such election. But by the 20th section of the Act, trustees, if they think proper, can call a special meeting for any school purpose whatever.

"4 & 5. All that an annual school meeting has power to do is enumerated in the several clauses of the 6th section of the Act. All else that an annual school meeting may resolve to do is null and void, as if it had not been done. The trustees alone, and not any public meeting, have the right to decide what teacher shall be employed, how much shall be paid him, what apparatus shall be purchased, what repairs, &c., shall be made, how long the school shall be kept open; in short, every thing that they may think expedient for the interest of the school. See clauses 4, 5 and 8, of the 27th section. No special school meeting called by the trustees (or the local superintendent, who has the right of calling a special school meeting,) has a right to decide on any matter or matters than such as are specified in the notice of the trustees calling such meeting, as provided in the 20th section.

"6. Each union school section is to be regarded as a section of the township within the limits of which its school house is situated, and to receive its apportionment from such township only.

"7. The father of whom you speak had no right to vote at the school meeting to which you refer. If he had rented the house of his son, and occupied it, he, and not his son, would have had a right to vote. But the father was neither; he was only an inmate in his son's house."

#### 8. RIGHT OF TRUSTEES TO PROCURE APPARATUS.

Some persons in a school section objected to paying their school rate because the trustees included in it the sum necessary to pay for certain school apparatus, though a public meeting had voted in favour of purchasing it. The trustees inquire if they can enforce the payment of the rate. The following is the answer to their inquiry:—

"You have ample authority to include the expense of your school apparatus and all other expenses of your school in the rate on property which you propose to assess; nor was it necessary for you to call a meeting in regard to the purchase of the apparatus, as the 4th clause of the 27th section of the Act leaves all such matters to the discretion of the trustees, as the representatives of their school section."

#### 9. RIGHT OF TRUSTEES TO TAX SCHOOL SECTIONS.

Several persons in a school section refused to pay the school rate levied by the trustees, because they had not called a meeting to get its sanction as to the amount of the teacher's salary and other expenses incurred in support of their school. The trustees ask whether they had proceeded according to law. The following is the answer to their inquiry:—

"The majority of the trustees of any school section have the right to decide what expenses they will incur for school apparatus, salaries of teachers, and all other expenses of their school, as you will see by referring to the 4th clause of the 27th section of the School Act. The trustees are not required to refer to any public meeting whatever as to the nature or amount of any expenses they may judge it expedient to raise to promote the interests of the school under their charge; they have only to leave to the decision of a public meeting the manner in which such expenses shall be paid, and then if such meeting does not provide adequate means to defray the expenses incurred, the trustees have authority by the latter part of the 2nd clause of the 27th section of the Act to provide for the balance of such expenses by assessing the property of their section."

## I. Intercommunications with the "Journal."

### 1. ELEMENTARY ARITHMETIC.

There are two usual methods of reading decimals (decimally denoted fractions), the one being to read them like decimal fractions, the other to say "dot," or "decimal," and read the digits. The former is commonly adopted in Canada, the latter in Britain—(Authority—A. Sandeman, Cambridge). Now there are strong objections to each of these methods. To be sure, the latter (the digit method, d. m.) is convenient, but it does not in all cases readily yield, in reading, an approximate estimate of the value of the fraction, and it wholly ignores the analogy between the notation for decimals and that for integers. The decimal fraction method (d. f. m.), besides these objections, has that of inconvenience. Examples: 39,37,079 and 80,504,0,086,207,504 are read by d. f. m., thirty-nine, and thirty-seven thousand and seventy-nine hundredths of thousandths—eighty thousand five hundred and

four, and eighty-six million two hundred and seven thousand five hundred and four tenths of billionths; by the d. m., thirty-nine, dot, three, seven, naught, seven, nine, and 80504, dot, 0, 0, 8, 6, 2, 0, 7, 5, 0, 4. It will be noticed that the d. f. m. *virtually* requires double pointing off (for the numerator and for the denominator), and in writing a decimal read thus few pupils without much practice can write directly from left to right, but after writing the integral part will proceed to the numerator, leaving at random a space to be filled in, and having finished this part, will point it off to obtain the requisite number of 0's between the first significant digit and the decimal point. Neither method, but especially the d. f. m., will readily give to a listener one hundredth as an approximate value of the latter of the above decimals. I suggest to the teachers of Canada a third method, adopted by many "continental" mathematicians, and by several of the more accurate English ones. It has none of the disadvantages of the other methods, and adds this, that it follows the rule for integers, thus preserving the analogy in the notation. To read **ANY** number—*Beginning at the decimal point, mark off the number both ways into periods of three figures each (six for the English method), and then read each period in succession from the left and give it its name.* Ex. 80,504,008,620,750,4, read 80 thousand 504 (units), 8 thousandths, 620 millionths, 750 billionths, and 4 tenbillionths; 5,602,402,000,000,047,835,04, read 5 million, 602 thousand, 402 (units), 47 billionths, 835 trillionths, and 4 hundred trillionths. The first decimal period read will give an approximate value of the decimal.

Two other changes in elementary arithmetic I suggest—first, in the table of avoirdupois weight; second, in the process for extracting the cube root of a number. How many business men in Canada use 25 lbs. 1 qr., 4 qrs. 1 cwt., compared to those who use 100 lbs. 1 cwt. ? The great argument for the change from the old standard in the weight of the cwt. was the adapting of the system of our weights to that of our money. By the table in our arithmetics we lose this advantage. Let any teacher try a class of beginners in the compound rules with the two tables and no further argument will be needed for the change.

In extracting the cube root it is time that Horner's method were adopted in elementary arithmetics. By it, the process for the cube root is but slightly more difficult than that for the square root, and that, too, up to any number of root digits. It is actually no labour to extract a cube root to from ten to fifteen root digits. With my own classes I use the *uncontracted* method, for on the very same principle **ANY** root can be extracted and **ANY** NUMERICAL EQUATION solved; but if mere speed and compactness of work be desired, a contracted method should be used.—*J. C. Glushan.*

## 2. MENTAL ARITHMETIC.

*To the Editor of the Journal of Education.*

SIR,—Perhaps we might say and boast honestly that apart from the unrivalled working of the great system of Common School Instruction in this Province, there is no other country that can produce a better catalogue of text-books more suitably adapted to the practical demands of any business community, and few countries can show a more able class of teachers to explain the elementary principles therein contained. Still, I fear that subject, to a business man, is more immediately demanded than any other, does not receive the tithe part of attention to which its importance would entitle it. I refer to Mental Arithmetic. "Oh, we have it," may be the instant exclamation. That we have it, I can not deny, *i. e.*, most Arithmetics give a few suggestions, guiding us to the easiest and most rapid methods of mental calculation, and some advance strong reasons for proficient attainment in it. Nor do I wish to infer that it receives no attention. On the contrary, I am persuaded that a good number of teachers give their pupils the most thorough drilling in oral calculation, while others again, I am convinced, do not submit a mental solution to their schools from one end of the year to the other.

The general excuse appears to be the non-existence of a suitable text-book wholly devoted to the subject. But whether it cannot be successfully taught without a special book, or whether the teacher is responsible for its omission, I will not venture to say. If, however, the presence of a book is absolutely essential, I should recommend its appearance as early as possible.

Others, again, consider it a very inferior acquisition, and draw the inference, that a rapid calculator, like a fancy penman, is generally limited to the attainment. But I consider this no reason whatever why it should not be taught to everyone—and all are capable of receiving a vast amount of benefit from it, if they only get the proper instruction. I do not apprehend that the mere fact of making a boy an adept in figures, would be the means of deterring him from prosecuting his other studies. He might, it is true,

entertain a little vanity, but his teacher could relieve him of that encumbrance very easily.

I think that one-half of the time at least, that is devoted to arithmetic, should be employed at oral solutions. Few teachers will, perhaps, conform to this opinion, and may desire to be informed, whether the slate and pencil are to be dispensed with altogether. To such enquirers, I should say that every problem within the limits of mental solution, should be treated by the analytical system, if possible, even if the teacher should find it necessary to submit a few preparatory exercises that would convey hints, or throw light on the main question. If this plan were universally adopted, I have no hesitation in saying that the slate and pencil, instead of being clung to so tenaciously, would soon be thrown aside entirely, or at any rate, would not be required in ordinary business.

If, however, it is expected that a boy will always have a slate dangling from his neck, and a pencil attached to it with a string—in that case the necessity of it receiving so much attention would not strike us so forcibly if we expect the great amount of precious time that would otherwise be saved, and the useless labor of *making* all the figures he would employ.

Surely we can conceive of nothing more humiliating to a man of pretended literary attainments, than the exposure to which he is sometimes subjected, by resorting to figures for simple solutions, that some men of no education whatever, could tell to a fraction mentally, and in a very short time. In fact it is not usual to see men of good mathematical abilities placed in situations far from enviable—men who could demonstrate some of the most abstruse principles of algebra or geometry, yet ask them to multiply a number of three, or it may be only two digits by thirteen, and their heretofore confident features become covered with the most abject confusion. And all this chagrin and mortification is caused by the omission of a subject that is easily acquired, a very pleasant and interesting exercise, and a subject calculated as much as any other that is taught in our schools to develop the intellectual faculties of the young.

J. P. T.

Reach, Sept. 27, 1870.

## 3. THE PRINCIPLES AND PRACTICE OF EDUCATION; OR, THE SCIENCE AND ART OF TEACHING.

BY GEORGE VICTOR LE VAUX, F.C.T.

(Continued from last No.)

### POWERS, DUTIES, AND RESPONSIBILITIES OF THE TEACHER—THE TEACHER'S RESPONSIBILITY.

In all the avocations of life there is no position in which the responsibilities are so great, nor is there any in which so much real permanent good or enduring evil can be done, as in that of the teacher. It is an old and true saying that "Example is better than precept." They labor in vain, who teach by precept and not by example. Vain and fruitless will be the efforts of him who fails to vary his teachings by example. In our opinion, example should always precede precept. The precept should be the expression of the example, as a rule is the expression of the principle. The person who does not teach by example does not deserve success. "Do as I say, but not as I do," should never be the motto of the teacher, for of all the powers he possesses that of example—or of setting example—is the greatest and most influential. All of us who have ever heard a proud clergyman preach a sermon on *humility*, or a rich bishop hold forth on the merits and obligations of *fellowship and charity* must recollect the smile of contempt, or the look of scorn his respective remarks evoked from the audience. Why was this? Was it because the people approved of pride or revered selfishness? Certainly not. It was because the preacher's words condemned himself—because his precepts and his example were inconsistent with each other—because he fain would have arrayed himself in garments of light without paying any attention to the cleanliness of his person—because he condemned the "mote in his brother's eye," whilst approving of the "beam" in his own. Successful teaching, like successful preaching, is always accompanied by example. The teacher, like the early preachers of Christianity, (if desirous of success) must be a living model of the doctrines which he inculcates. There must be no hypocrisy about him—he must be thoroughly in earnest. His acts, words, and even the expression of his face, have their effect, for good or evil, on his pupils.

### POWERS OF EXAMPLE MAKING IMPRESSIONS.

Example is infectious. In early youth and childhood it rules supreme, as the imitative powers are then far stronger than reason or judgment. Ben. West declares that a kiss from his mother made him a painter; an approving smile from Madame Bonaparte made her illustrious son a soldier and an emperor; a story related by his teacher made Livingston a traveller. So it is in every stage in life,

a look, a word, an act, a smile, or a frown, from those we love—from parent, friend, or teacher—may influence our destiny for time and eternity; its impression, its influence, its result is immortal, indelible. It is the teacher's peculiar province to make such impressions as these. Next to the parent no other human being possesses such a power for good or evil, over the youthful mind. How extremely careful should he be therefore, that those impressions may be such as shall be conducive to the welfare of the immortal beings committed to his charge?

#### TO WIN THE PUPILS' LOVE.

There is another power essential to the teacher's success. It consists in his ability to win the hearts of his pupils—in being able to gain their esteem, confidence and love. Self-sustaining patience, cheerful perseverance, dignified self-control, and a real earnest abiding love for children, are essentially necessary in acquiring and duly exercising this important power. Win their hearts, and you win their prompt and cheerful obedience to all your commands. You will then be sure of their enthusiastic co-operation with all your designs. Your rule over their hearts will be absolute, as was that of the patriarchs of old over their families. You can then say to this one "Go, and he goeth, and to another, come, and he cometh, and to another, do this, and he doeth." Luke, vii-8.

#### HOW TO BEGIN THE DAY.

Moreover, in order to be successful in the practice of his profession, the teacher must be sure to begin each day aright. Before entering the school-room he must be sure to regulate his own spirit and temper, so as to be proof against whatever "disturbing influences" may greet his entrance, or come under his notice during the day. Having control over himself, he will easily control his pupils. Firm in command, strong in will, and pleasant in face, he can smile upon his school, and enter cheerfully on his important work. He can then lead his pupils instead of driving them, and induce them to feel that their work is a pleasant duty, and not a disagreeable task. He will thus allure them to pursue their studies with profit, and bring them to sympathize with himself and each other. Then shall school be pleasant to them, learning delightful, whilst the society of the class-room will be preferred to that of the drawing-room.

#### TO BE IN SYMPATHY WITH WORK.

If really desirous of being successful, the teacher must throw his whole heart, mind, and energies into his calling—enthusiastically devoting his sole attention to his chosen profession. He must be in sympathy with his work, and all that pertains to it. Without this devotion, enthusiasm, and sympathy, he cannot possibly be successful—he cannot be a great teacher, he cannot be a worthy follower of Him, "who spake as man never spake"—he is at best but a mere machine. He may be a "school-keeper," and be called school teacher; but he can never be a successful educator. If a man enters the profession, and finds that he does not possess these essential qualifications, he may feel certain he has mistaken his vocation, and should immediately seek some other calling. If, on the contrary, he believes he possesses them, let him persevere unto the end—let him steer a straight course, and having put his hand to the plough, never look behind.

#### THE CONSCIENCE, SPIRIT AND HABITS OF THE TEACHER.

On our teachers devolves the future welfare of our race. Their work is that of training immortal souls, and therefore the noblest in which man can be engaged. It is some men's calling to alter or modify matter, whilst others speculate wisely or foolishly on things past or on things to come; but it is the teacher's peculiar privilege to work hand in hand with the Almighty, to stir up, strengthen and develop the latent faculties of immortal beings, to prepare in the school of life faithful citizens, meet to be partakers of that bright world beyond the grave.

#### THINGS NECESSARY TO MAKE A GOOD TEACHER.

A soldier, sailor, watchmaker, or physician, is not made in a minute, neither can an educator. It requires time, perseverance, energy, considerable talent, capital, and much experience to make a good and really skilful teacher. Nor are these sufficient. He that would be successful in his profession must possess qualities rarer still. He must be, "A man after God's own heart," kind and affectionate. He must be meek as Moses, patient as Job, zealous as Paul, slow to anger, and apt to teach. In a word, he must have a spirit in him worthy of his useful and noble vocation. In every child he must recognize the image and handiwork of Jehovah. He must be alive to the responsibilities of his position, and possess a soul to which learning and science are as the sun and moon. He must cleave to what is right, and abhor everything low, mean, or servile. He is a "light set on a hill" amongst his fellows, and cannot be hid. In the nature of things he will be an angel of light,

elevating immortal beings to heaven, or an angel of darkness leading them to hell.

#### TO HAVE A RIGHT PERCEPTION OF HIS VOCATION.

He that would be a good teacher must have a right perception of his profession and of the various duties it entails. He must have a thorough knowledge of the requirements necessary for executing its obligations, and be duly impressed by its capabilities for good. Otherwise he cannot possibly have a good or clear conscience, he cannot have a right spirit within him. The Lord of all, who went about continually doing good, found his most attractive and congenial work in teaching, and surely his successors in the profession. He has ennobled, should endeavour to imitate his glorious example. Unless a man has a good conscience and feels that he possesses the right spirit—unless, in fact, he believes that he is in sympathy with the work and has an aptitude for the calling, he should never attempt to undertake its duties. A right perception of our duties is the most useful part of philosophy.

#### CANDIDATES FOR THE OFFICE OF TEACHER TO LOOK WELL TO THEIR MOTIVES.

Teaching is a profession, and the most important of all the professions. Every one assuming its duties should thoroughly understand how they ought to be performed. No one should enter on this office lightly and without due preparation. Candidates for admission as members of this profession should look well to their motives. No one is justified in adopting it as a chance vocation—as a mere temporary calling. Do they enter it with a view of making it a stepping stone to something else? If so, let them halt on the threshold, and not imitate Balaam of old, by persevering in a course they know to be wrong. Let them ponder well the responsibility they would undertake, remembering that every word passing their lips in the school-room may influence their pupils individually and collectively, and perhaps the whole world, for better or worse, for time and eternity. The school is the world's cradle—Heaven's nursery—and the teacher's soul, like Jacob's ladder, while resting on the earth and piercing the skies, should lead the minds of his pupils to comprehend the things of this world, and, if possible, guide their hearts to contemplate the glories of the next.

#### IGNORANCE NO EXCUSE FOR THE TEACHER'S MISTAKES.

The teacher should go to his duty fully impressed with the almost overwhelming importance of his work. He should always remember that his mistakes, simple or insignificant though they be, may injure his pupils, individually and collectively, for all time to come. If he plead ignorance in palliation of his blunders, so much the worse. Ignorance in his case is a crime, if not a sin. Who would accept a plea of ignorance from a physician or druggist who, through incompetency or carelessness, would poison one of his patients? If such a party escaped the gallows, he would be hooted out of society; no one would engage his services, or even patronize his establishment again. Then why employ untrained and incompetent teachers—men who can and may do infinitely more mischief than unskilled or careless physicians, inasmuch as the heart and soul, to which they administer, are of far more consequence than the body, which must ultimately perish? The errors of the physician affect his patients in this world only, but the errors of the teacher affect his pupils for time and eternity. How vast the difference!

#### WHO CAN BE A TEACHER?

It may be said, "these things being so, who can be a teacher?" Very few indeed can be really good and great teachers, or are worthy of the name; nevertheless, if a man feels that he has the "right spirit within him," and that he earnestly desires to be instrumental in promoting, in the highest degree, the welfare of his country, and the world generally—by elevating and enlarging the capabilities of the human soul, by moulding the feeblest and most innocent of God's creatures into intelligent and benevolent sovereigns of creation, then his motives being pure, and his conduct upright—let him enter the profession, put his hands to the plough, and never look behind. His devotion will be acceptable in the sight of his Creator, and in days to come his reward will be more glorious than any which gold or silver can purchase.

The great object of the teacher should be to engrave such impressions on the minds of his youthful friends and disciples, as will ensure them a happy and joyous life. The faithful, noble-hearted teachers will always endeavour to so adapt his teachings to the nature and disposition of the innocent beings committed to his charge, as to ensure their temporal and eternal happiness. Much depends on his skill and judgment in fashioning their "opening minds," and on the quality of the tools he employs for that purpose. Man is the subject of the teacher. His province is to educate, that he may do so effectually, he must be perfectly acquainted with the disposition, nature, and surroundings of his subject, whilst having a

right conception of the object to be attained, and of the best means to be employed for that purpose. He must study man before he can teach him—he must thoroughly understand, and wholly sympathize with children before he can educate them. Bonds of parental love, and brotherly affection, must rule in school, out of school and all must be taught to sacrifice self if necessary to serve others. The qualifications—natural and acquired—which the teachers should possess, far excel those of any other member of the community. How deeply, therefore, should the people reverence him, who, by his skill and knowledge, is capable and willing to educate, develop and build up the mental faculties and physical powers of the rising generation, so that our sons and daughters may be an honor to us and to themselves—shining lights to generations yet unborn!

(To be continued.)

## II. Papers on Practical Education.

### 1. OVERWORK IN AMERICAN SCHOOLS.

A great deal is said of late about the poor health of Americans—especially American women—and about the decay and failure of the native born element in our country. This topic is certainly a serious one; and if the facts are at all such as they are claimed to be, it behooves us to consider well what are their causes, and what may be their remedy. A variety of circumstances, doubtless, are combined, in producing such a result; and hence to no single one, perhaps, can be traced the main responsibility. Still, it is well to observe everything that can be seen to bear upon the subject; and to remove, as far as possible, every detected source of peril.

One very serious and dangerous evil, in our opinion, is the overstraining study frequently exacted from pupils in our colleges and schools. This is more apt to be the case in large boarding institutions than in those where the scholars return daily to their homes. But if, as is sometimes said, the American nation is wearing itself out with brain work, the root of the trouble is found in this heavy mental strain early in life. A very great number of young people are worn down and enfeebled by study during the period between ten or twelve and twenty years of age, during which the child is passing into the adult. This is no light evil; it is fraught with grave consequences to the future of our nation, and needs to be taken into most serious consideration in the arrangement of our colleges and schools.

The danger arising from this source has, within recent years, attracted some attention, but as yet, we fear, with little improvement. On the contrary, in many quarters the idea would seem to be that if only a gymnasium is established in connection with the school, any amount of labour may be imposed without danger on the scholars' minds. May we be delivered from such a theory! Nay, indeed, physical can never afford a remedy for the intellectual overexertion. To march a class of worn and wearied pupils into a gymnasium, thinking to counteract by an hour's violent exercise, the mental strain of the day, is little better than an added severity. The mind requires a certain amount of ease and freedom—a portion in each day in which the feeling of restriction and of rule shall be withdrawn: and without this there is no relief, no relaxation of that constant tension which is the dangerous element in our culture.

It is painful to know how far this terrible forcing process is carried in some prominent female boarding seminaries; institutions, too, which are organized on the best and latest principles, and are in many respects models of excellence. Let us beware of this peril to our youth. Never should the pupil's exercise be confined to the gymnasium; let them have a daily walk in the open air, and above all let there be an hour in the day not covered by a "scheme," in which the student may feel free from restraint, and to relax the mind.

Of course, care has to be taken that pupils give due attention to their work, and that no time is needlessly wasted. A really competent teacher, however, can easily see who among the scholars are disposed to evade their duty, and who are conscientious in fulfilling it. Here it is that special judgment is needed; for while strict regulations and abundance of work are indispensable to the progress and advantage of the former class, they are oppressive, and sometimes even destructive, to the latter.

It seems to be an error also that frequently the same course of study is required from all the pupils of an institution, without regard to the fact that individual capacities are widely different. Many young ladies' seminaries, for example, prescribe a very elaborate scheme of mathematics, and carry all their candidates for graduation through not only those principles which every lady should know, but through long and laborious applications of mathematics to astronomy, surveying, &c. Now, without discussing the pro-

bable importance to the majority of ladies of being able to lay out a railroad or determine the elements of a comet's orbit, we would remark that in nothing do minds differ more than in the capacity for mathematical investigation. We do not question for an instant the general advantage of such studies, nor the desirableness to every educated woman of knowing something of those wonderful and beautiful principles by which science is guided from star to star through the immensity of space, and commerce from shore to shore over the heaving deep. We should not undervalue this element in our culture. It is not the study to be censured, but the excessive degree to which it is pursued while many valuable practical branches are almost if not wholly neglected, and many minds worn down and weakened by very laborious exertion.

The experience of the United States Military Academy at West Point, is highly instructive in this respect. The institution began by requiring from all its students a most extensive and elaborate mathematical course. All who could not sustain this course were dismissed at the close of the year; although among these were many young men of the best character and conduct, and of excellent capacity for the general duties of the service. In the meantime, the practical training of the officers were greatly neglected; so that the West Point graduate went into the army an accomplished mathematician, indeed, but with many daily duties of his position yet to be learnt by experience. After this mode of instruction had prevailed for some years the Government found it necessary to intimate to the managers that young men were sent to West Point to be educated for the service, and not to be sent home again in a year. The effect of this hint was to produce a modification of the course; and since that time the very elaborate mathematical work has been required of students for the corps of engineers, where alone it is really needed.

It would, therefore, be highly useful if a greater option were given in regard to the studies of our girls' seminaries at least. In determining the course most suitable for each individual, several considerations would have weight; the wishes of parents or guardians, the probable position of the pupil in life, the degree of physical health and vigor, and the adaptation of the mind to certain forms of effort. This last fact could soon be ascertained by a careful and discriminating teacher, and would afford good indication as to whether a given course of study were operating with nature or against it.

The optional arrangement of work has been introduced into some of our colleges with very happy success. In the University of our city, for instance, there are two parallel courses of study; one of four years, embracing the classics, and one of three years, in which other branches occupy their place. The degree of bachelor of arts is given in one, that of bachelor of science in the other; and when a young man is not disposed, or not adapted to the entire classical curriculum, he is given the choice of the scientific course, in which all other elements of a liberal education are furnished with equal fullness.

The trustees of the Rutgers Female Institute, so long and favorably known to our community, have obtained from Albany a change in their act of incorporation, by which the institute becomes a college. New York city has needed a true college for ladies, and it is cause for congratulation that she is henceforth to have one. We hope to see this institution, which is now both new and old, placed upon a good foundation, and made in all respects what such a college ought to be—morally, intellectually, aesthetically and physically. An important meeting is soon to be held, at which prominent persons connected with education will be present, and the new plans of organization will be made public. These, it is understood, are to comprise not only a valuable extension of the present course, but some new and striking features in the way of supplementary departments, for the imparting of various forms of additional instruction, adapted to the latest principles of female training in the practical affairs of life.

### 2. WARNING TO HARD MENTAL WORKERS.

A medical friend calls our attention to an article in the last number of the *Lancet*, referring to the recent deaths of Sir James Simpson, Dr. Nunneley and Charles Dickens. The article comments upon the cause of the premature death of these eminent men in a strain that our correspondent thinks might be seriously pondered upon by Canadians of middle age, who forget, in the excitement of business, that they are no longer in possession of the recuperative powers of youth. The *Lancet* says:—

"If we find ourselves wanting in vital power, we must thrust aside the scarlet cloak of nerve stimulants—alcohol, coffee, tea, by means of which, I believe, it is that efforts inconsistent with real vital and nutritive power are made by workers in general, and by medical men amongst the number.

"A man who meets age, or debility, or want of constitutional power, by alcoholic stimulants, even in moderation, by coffee and tea, conceals his real nutritive condition from himself. When both the nervous and muscular systems are exhausted, and want repairing by legitimate nutrition—by beef, mutton, bread and rest—a man may galvanize his economy by nerve stimulants so as to be equal to nearly anything up to the last. But the process is a destructive one, exhausts vital power, impairs healthy nutrition, and lays the foundation for morbid organic changes.

"By alcoholic stimulants, constantly repeated whenever exhaustion supervenes, the power of work may be supported until within a few days or hours of death, as we constantly see in the lower classes of life. Tea and coffee have nearly as great an apparent nerve stimulating strength-supporting power. Let any one who doubts it take a cup of strong tea or coffee when exhausted from want of food and from physical fatigue. The craving for nutritive elements to repair waste, and the sense of fatigue, both disappear in ten minutes, and a couple of hours' more abstinence and work are easily borne. But what have we done? The physical organization wanted repair, wanted the elements of nutrition; the nervous system, rest; and we do worse than give them a stone—we galvanize them into continued action.

"Night work is principally done on such stimulation. The student, the writer, young or old, who retires to his study in the evening to work, does so on tea or coffee. The tired brain wants sleep; it is galvanized into intellectual labor. Is it surprising that morbid organic conditions should occur in the long run? For we must recollect that the nervous system rules over all organic and nutritive changes, normal and abnormal.

"What applies to our medical brethren, applies to all; and it is our duty to lay, nakedly and sternly, these facts before our erring patients. It is not very evident that we have recently lost our most distinguished literary man, Charles Dickens, at the early age of fifty-eight, from continued over-straining of the nervous system?—in his case altogether without cause or excuse. On his return from America, he wrote that his readings during his tour in the States had much wearied and injured him. The constant travelling; the excitement of the meetings; the dinners; the receptions—had been too much for him. Had he then been made to understand that he was working against age and impaired vital power—risking his life, in a word—he might have taken rest, and been with us now. But he continued the same labors, the same excitement, and died from brain disease, regretted by a nation, prematurely."

## 2. HEAD-WORK BEFORE HAND-WORK.

In everything that we do, or mean to do, the first condition of success is that we understand clearly the result which we desire to produce. The house-builder does not gather together a mass of bricks, and timber, and mortar, and trust that somehow a house will shape itself out of its materials. Wheels, springs, screws and dial-plate, will not constitute a watch, unless they are shaped and fitted with the proper relations to one another. I have long thought, that to educate successfully, you should ascertain clearly, with sharp and distinct outline, what you mean by an educated man.

Now, our ancestors, whatever their other shortcomings, understood what they meant perfectly well. In their primary education, and in their higher education, they knew what they wanted to produce, and they suited their means to their ends. They set out with the principle that every child born into the world should be taught his duty to God and man. The majority of people had to live, as they always must by bodily labor; therefore, every boy was, as early as was convenient, set to labor. He was not permitted to idle about the streets or lanes. He was apprenticed to some honest industry. Either he was sent to a farmer, or if his wits were sharper, he was allotted to the village carpenter, bricklayer, tailor, shoemaker, or whatever it might be. He was instructed in some positive calling by which he could earn his bread and become a profitable member of the commonwealth. Besides this, but not independent of it, you had in Scotland, established by Knox, your parish schools, where he was taught to read, and if he showed special talent that way, he was made a scholar of and trained for the ministry. But neither Knox, nor any one in those days, thought of what we call enlarging the mind. A boy was taught reading that he might read his Bible, and learn to fear God, and be ashamed and afraid to do wrong.

An eminent American was once talking to me of the school system in the United States. The boast and glory of it, in his mind, was that every citizen born, had a fair and equal start in life. Every one of them knew that he had a chance of becoming President of the Republic, and was spurred to energy by the hope. Here, too, you see, is a distinct object. Young Americans are all educated alike. The aim put before them is to get on. They are like run-

ners in a race; set to push and shoulder for the best places; never to rest contented, but to struggle forward in never-ending competition. It has answered its purpose in a new and unsettled country, where the centre of gravity has not yet determined into its place. But I cannot think that such a system as this can be permanent, or that human society, constituted on such a principle, will ultimately be found tolerable. For one thing, the prizes of life so looked at, are at best but few and the competitors many. "For myself," said the great Spinoza, "I am certain that the good of human life cannot lie in the possession of things which, for one man to possess, is for the rest to lose, rather in things which all can possess alike, and where one man's wealth promotes his neighbor's." At any rate it was not any such notion as this which Knox had before him when he instituted your parish schools. We had no parish schools in England for centuries after he was gone, but the object was answered by the church catechizing, and the Sunday school. Our boys, like yours, were made to understand that they would have to answer for the use that they made of their lives. And in both countries, by industrial training, they were put in the way of leading useful lives if they were honest. The essential thing was, that every one that was willing to work should be enabled to maintain himself and his family in honor and independence.

Pass to the education of a scholar, and you find the same principle otherwise applied. There are two ways of being independent. If you require much, you must produce much. If you produce little, you must require little. Those whose studies added nothing to the material wealth of the world, were taught to be content to be poor. They were a burden on others, and the burden was made as light as possible. The thirty thousand students, who gathered out of Europe to Paris, to listen to Abelard, did not travel in carriages, and they brought no portmanteaus with them. They carried their wardrobes on their backs. They walked from Paris to Padua; from Padua to Salamanca; and they begged their way along the roads. The laws of mendicancy in all countries were suspended in favor of scholars wandering in pursuit of knowledge. At home, at his college, the scholar's fare was the hardest; his lodging was the barest. If rich in mind, he was expected to be poor in body; and so deeply was this theory grafted into English feeling, that earls and dukes, when they began to frequent universities, shared the common simplicity. The furniture of a noble earl's room at an English university at present, may cost, including the pictures of opera-dancers and race-horses and such like, perhaps five hundred pounds. When the magnificent Earl of Essex was sent to Cambridge, in Elizabeth's time, his guardians provided him with a deal-table covered with green baize, a truckle-bed, half a dozen chairs and a wash-hand basin. The cost of all, I think, was five pounds.

You see what was meant. The scholar was held in high honor; but his contributions to the commonwealth were not appreciable in money, and were not rewarded with money. He went without what he could not produce, that he might keep his independence and his self-respect unharmed. Neither scholarship nor science starved under this treatment; more noble souls have been smothered in luxury than were ever killed by hunger. Your Knox was brought up in this way; Buchanan was brought up in this way; Luther was brought up in this way; and Tyndal, who translated the Bible; and Milton, and Kepler, and Spinoza, and your Robert Burns. Compare Burns, bred behind the plough, and our English Byron!

This was the old education, which formed the character of the English and Scotch nations. It is dying away at both extremities, as no longer suited to what is called modern civilization. The apprenticeship as a system of instruction, is gone. The discipline of poverty—not here as yet, I am happy to think, but in England—is gone, also; and we have got instead, what are called enlarged minds.

I ask a modern march-of-intellect man what education is for, and he tells me it is to make educated men. I ask what an educated man is; he tells me it is a man whose intelligence has been cultivated, who knows, something of the world he lives in; the different races of men; their languages, their histories, and the books that they have written; and again, modern science, astronomy, geology, physiology political economy, mathematics, mechanics—everything in fact which an educated man ought to know.

Education, according to this, means instruction in everything which human beings have done, thought, or discovered; all history, all languages, all sciences.

Under this system teaching becomes cramming; an enormous accumulation of propositions of all sorts and kinds is thrust down the students' throats, to be poured out again, I might say vomited out, into examiners' laps; and this when it is notorious that the sole condition of making progress in any branch or art of knowledge is to leave on one side everything irrelevant to it, and to throw your individual energy on the special thing you have in hand.

III. Monthly Report on Meteorology of the Province of Ontario.

I. ABSTRACT OF MONTHLY METEOROLOGICAL RESULTS, compiled from the Returns of the daily observations at ten Grammar School Stations, for August, 1870.

OBSERVERS: Pembroke—James Smith, Esq., M.A.; Cornwall—J. L. Bradbury, Esq., M.A.; Barrie—H. B. Spotton, Esq., M.A.; Peterborough—Ivan O'Beime, Esq.; Belleville—A. Burdon, Esq.; Goderich—James Preston, Esq., B.A.; Stratford—C. J. Macgregor, Esq., M.A.; Hamilton—A. Macallum, Esq., M.A.; Simcoe—James J. Wadsworth, Esq., M.A.; Windsor—J. Johnston, Esq., B.A.

Table with columns: STATION, ELEVATION, BAROMETER AT TEMPERATURE OF 32° FAHRENHEIT, TEMPERATURE OF THE AIR, TENSION OF VAPOUR, and MONTHLY MEANS. Rows include Pembroke, Cornwall, Peterborough, Belleville, Goderich, Stratford, Hamilton, Simcoe, and Windsor.

Approximation. a On Lake Simcoe e Near Lake Ontario on Bay of Quinte. f On St. Lawrence. g On Lake Huron. h On Lake Ontario. i On the Ottawa River. j Close to Lake Erie. m On the Detroit River. k Inland Towns.

Table with columns: STATION, HUMIDITY OF AIR, WINDS, NUMBER OF OBSERVATIONS, ESTIMATED VELOCITY OF WIND, AMOUNT OF CLOUDINESS, RAIN, SNOW, and AURORAS. Rows include Pembroke, Cornwall, Peterborough, Belleville, Goderich, Stratford, Hamilton, Simcoe, and Windsor.

Where the clouds have contrary motions, the higher current is entered here. Velocity is estimated, 0 denoting calm or light air; 10 denoting very heavy hurricane.

REMARKS.

Pembroke.—On 1st, two meteors crossed NW zenith from NE to SW at 9 P.M. 7th, lightning, with rain. 20th, the auroral display was accompanied by a marked rise of the barometer; a similar occurrence was noted on March 30th, 1870. 25th, thunder, with rain. 6th, 17th, 20th, lightning and thunder, with rain. 28th, meteor moving from zenith eastward, very large, at 7.20 P.M. Rain on 3rd, 5th—8th, 10th, 17th, 18th, 19th, 23rd, 25th, 29th, 30th, 31st. Fogs, 4th, 6th, 8th, 10th. Wind storms, 17th, 19th. Frost, 26th. CORNWALL.—Rain on 3rd, 4th, 6th, 9th, 12th, 25th, 29th, 31st.

Rain, 3rd, 6th, 7th, 8th, 9th, 19th, 23rd, 25th, 29th. First half of month rather dry—fires in the woods.

BELLEVILLE.—On 1st, thunder. 25th and 29th, lightning, with thunder and rain. 17th, wind storm. Dense fog from Saturday 20th till Thursday 25th, supposed to have been conveyed from the fires in the Ottawa region. Very strong gales from W and SW during 17th. Rain, 3rd, 5th, 8th, 9th, 12th, 23rd, 25th, 28th, 29th. Weather hot and close; fires through 10 square miles, in Madoc, Tudor and Elzever, before the rains of the 25th.

GOBERICH.—On 1st, 7th, 24th, 28th, lightning. 1st and 5th, thunder. 23rd and 24th, thunder and lightning, with rain. 2nd, three shooting stars. 20th, brilliant auroral display—maximum about 8.40 P. M.; whole sky, save a space S below 45° covered with auroral light; corona 4° south of Z, with waves from all sides moving rapidly towards it; coloured arches and streamers after disappearance of corona. 26th, frost in the country. Wind storms, 17th, 19th, 25th, 29th. Tremendous rain storm, with thunder and lightning, 23rd. Rain also on 3rd, 7th, 9th, 13th, 19th, 24th, 28th, 29th, 31st.

STRATFORD.—On 1st, lightning, with thunder. 3rd, lightning, with rain. 7th, 19th, 23rd, 24th, 28th, 29th, lightning and thunder, with rain. Hoar frost on 27th. Storm on 23rd and 24th, remarkable for the excessive rain fall, with the wind, causing a great amount of damage in the adjacent country. Wind storm also, 29th, and rain on 3rd, 7th, 9th, 13th, 19th, 23rd—25th, 28th, 29th, 31st. Fogs, 10th, 13th, 14th. The frequency of aurora towards the end of the month is noteworthy.

HAMILTON.—On 8th, lightning. 17th, wind storm. 19th, splendid display of streamers; crimson vapour observed in west. 20th, a still grander display; corona formed at 8.30; waves, also, in E at 8.45; the phenomena extended southward to within 30° of the horizon; at 8.55 crimson vapour N<sup>E</sup> and N<sup>W</sup>; at 9 began subsiding; general movement of waves tended westward. 24th, lightning and thunder, with rain. 29th, violent storm of wind and rain, accompanied by thunder and lightning, passed over station from SW, causing much damage, from 1 P. M. to 2.27. Rainbow, 19th, 24th, 29th. Hoar frost, 27th. Rain, 3rd, 5th, 7th, 8th, 13th, 19th, 23rd, 24th, 25th, 29th.

SIMCOE.—On 13th and 14th, auroras very brilliant, and covered half the sky. A brilliant meteor in W at 8.15 P. M., 14th. Lightning and thunder, with rain, 23rd, 24th. Wind storms, 1st, 17th, 18th, 29th, 30th. Rain, 3rd, 15th, 23rd, 24th, 25th, 29th.

WINDSOR.—Lunar halo, 7th, 8th, 9th, 10th, 12th. Meteors seen as follows: on 14th, two; 17th, one; 18th, two; 21st, two; 24th, four; 25th, one; 26th, one; 28th, seven; 29th, two; 30th, one; 31st, three;—the observer also notes the directions of most of these. Lightning on 1st. Lightning, with thunder, 31st. Wind storms, 17th, 19th, 25th, 29th. Fog, 4th. Rain, 2nd, 3rd, 7th, 9th, 13th, 19th, 23rd, 24th, 29th.

## 2. ECLIPSE OF THE SUN IN DECEMBER, 1870.

Astronomers in all parts of the world are now busy in making their preparations for observing the eclipse of the sun in December 21-22, 1870. Although it will not be visible in the United States, it has been suggested that some of the American observers of the last eclipse be sent abroad for the purpose of taking part in the observations of the one in question, and Congress has already appropriated \$29,000 to the Coast Survey for the purpose. Great praise was awarded by foreign physicists to the American astronomers for the excellence of their work, and especially for the remarkable photographic pictures that were taken, and at so many points; and it is urged that these same gentlemen, or a selection from them, would be admirably fitted for a renewed investigation of the kind, since their experience of the first phenomenon would enable them to utilize their time to better advantage during the second. According to a recent writer this eclipse will begin in the North Atlantic Ocean; the line of central and total eclipse, moving in a south-easterly direction, crosses Portugal a little to the south of Lisbon; passing over part of Spain and the Mediterranean Sea, it enters Africa near Oran, and soon afterward attains its extreme southern limit; the shadow of the moon, now moving in a north-easterly direction, leaves Africa, and, crossing the island of Sicily, the south of Turkey, the Black Sea, and the Sea of Azof, disappears; the penumbra of the moon decreasing rapidly, leaves the earth with the setting sun in Arabia. The sun will be centrally and totally eclipsed at noon in lat. 36° 38' N., long. 5° 1' W., a little to the north-east of Gibraltar.—EDITOR'S SCIENTIFIC RECORD in *Harper's Magazine for September*.

## 3. LUMINOUS FLAMES AND SOUND.

Among the curiosities of physical science is the well-known fact that luminous flames are very sensitive to sound, exhibiting different phenomena under different circumstances. An ingenious savant proposes to turn this to practical account, and for this purpose has devised an apparatus, consisting of two upright copper rods, one of which, at its upper extremity, has a metal band attached at a right angle, and consisting of thin layers of gold, silver, and platinum, welded together. When exposed to heat the bands expand unequally and bend to one side, thereby coming into contact with a platinum point which is attached to the other bar, so as to stand at about four-tenths of an inch from the bands. Both ends are connected with the poles of a small electrical battery, in the circuit of which an electrical bell is introduced, in a distant part of the room, and which sounds whenever the circuit is closed. A flame is now brought to about ten inches from the metal band, and on re-

moving to a distance of ten or fifteen yards from the flame, and whistling, the flame answers immediately, by becoming shorter and broader. In this way it comes into contiguity with the metal band, and this curving to one side as it is heated by the flame, touches the platinum point, closes the current, and we hear the distant bell sound each time in answer to the whistle. In a similar manner, the cry of a child in its cradle by night may be carried to the room of its parents; and, by a somewhat similar arrangement, a thief attempting to open a door with a key, can sound a distant alarm-bell if he makes the least noise. It is even possible to arrange an apparatus resembling this, by means of which, in a fog or by night, the approach of a boat or vessel can be detected at a great distance, by the sounding of a bell in the captain's cabin.—EDITOR'S SCIENTIFIC RECORD, in *Harper's Magazine for October*.

## IV. Papers on Education of Women.

### 1. CAMBRIDGE EXAMINATIONS OF WOMEN.

The syndicate appointed by the senate of Cambridge University, England, to conduct the examination of persons not members of the university, but applicants for degrees, recently submitted a report that they had examined thirty-six female candidates in English branches, languages, mathematics, science, political economy, &c., with the following curious results:—Seventeen of the candidates declined to be examined in "religious knowledge." The "Scripture papers" of the other nineteen "were not satisfactorily answered," and "a strong predilection was shown for the mystical interpretation of Scripture, generally at the expense of all sound criticism." The examiner, however, is kind enough to say that the failures were the result of "inadequate preparation rather than deficient ability." In arithmetic, six of the candidates did "very well," eleven others "creditably," and the others failed. In English history and composition nearly all the candidates "acquitted themselves extremely well." In English literature the examiner reports that "the knowledge displayed is at least as much as I looked for," and in the papers written there "is hardly a touch of fine writing," and "not four words wrongly spelt." There were only two candidates in Latin; "both were quick at catching the general meaning, but were inclined to get at it by short cuts." The knowledge of syntax was not good, and "the meaning of a passage was often entirely missed by mistaking the relation of the dependent sentence to the main one, and by failing to understand the uses of the subjunctive mood." Twenty-four candidates attempted the papers in French; two obtained marks of distinction, and five failed to pass. Very few had an accurate knowledge of the syntax of the language, and "several showed that they did not in the least understand what they had written." There were ten candidates in German; one passed brilliantly, four creditably, and the other five failed entirely. In Italian there were four candidates, three of whom passed. In mathematics there were only two candidates; one failed, the other acquitted herself creditably. There were three candidates in political economy, all of whom passed with some credit. In drawing, two out of four candidates passed; and in music only one out of three candidates was at all successful. In this examination the lady candidates were examined by the same persons who examined the male students, and were tried by the same standard. They had been afforded a year of preparation, and the course which the examination would take was pointed out beforehand. The result is not a flattering one; no candidate presented herself for examination in Greek or logic; and in the branches in which the female candidates thought themselves proficient, they seem to have fallen far short of the standard by which the requirements of male students are tested.

### 2. SIMMONS' FEMALE COLLEGE, BOSTON.

Another of the millionaires of America has left a very large sum for the purpose of benefiting a large class who, in the estimation of the donor, stand in great need of a kind helping hand. Mr. Simmons, the gentleman referred to, made his fortune by trade in Boston. He began business on his own account, and on a very small scale, in a clothing store when 21 years of age. So greatly did he prosper in his work that he has left \$1,400,000 for the purpose of endowing and maintaining a college for the purpose of teaching females "medicine, music, drawing, designing, telegraphy, and other branches of art, science, and industry, best calculated to enable the scholars to acquire an independent livelihood."

Mr. Simmons was led to this idea from what he had observed when engaged in the ready-made clothing business. He had then occasion to employ a great many young women as well as men, and he noticed that a large number, of the former especially, were to a

great extent incapacitated for successful work on account of their total want of training. Individual charity, he felt, could do little to remedy the evil, and hence he was led to the idea of having a college specially set apart for imparting the necessary instructions. The openings for woman's work he felt were sufficiently few in any case, and it was a pity if ignorance should narrow these still more.

If conducted at all on right principles, such an institution may become abundantly useful. It is very evident that a large number of women have to labor in some way or other for daily subsistence; and surely if it is a good thing for men to be properly prepared for life work, it is an equally good thing for the other sex. If marriage renders it by-and-by unnecessary for a good many of them to follow their chosen avocations, it is very easy to cease working; but to argue from this that anything like scientific education is unnecessary for any of the gentler sex is so absurd as not to call for a word in reply. The provision made for the education of women generally is deplorably deficient when compared with what is made for the ruder and stronger half of mankind, and therefore we rejoice when some one like Mr. Simmons stretches out a helping hand to many a poor struggling one in order to benefit her in the best way by helping her to help herself.—*Globe*.

### 3. FEMALE EDUCATION IN INDIA.

In connection with the subject of Female Education in India, the London *Athenæum* remarks that in a monthly return of the number of native visitors to the Indian Museum of Calcutta, it appears that 1,290 are females and 10,853 males. At Calcutta a native gentleman has established a class, and given scholarships for the education of native women as midwives. Another class is to be established at Lucknow. A normal school for native ladies and girls has been already opened at Poona. At the Calcutta University two Hindoo ladies are going up for the matriculation examination.

### 4. DISTINGUISHED WOMEN.

At a recent opening of the fifth annual session of the Medical College for women in London, Dr. George Ross delivered the inaugural lecture. The following is an extract:—

"History abounds in narratives of women who have distinguished themselves in every vocation of life. They have attained the highest reach of knowledge, and have accomplished the most daring feats of valor. Is it a question of intellect? Let Hypatia, who was the most successful teacher in the school of Alexandria in its palmiest days, who was the greatest philosopher of her age, who was the most eloquent orator among many rivals, who was far more learned than the profoundest of her erudite contemporaries—let Hypatia give the answer. But not Hypatia only, for there have been many as able and learned as she. Was not Clotilda Tambroni even in this century, professor of Greek, at Bologna, and the ablest Hellemist in Italy? Dr. Johnson told them that Mrs. Elizabeth Carter was the best Greek scholar in England. Madame Dacier rivalled the most learned scholars of her time. Caroline Herschel assisted her brother William in his astronomical labors, made for him some of his laborious calculations, and enriched science with many valuable contributions. Had not Mrs. Summerville also acquired eminent distinction in the same abstruse and difficult study? The unfortunate and erring Madame de Chatelet translated the *Principia* into French, and was not less learned than she was elegant. Anna Maria Schuman spoke Latin, Greek and Hebrew, and the chief modern languages, was well versed in the Syriac, Chaldaic, Arabic, and Ethiopic, and had mastered all the sciences taught in her age. The learned Spanheim, Sossius and Salmasius were her correspondents. There had been no grand epoch of human conflict that had not given birth to its extraordinary women—to its Anne Askew, its Joan of Arc, its Agostinia, its Charlotte Corday, its Madame Roland, its Florence Nightingale. A Boadicea was the brightest name in our early history; an Elizabeth one of the most famous in our later annals; Semiramis was the mightiest sovereign of her line; and in the Hebrew records the greatest of all the judges, the one that was never censured by priest or prophet, was Deborah, the mother of Israel. These were the most brilliant stars; but there were a thousand more of scarcely inferior splendor. The names of Bewan and La Chapelle stood as high in professional estimation as those of any male professors of the obstetric art."

## V. Biographical Sketches.

### 1. THE REV. JAMES GEORGE, D. D.,

Forten years pastor of St. Andrew's congregation, Stratford, died in that town on the 26th ult., in the seventieth year of his age. The reverend doctor was born in Perthshire, Scotland, and was

educated at the Universities of St. Andrew and Glasgow. He came to America in 1830, and after laboring among a congregation at Saratoga for a short time, removed to Upper Canada where he accepted a call from the congregation at Scarboro', to which he ministered for nearly twenty years. He afterwards occupied the chair of Moral Philosophy in Queen's College, Kingston; which he resigned about ten years ago to resume his pastoral labors at Stratford.

### 2. THE REV. THOMAS CHRISTIE.

The Rev. Thomas Christie, of Flamboro' was the oldest and one of the most respected clergymen of the Province of Ontario. He came as one of the first bands of missionaries sent out to Canada by the United Secession Church of Scotland, in 1832, and has long survived his early associate, the late Rev. Mr. Proudfoot, of London. He has been, so long as strength permitted, an unwearied missionary, and up to within a week or two of his death continued to preach with much acceptance to the congregation in Flamboro', over which he has presided for many years. Many long and toilsome journeys on foot he took in the prosecution of his self-denying labors, and now, at the ripe age of 86, he has closed his work, and passed away amid the regrets of very many, and the respect of all who knew him and could appreciate unbending adherence to what was believed to be right, whatever the consequence. When the history of the Canada Presbyterian Church comes to be written, the name of Thomas Christie will take an honorable place among its fathers and founders.—*Globe*.

### 3. JOHN ROAF, ESQ., Q. C.

One of the ablest and most eminent members of the Chancery Bar of this Province, has been called to his account at the early age of 43. He was born in Wigan, Lancashire, England, but came to this country with his parents at an early age. His father, Rev. John Roaf, for many years pastor of Zion Church in this city, was well known for his writings as well as his pulpit efforts in Canada. Mr. Roaf was educated at Upper Canada College and Toronto University, where he graduated with honors in 1846. He was called to the bar in 1849, and practised his profession with great ability and success until the illness which terminated his life. He was very highly respected by a large circle of clients, who had the utmost confidence in his ability and integrity. The law reports of the last twenty years contain ample evidence of his thorough acquaintance with the principles and practice of Equity, and the success which generally attended his efforts. To many of our readers his death will be the loss of a sincere and highly esteemed friend, whose memory will long be held in kindly recollection. The Congregational Church has lost a devoted member, and his family, a beloved husband and parent.—*Globe*.

### 4. PATRICK KELLY, ESQ.

Deceased was one of our "oldest inhabitants," having been born in the County of Wexford, Ireland, in the year 1778. He came to Canada in 1836, and purchased during the same year, the property which for 34 years he has made his home upon, and where, on Thursday night or Friday morning of the past week, he breathed his last. His family consisted of nine children—five sons and four daughters. The wife of deceased died about fourteen years ago, at the ripe age of about 78 years. Mr. Kelly represented a band of pioneers in Kent, now nearly extinct. By long years of toil and economy, deceased accumulated a fine property, and out of his means he always had an open and generous hand for the poor. Among his neighbors and all who knew him his word was his bond, for he possessed to the fullest degree the characteristics of his countrymen—warm-hearted, generous, impulsive, confiding, and too often took every other person to be like himself. As a father, husband, friend, neighbor, or acquaintance, he was beloved by one and all universally, and as a man of sound, good sense and of strict probity, and thoroughly conscientious, he had few equals and no superiors we believe. His death, though occurring when he was full of years, was deeply lamented by one and all, and the concurrence which followed his remains to the grave exhibited, more than mere words can do, the estimation in which he was generally held by our people.—*Chatham Planet*.

### 5. DEATH OF OLD CANADIAN PIONEERS.

MR. EZRA JONES, another of those old pioneers, fast passing away, died in the township of Uxbridge, on the 13th inst., in the eighty-ninth year of his age. Mr. Jones came from Pennsylvania to Canada, in 1805, and in the following year settled in Uxbridge. In 1807 he married Miss Ruth Lundy, a sister of Isaac Lundy, late

of Newmarket, with whom he lived happily on the same farm for sixty-three years. She died some six weeks before him. He was a very honest, industrious man, a good farmer, and made himself wealthy. He was very charitable and kind to the poor settlers who came to the settlement after him, and being always forerhanded, his granary was invariably, in those days, a great convenience to such poor settlers as frequently ran out of bread before the harvest, and he often lent and gave away provisions to poor people without ever soliciting a return. He had five sons and four daughters. The eldest of the latter is Mrs. Gould, wife of Mr. Joseph Gould, ex-M.P.P. for North Ontario. Mr. Jones was a strict member of the Society of Friends, and brought up his family members of that profession. He was a firm believer of a great future for Canada, and being liberal in his politics gave his vote and influence always to the Reform cause. He contributed liberally to education, having built at his own cost one of the first school-houses, and sustained a school in the township for several years. The deceased had also a passion for fine horses, which caused a melancholy bereavement in his family on one occasion. In the year 1828 he purchased a beautiful match of dapple-grey mares with fine figure and good action; they were the admiration of all who saw them; at the same time he had in his employment a man named Christie, whom he had agreed to move from Uxbridge to Toronto, then called York. Being ill at the time, Mr. Jones sent his eldest son, Isaac, a young man about twenty years of age, with his fancy mares to move Christie away from the place to where he was going. There was a dense forest of twelve miles on the road then between Uxbridge and Newmarket, and Christie, prompted by a desire to obtain the horses, and encouraged in his designs by his wife, murdered young Jones in a lonely place by shooting him through the head. The body of the murdered young man was afterwards found secreted under a log-heap. The murderer escaped to the United States with the horses, where he fancied he had a safe refuge in Troy. Even in those days of slow communication he was tracked and identified, mainly by the conspicuousness of the horses, and by means of the Governor's proclamation of one hundred pounds reward, he was soon arrested and extradited to Canada. Christie paid the penalty of his double crime with his life, having been convicted and executed almost immediately, as the Court was in session at the time of his extradition. The decease of the old pioneer, Mr. Jones, removes another of the ancient landmarks in this part of Canada, and has been the cause of relating the incidents above mentioned.

MR. JOHN MUTRIE, an old settler of the Township of Nichol, died on the 31st ult., at the age of 85 years. Deceased was a native of Lanark, Scotland; when only 16 he entered the navy of Great Britain, and fought under Sir Hyde Parker and Nelson at Copenhagen, in 1801, at which time the Danish fleet was totally destroyed. After a long servitude in the Baltic and Mediterranean, he returned to his native land, married, and in 1830 immigrated to Canada, and settled in the Township of Nichol, where he has continued to reside greatly respected by all who knew him.

HON. HENRY JOHN BOULTON, was in his time a prominent Canadian politician, deserving of notice from the press. We have nothing to add to the account of him in Morgan's *Sketches of Celebrated Canadians*, except to say that during his latter days, in which Mr. Boulton led a retired life in this city, he was respected by the whole community, and was in every sense a good and worthy citizen.

HON. GEORGE CRAWFORD was born at Manor Hamilton, in the County of Cavan, Ireland. About 50 years ago he immigrated to Canada. Having spent some little time in the township of Tecumseh he moved east, and engaged in contracting operations, in which he was eminently successful. His first political experience was in the old Legislative Assembly, from which he passed to the Council in 1858, when that body was made elective. At the inauguration of the Dominion he was appointed a life Senator, and retained his place in the upper chamber until the time of his death. Like many others of the old Cavan men who have settled in Canada, Mr. Crawford was an upright, pushing, energetic man. He worked his way up by carefulness and industry to a position not only of independence but of wealth, ever holding a high place among his fellows.

MRS. BURWELL, widow of the late Col. Mahlon Burwell, died at Port Talbot, on the 25th ult., at the age of 80 years. The *London Advertiser* says Mrs. Burwell was one of the pioneers of the Talbot Settlement, having moved to that place in 1810. As an early settler she underwent, in common with her neighbors, at that time very few in number, the hardships incident to the of war of 1812. After having their dwelling at Port Talbot burned down by a party of American Indians under Norton, she went on horseback, accompanied with a friend through the country, then almost a wilderness, to her early home near Fort Erie, taking with her two of her children, while her husband was taken prisoner by the Indians to De-

troit and delivered to the American authorities. After the war she returned to Port Talbot, where she remained until the time of her death.

MR. JAMES SHAW, one of the oldest settlers in the county of Lennox, died at Ernestown on the 21st inst. at the age of seventy-three years. He arrived in the country in 1818, and having come by the head of Lake Ontario, travelled one thousand miles on foot before he reached the township in which he located.

## VI. Miscellaneous Friday Readings.

### 1. I SHALL MISS THE CHILDREN.

(BY CHARLES DICKENS.)

When the lessons and tasks are all ended,  
And the school for the day is dismissed,  
And the little ones gather around me,  
To bid me good night and be kissed;  
Oh the little white arms that encircle  
My neck in a tender embrace!  
Oh, the smiles that are halos of heaven,  
Shedding sunshine of love on my face!

And when they are gone I sit dreaming  
Of my childhood too lovely to last,  
Of love that my heart will remember  
When it wakes to the pulse of the past,  
Ere the world and its wickedness made me  
A partner of sorrow and sin  
When the glory of God was about me  
And the glory of gladness within.

Oh, my heart grows weak as a woman's,  
And the fountains of feelings will flow,  
When I think of the paths steep and stony,  
Where the feet of the dear ones must go;  
Of the mountains of sin hanging o'er them.  
Of the temptest of Fate blowing wild;  
Oh! there is nothing on earth half so holy  
As the innocent heart of a child.

They are idols of hearts and of households;  
They are angels of God in disguise;  
His sunlight still sleeps in their tresses,  
His glory still gleams in their eyes;  
Oh! those truants from home and from heaven,  
They have made me more manly and mild,  
And I know how Jesus could liken  
The kingdom of God to a child.

I ask not a life for the dear ones  
All radiant, as others have done.  
But that life may have just enough shadow  
To temper the glare of the sun.  
I would pray God to guard them from evil  
But my prayer would bound back to myself;  
Ah! a seraph may pray for a sinner,  
But a sinner must pray for himself

The twig is so easily bended,  
I have banished the rule and the rod;  
I have taught them the goodness of knowledge,  
They have taught me the goodness of God.  
My heart is a dungeon of darkness.  
Where I shut them from breaking a rule;  
My frown is sufficient correction;  
My love is the law of the school.

I shall leave the old house in the autumn,  
To traverse its threshold no more;  
Ah! how shall I sigh for the dear ones,  
That meet me each morn at the door;  
I shall miss the "good nights" and the kisses,  
And the gush of their innocent glee,  
The group on the green and the flowers  
That are brought every morning to me.

I shall miss them at morn and at eve,  
Their song in the school and the street;  
I shall miss the low hum of their voices,  
And the tramp of their delicate feet,  
When the lessons and tasks are all ended,  
And Death says: "The School is dismissed!"  
May the little ones gather around me,  
To bid me good night and be kissed?

## 2. CAUSE OF VARIEGATION OF LEAVES.

According to Mr. Morren, the difference in the colour of the leaves of the variegated plants, which form so ornamental a feature of our green-houses, is due to a disease which is at once contagious and capable of being transmitted from one species of plants to another, by a kind of inoculation. He considers that the alteration of the chlorophyl (which he compares to the red globules of the blood), or green coloring matter, gives rise to variegated leaves, which consist of a mixture of green parts with others more or less yellow. If the discoloration is general, it produces death. Among the higher orders of plants only those which are parasitic can exist when entirely deprived of chlorophyl. Variegation is a sign of organic disease; the discolored or variegated portions of the leaf have lost their power of reducing the carbonic acid of the atmosphere; the plants are generally weaker, smaller, their flowers and fruit much poorer, and their powers of resisting cold diminished. Variegation can be propagated by means of layers, buds, or grafts, showing that the buds themselves are infected. The seeds, however, from variegated individuals usually produce normal and healthy plants.—*EDITOR'S SCIENTIFIC RECORD, in Harper's Magazine for September.*

## 3. TO BOYS WHO WANT TO BE CLERKS.

Many of our youths are afflicted with the infatuation that city clerkships are the most eligible position, while the trades are not "respectable." Let them learn that intelligent mechanics have a better chance of securing wealth, eminence and influence than the overcrowded clerkships can afford. The present and last Governor of Connecticut, each, in his boyhood, learned a trade and thus became a thorough master of the business in all its details, in which each has achieved brilliant success. The most extensive manufacturer of silverware in the world, John Gorham, of Providence, declined the position of clerk in the counting-room, that he might master the trade in his father's shop as a regular apprentice, where he learned thoroughly how to do with his own hands all that he has had to direct others in doing. A multitude of similar facts might be cited to show that the mastery of a trade is one of the best preparations for practical life and prosperity in business. Clerks are often paid less than skilful mechanics, and are less independent. In their precarious positions they are liable to disappointment and humiliating struggles with thousands of others looking for a place. Every advertisement for a clerk brings swarms of applicants. How pitiable the condition of this superabundance of book-keepers and exchangers wasting their lives in "waiting for a place," while our factories, railroads and trains are clamoring for educated superintendents, foremen, engineer, skilful manager and cunning workmen! The position of the educated and well trained mechanic is far preferable to that of average city clerks. The latter may dress better, talk more glibly, bow more graceful, not to say obsequiously, but they compare unfavorably with the best mechanics in independence, vigor of thought, strength of character.

Too many young men leave the homestead on adventures less safe and reliable than the arts of industry. A good trade is more honorable and remunerative than peddling maps, books, pictures, patent rights and clothes-wringers, or in a city store, to be cash or errand boy, store-sweeper, fire kindler and counter jumper generally. Without in any way disparaging the useful position of the clerk, our young men may properly be cautioned against further crowding this "plethoric profession." To the boys in the country we say, instead of aspiring to the uncertain and precarious clerkship, stick to the farm, or learn a trade, and you will lay the broadest foundation for prosperity. Those who have well improved the opportunities now offered in our free schools, can well afford to apprentice themselves at sixteen years of age, supplementing their education by evening schools or by self-training in their evening and leisure hours.—*Hearth and Home.*

## VII. Miscellaneous.

### 1. THE NEW ENGLISH LAW ON PUBLIC EDUCATION.

The Act to provide for public elementary education in England and Wales has been issued. There are two sections and five schedules in the statute, which is one of the longest of the recent session. The Act is divided into two parts—"local provision for schools" and "Parliamentary grant"—and then apportioned under several heads. The new law does not extend to Scotland or Ireland. On the "religious question" there are several regulations not requiring children to attend religious instruction. The Education Department is to make school districts, and provide school accommodation

for the children resident in each district. A weekly fee is to be paid by each child attending school, which may be remitted on account of poverty. Free schools may be established. Any sum required to meet a deficiency in the expenses is to be paid out of the local rate. With regard to "attendance at schools," the Education Department may make by-laws, and require the attendance of children not less than five years nor more than thirteen years of age. No penalty with costs is to exceed 5s. After the 31st March next, no Parliament grant is to be made, except to a public elementary school. In the schedules annexed to the Act there are rules as to school boards in the metropolis and elsewhere, with a description of the school districts, and the rating authorities, are mentioned in the statute.

The correspondent of the *Globe* in a recent letter says:—*Mr. Forster has evidently borrowed one of the main ideas of his Bill from the Ontario school system.* In that Province, I believe, the schools are in theory denominational, while in practice they are virtually unsectarian—embracing children of different creeds. Mr. Forster has all along contended that the religious difficulty would vanish if it were put to the test of experiments. The success of Canada, however, affords no guarantee of a similar result in this country. There are no remains of the feudal system on the free soil of Ontario. You have no abject, dependent class, who dare not call their souls their own, and who are either the serfs of the clergy, the squirearchy, or the great employers of labour. That is the difference between the two countries, and it is that difference which, in this instance, prevents what is "sauce for the goose" being also "sauce for the gander." Trust the School Boards to do what is right, to abstain from wounding any man's conscience, to impose no shackles on free-born Englishmen—says Mr. Forster; but in the rural districts the School Boards can be trusted with no such powers.

### 2. ALSACE AND LORRAINE—A THOUSAND YEARS AGO.

It is certainly one of the greatest curiosities in history that exactly one thousand years ago, in the year of our Lord 870, the people of France and Germany fought under their kings upon the same soil—that of Lorraine—for very nearly the same reasons, and with the same result. This happened as follows: The empire of Charlemagne and that of his son who succeeded him, Ludwig I., called the Pious, was divided by his three sons, the grandsons of Charlemagne, in 843, at the Congress of Verdun, between themselves in such a manner that Lothaire received, besides the title of Emperor, Italy and what was then called Middle Franconia, a strip of land running from the North Sea to the Mediterranean, and there joining Upper Italy, a broad strip of land containing modern Holland, Belgium, the Lorraine, the Alsace, and all that part of Southern France lying between the Rhone and Soane and the Alps on the east. Ludwig received Eastern Franconia, which was from that time called Germania, or Germany, and from which he, as Germany's first king, was called Ludwig the German.

Carl, who was called the Bald, from his bald head, received Western Franconia, from that time called Franconia or France. Lothaire died in 855, and again subdivided his empire amongst his three sons. To the oldest, Ludwig, he gave Italy and the crown and title of emperor; to the second, Lothaire, the northern part of his dominion, comprising a part of modern Holland, Belgium, and the province called up to this day Lorraine of Lotharingen, the Alsace, and all the land extending down to the Soane. To the youngest, Carl, he gave all the land south of the Soane to the Mediterranean, under the title of Kingdom of Provence.

In 869 Lothair died without heirs, after he had previously become possessed also of his brother Carl's kingdom of Provence, and it was then that Carl the Bald, King of France, stepped forward to take sole possession of his nephew's kingdom, comprising all the eastern part of modern France, and extending from the Meuse to the Rhine, and from the Rhine to the Alps, and from the north Sea way down to the Mediterranean. He was completely successful, for his nephew Ludwig, the Emperor in Italy, and his brother Ludwig, the King of Germany, had both their hands too full to claim their share of the rich inheritance.

But a year later, 870, just one thousand years ago, suddenly a large and well-appointed German army crossed the Rhine, broke into France, and defeated Carl the Bald and his armies at once, and so completely that he was compelled to sign a treaty of peace in the same year (870), by which he ceded to his brother Ludwig, the German, all the eastern part of those lands which he had appropriated from his nephew, and comprising the modern provinces of Alsace, Eastern Lorraine, and the territories around the cities of Trier, or Treves, Cologne, Maastricht, and Utrecht, down to the mouth of the River Rhine.

The first grand fight for the Rhine provinces on the part of

France, and the Alsace and Lorraine on that of Germany, which is, after all, if not the sole cause, certainly one of the principal causes, of the present war of 1870, took place consequently just one thousand years ago, in 870, and with the same result.

### 3. THE GREAT CATARACT IN SOUTH AMERICA.

Sir George Young gives the following detailed description of the cataract in a Georgetown paper:—

"The fall has a clear descent, according to barometrical observations taken simultaneously by Mr. Brown at the bottom, and by my colleague, Mr. Mitchell, at the top, of 750 feet. Above, the Potaro glides smoothly in a slight depression of the table of conglomerate sandstone, and disappears over the edge in a body, which we estimated at 80 yards in width, and depth uncertain in the centre, but shallowing rapidly toward either bank. In April, the rocky channel was completely covered, and the stream must have had a width of at least 100 yards. At present it is diminishing in volume, and, as the Indians assured us, will continue to do so till October, when only the central and deeper portion, about one-third of the whole, will remain. The best time, therefore, for a visit is in Spring, at the end of what appears to be the rainy season of this elevated tract.

"As we saw the Fall I cannot imagine anything more beautiful. The central portion, which is never dry, forms a small horse-shoe or re-entering angle, and the water in this part preserves its consistency for a short distance from the ledge. But everywhere else, and here also at a few feet from the top, all semblance of water disappears; it breaks up, or blossoms, into fine foam or spray, which descends in the well-known rocket-like forms of the Staubbach and similar waterfalls, but multiplied a thousand times, into a small dark pool, over a semi-circular curtain of precipice deeply hollowed by the action of the spray. The cavern behind the Fall is the home of thousands of swallows, which issue from it in the morning, and may be seen returning in their multitudes at night. The Fall itself is one vast descending column of a fine dry-looking, snow-white substance, bearing a resemblance, in color and consistency, to the snow of an avalanche, but surpassing all avalanches I have seen in size, and in the beauty of the forms taken by the material of the Fall. Rainbows of great splendour were observed, one from the front of the Fall in the morning, one from the summit in the afternoon; but this last reversed, forming a colored loop or ring, into which the whole mass seemed to precipitate itself and disappear, and dart out underneath, black and foaming, at the gorge and outlet of the pool."

## VIII. Short Critical Notices of Books.

—HEALTH BY GOOD LIVING. By Dr. W. W. Hall, Phila. Toronto: Maclear & Co. This is a very useful and common sense volume—one which gives advice on matters of health in a plain, untechnical manner, and in such terms as cannot be misunderstood. When we enumerate the subjects of the different chapters, and say that they are discussed very interestingly and with great clearness, we have, we hope, done enough to induce our readers, especially our dyspeptic ones, to examine the book for themselves, and act upon the advice it conveys. We have then, the following points considered:—The Object of Eating; When to Eat; How Much to Eat; Regularity in Eating; How to Eat; Biliousness; Dyspepsia; Neuralgia; Nervousness; The Unity of Diseases; Air and Exercise; Food Cure; Health by "Good Living;" Rest. We have merely to add that the volume is neatly got up, and reflects credit on its Toronto workmanship.—*Globe*

—ONTARIO FARMER.—Edited by W. F. Clarke. Hamilton: *Spectator* office. This is one of the useful practical publications which is of special value to the class in whose interests it is published. A periodical like this is now almost indispensable to the successful farmer—so many are the new facts relating to agriculture which are daily coming to light as the result of observation and experience. To learn these facts, and to become an observer himself will make the farmer doubly skilful in his work, and greatly promote his own wealth and prosperity.

—NOVA SCOTIA JOURNAL OF EDUCATION, Halifax. This most useful publication maintains its character well. There is great variety of suggestive articles for the teacher and trustees and some for the parents and pupils. Some of them we recognize each month as taken from our own *Journal*,

—AUSTRALIAN JOURNAL OF EDUCATION, Sydney, N. S. Wales. We most heartily welcome this valuable addition to our list of educational exchanges. It is very neatly got up and is most creditable to our fellow colonists in Australia. The selections are of the usual variety and interest in such publications.

—The July number of *Work and Play* is received, which commences the second half year of this new Magazine, devoted especially to the occupations and recreations of the young folks at home. It is published by Milton Bradly & Co., Springfield, Mass., who have an extensive reputation as publishers of the best class of social games and amusements in the market. The Editress, Mrs. H. L. Bridgman, is a lady possessing superior qualifications for her work, and has had long experience as teacher in one of the best literary institutions in Massachusetts. The several departments are under the care of special Editors, and, altogether, the Magazine seems designed to take rank among the best of our juveniles and to occupy a field essentially its own.

—HARPER'S MAGAZINE.—The October number contains four illustrated articles, which are peculiarly American in their subject-matter. The opening article details the history and modes of operation of the Young Men's Christian Association. "Six Weeks in Florida" gives us glimpses of St. Augustine, and of the peculiar scenery along the St. John's river. "How Sharp Snaffles got his Capital and Wife," apart from the interest attaching to it as coming from the pen of the late Wm. Gilmore Simms is certainly the most amusing story ever published in Harper's Magazine—not even excepting "The Dodge Club." It is profusely illustrated by the artist who furnished the pictures for the "Raquette Club," in the August number—pictures which the New York *Christian Union* pronounced "quite worthy of Leech in his best days." "The Detective: A tale of the Old Walton House"—a story of an entirely different character—is located in New York city in anti-revolutionary times. It is effectively illustrated, one of the pictures representing the Old Walton House. "Frederick the Great" in this number brings the history of that monarch down to the Peace of Dresden. "The Old Love Again," by Annie Thomas, is concluded. "Anne Furness," by the author of "Mabel's Progress," etc., and "Anteros," by the author of "Guy Livingstone," are continued. Miss Mary N. Prescott contributes one of her most characteristic narratives, entitled "The Jessops' Wish;" and Charles Landor, a beautiful and finished poem on "The Faun of Praxiteles," already immortalized in Hawthorne's "Marble Faun." "The Spectroscope," an illustrated scientific paper, details the origin and development of spectral analysis. M. D. Conway's paper on "The Sacred Flora," of which there are two more instalments to come, is a very successful attempt to weave together the mystical legendary lore of all ages relating to trees, shrubs and flowers. Benson J. Lossing contributes an exceedingly interesting biographical sketch of "Madame Mere," the mother of Napoleon I. "Literary Forgeries," a pleasant, gossipy article, will be concluded in the November number.

## IX. Educational Intelligence.

—TORONTO GRAMMAR SCHOOL.—To the numerous elegant public buildings that already adorn our city, attracting the attention and eliciting the admiration of visitors, will soon be added the handsome edifice now in course of erection, for the use of the Toronto Grammar School. Situated on Jarvis street, near the intersection of Carlton street, and in close proximity to the Horticultural Gardens, the site is, perhaps, one of the most eligible that could be selected. It is removed from the business part of the city, and comparatively free from the noise and confusion of passing vehicles on the more crowded thoroughfares. This institution has long laboured under the greatest disadvantages in regard to suitable accommodation. The buildings used from time to time for teaching purposes, have hitherto been of the most primitive character. The school is now in a prosperous condition, and the attendance rapidly increasing. Affording a good sound commercial and classical training at

moderate rates, it not only forms the proper connecting link between our excellent Common Schools and the University, but also prepares young men for entering upon the more practical pursuits of commercial life. It is likewise proposed, as soon as the necessary facilities are secured by means of increased accommodation, to supply a want that has long been felt by our citizens, namely: a really good high-school for girls. We feel assured this movement will be hailed with general satisfaction. Although we are all anxious that our boys should be properly educated, Toronto possesses no schools within reach of the man of moderate means for the superior education of girls. Our admirable Common Schools afford ample facilities for elementary training, but beyond this no provision is made for females of the middle class. Without any desire to endorse half what is said in support of "woman's rights," we really fail to see why boys should be allowed to monopolize all the public provision made for higher education. Why should one man with a large family of boys have superior education provided for them, wholly or partially at the public expense, whilst another, whose children happen to be girls, must pay two or three hundred dollars a year each, for education frequently much inferior. It is not proposed, nor would it be advisable, that girls should take the same course as boys, but it is only reasonable that they be allowed the opportunity of acquiring a knowledge of such branches of learning as will the better fit them for the proper discharge of the duties of after life, for taking a less dependent position in society, and for becoming suitable companions for the sex whose intellects we are at such pains to cultivate. There is also a more practical and utilitarian aspect in which the ratepayers may regard this question. Large numbers of parents from different parts of the country, attracted by the facilities afforded by Toronto for the education of their children, are induced to take up their permanent residence among us. The majority of these belong to the wealthier classes. They spend their money among our shopkeepers and tradesmen. They increase our population, occupy our houses, and help to pay our taxes. Let us not suppose, then, that money spent in this way becomes unproductive. It not only confers a direct benefit on the citizens generally by raising the standard of intelligence and improving the moral tone of society, but it tends also to increase the wealth and population, and advance the material prosperity of the city. Let there be no hesitation, therefore, in promptly carrying out the understanding entered into with the Board of Trustees, that they may be enabled to carry forward the building without unnecessary delay.—*Leader*.

—GILCHRIST SCHOLARSHIP.—Mr. John King, A. M., of St. Catharines, without wishing to take away any credit from Mr. Hunter, the Principal of the Dundas Grammar School, thinks it only fair to have it stated that Mr. F. B. Robertson, the successful competitor for the Gilchrist Scholarship, (as mentioned in the last *Journal*), was a pupil of his for five years and a half.

—UNIVERSITY OF TORONTO.—At the Matriculation Examinations of the University of Toronto, sixty-four candidates presented themselves for examination, namely:—In the Faculty of Arts—for Junior Matriculation, 49; Senior do, 6; Department of Agriculture, 2; Faculty of Medicine, 7. The different schools or places of instruction in which the candidates prepared are as follows:—Upper Canada College, 3; Upper Canada College, (in part), 5. Hellmuth College, London, 3. Woodstock Literary Institute, 2; Woodstock Literary Institute, (in part), 1. Huron College, London, 1. Bishop's College School, Lennoxville, Q., 1. Almont Academy, New York, 1. Whitby Grammar School, 7; Whitby Grammar School, (in part), 2. Guelph Grammar School, 5. Galt Grammar School, 3; Galt Grammar School, (in part), 1. Oshawa Grammar School, (in part), 2. Peterboro', Fonthill, St. Mary's, Dundas, Ottawa, Hamilton and Caledonia Grammar Schools send two each; Newburgh, Richmond Hill, Simcoe, Chatham, Toronto, Clinton, Streetsville, Orangeville, Scotland and Acton Grammar Schools, one each; Chatham, Richmond Hill, Simcoe, Pakenham, Berlin, Bowmanville and Oakland Grammar Schools, one each, in part. Three are self-taught, and one private tuition.—*Globe*.

—UNIVERSITY OF TORONTO.—The Matriculation Examinations in the University of Toronto have closed, and the Scholarships have been awarded as follows:—Junior Matriculation in Arts.—Classics—1. Macbeth, T. T., Hellmuth College. 2. Bruce, J., Lindsay Grammar School and U. C. College; and Crysler, A., Simcoe Grammar School and Galt Grammar School—equal. Mathematics—1. Dawson, A., St. Mary's Grammar School and U. C. College. 2. Bryant, J. E., Whitby Grammar School; and Manly, F. F., Toronto Grammar School—equal. English History and French—Bryant, J. E., Whitby Grammar School. General Proficiency—1. Bruce, J., Lindsay Grammar School and U. C. College. 2. Dawson, A., St. Mary's Grammar School and U. C. College. 3. Bryant, J. E., Whitby Grammar School. 4. Macbeth, T. T., Hellmuth College. 5. Crysler, A., Simcoe Grammar School and Galt Grammar School. 6. Marling, A. W., Chatham Grammar School. 7. Thompson, G. W., St. Mary's Grammar School and U. C. College. 8. Aylesworth, A., Newburgh Grammar School. 9. Secord, H. C., Hamilton Grammar School. 10. Christie, D., Guelph. Medicine.—Cameron D., U. C. College. Besides these scholars, an unusually large number of candidates have been classed in the honor lists in the various departments.—*Globe*.

—TRINITY COLLEGE, Dublin, is to have its fellowships and scholarships thrown open to persons of all religious denominations. There is also a movement on foot to provide that persons not members of the (formerly) established church shall have an adequate amount of influence in the governing body of the university.

—EDUCATION IN IRELAND.—The Annual Report of the state of Education in Ireland, records a very encouraging degree of progress. The increase of children on the rolls is as high as 23,700, while the actual average attendance has increased by 3,707. The total number of children on the school registers in Ireland is now very nearly one million. In 1833 it was only 107,042. The largest attendance is in the Province of Ulster, where the numbers are 347,919. The next in point of numbers is Munster, where the scholars amount to 267,093. The number of Children owing allegiance to the Established Church is, in Ulster, 56,671, against 178,755 Roman Catholics. In Munster there are 5,019 children of the Established Church, against 260,978 Catholics: in Leinster, 6,786, against 204,732; and in Connaught, 4,442, against 158,548. There are 106,769 Presbyterian children in Ulster, and scarcely any in the other Provinces. The total percentage of Catholics in the whole country is nearly 81. These returns, if perfectly correct, of which we have no reason to doubt, tell their own story, and that so plainly, that every one can read it for himself.

—GLASGOW UNIVERSITY.—The new buildings for the Glasgow University are now nearly completed, and are unusually splendid and extensive. The cost of the University buildings proper will amount to £340,000. The University Hospital will cost other £30,000, and the Common Hall £57,000 more; making a grand total of £427,000, or upwards of two millions of dollars. To meet this expenditure £367,000 have been already received, of which £130,000 have been made up by private subscriptions. It is proposed to raise the needed £60,000 still required to complete the design by an appeal to the graduates of the University throughout the world. It is confidently anticipated that such an appeal will be so successful, that the beautiful pile of buildings will be completed according to the design, and entered upon entirely free from debt. In one way or another we have no doubt the money will be forthcoming. The people of Glasgow are not likely to allow such public buildings to stand for years incomplete for want of money, even though that were greatly more than what is needed to finish the magnificent erection on Gilmore Hill.—*Globe*.

—THE SCOTTISH UNIVERSITIES.—In 1866 the French Government sent over MM. Demogeot and Montucci to examine the different systems of teaching employed in Great Britain. The first result of their visit was a volume published in 1868, giving a detailed account of our secondary education. They have now issued their report on the higher and

professional education imparted at our universities and elsewhere. MM. Demogeot and Montucci seem to have paid a long visit to the different universities of Scotland, and furnish an elaborate account of their past history and present character. The verdict pronounced declares their system to possess a marked superiority over that of the old universities of England. "In Scotland," says the report before us, "men do not come to the universities to win boat-races and run into debt, but to work hard, and put themselves in a position to earn their living." At the same time, one great defect is noticed in the Scottish system. The facility of entrance lowers the character of the teaching, and it is necessary to give quite elementary lectures in Greek and Latin Grammar, in Euclid and Algebra, in order that they may be within the comprehension of the ignorant classes who listen to them. The result of this is, that a great many good mechanics are spoilt in order to make of them bad men of learning. The already overstocked professions are recruited with inferior men, who would engage with far more advantage to themselves and others in some kind of trade or handiwork; and the universities are lowered without any corresponding advantage accruing to the country. —*Scotsman.*

—GIFT FOR SCHOOLS.—A handsome gift for educational purposes has been made by Mr. Bolckow, member of the British Parliament. A year ago he gave a public park to the town of Middlesbro', and he has now presented to the citizens of the same place a valuable block of buildings, erected at a cost of £6,000. The buildings are to be used as national schools, and will accommodate nine hundred scholars.

—CHRIST CHURCH, OXFORD.—By a recent decision of the authorities of Christ Church, Oxford, the *status* formerly enjoyed by noblemen in that society has been abolished, and for the future the gold tuft which has distinguished scions of the aristocracy for so many years will not be worn. During the present Term resident noblemen have donned the plain cap and gown of the commoner, the only exception to the rule being his Highness Prince Hassan, who still retains the silk gown and golden tassel formerly worn by Lords at Christ Church.

—COLLEGE IN CONSTANTINOPLE.—Dr. Hamlin, President of Robert College of Constantinople, writes under date 8th February, 1870: "I send you a notice of the College from the *Phare du Bosphore*, a journal in French, but under Greek auspices. I know nothing of the directors, nor what induced them to publish such a flattering notice." "ROBERT'S COLLEGE, A BEBEK.—The beneficial results which this school has produced are already known, and it is our duty to draw the attention of fathers of families who wish to enlarge the education of their sons, towards this establishment, which, by its organization and the *personnel* of the professors, surpasses all other foreign schools which are established in Constantinople. For the study of the languages, the sciences, belles lettres, and especially of that morality which makes good citizens, read the prospectus of the directors of this school. The foundation of this College amongst us is a benefit of which we have only as yet very little felt the value. Let us profit thereby, and make our sons worthy of their destiny by introducing them into this College, from whence they will be able to come out, not merely well educated, but also well grounded in morality."

—SCHOOL CHILDREN IN INDIA.—During the recent visit of the Duke of Edinburgh (Prince Alfred) to Calcutta, the boys and girls of the native schools of the district were collected in the garden of the Rajah's Palace for examination by the local inspector. The boys showed great proficiency, and, age for age, are quite as advanced as those at home. One boy of 14 was called upon for the 47th proposition of the first book of Euclid, which he did on a black board in a manner which showed he thoroughly understood it. A class was examined in geography, and scarcely a single wrong answer was given. The examiner gave a dictation in Hindustani words to this effect:—"Here are come to visit you, the son of the great Queen, the Empress of Hindostan, and the Viceroy, the Lord Mayo. See how great and noble they are, and yet how plainly they are dressed. What do you think of them?" The one reply that

was translated to us, taken at random, was—"We are glad to behold these great men. The British are our gods; there are no rulers like the British, and happy are the people who are governed by them." The day was spent driving the jungle for deer. Three fine stags, a wild boar, and some small deer were shot. One of the Duke's staff, keen for sport, after many disappointments, discharged a deadly shell at an animal, which, to his great delight, fell never to move again; but, alas! on being brought in, it was found to be a tame goat that had strayed into the jungle.

—CORNELL UNIVERSITY has received a gift of \$2,000 from two friends for its library, and a collection of fossils of considerable size and value from its admirers in England.

—The University of California is to consist of five colleges, to be known as the California Hall, the College of Letters, the College of Agriculture, the College of Mechanic Arts, and the College of Mines. To these are to be added the Astronomical and magnetic Observatories, the Faculty Lodge, and the houses of the Professors. The colleges are to be each two stories high, with basement and attic, built of brick and iron, the floors supported by iron girders, and thoroughly earthquake proof. All the materials to be used in the construction of the University are of native manufacture and production, with the exception of the glass, which must be imported.

—PRIZES TO PRINCETON THEOLOGICAL SEMINARY.—Two prominent book publishers in New York have done the Theological Seminary at Princeton an acceptable service, as well as an honour to themselves, by recently founding two prizes for acquirements in the Hebrew language. Robert Carter & Bros. have offered a prize of \$50 in books to be bestowed upon the student entering next term who shall pass the best preliminary examination in Hebrew. Messrs. Charles Scribner & Co. have followed up this by offering a prize of like kind and amount to the student already entered in the Seminary, who shall next Fall sustain the best examination in certain chapters in the Book of Job.

—NEVADA.—The fourth annual report of the State Superintendent shows that, in spite of the disadvantages incident to the settlement of a mineral country, public schools mainly free have been established in every populous district, and during the past two years have been taught for a greater average number of months (with perhaps one or two exceptions), at a greater expense per census-child, by teachers employed at a larger average salary, than elsewhere in the United States. The number of schools and scholars reported, the Superintendent says, would hardly justify any formal presentation of statistics or discussion of plans, but for the relation which the school system sustains to the future of the State, rendering a present examination of its condition of no little moment. These returns are exhibitiv of the character and working of initial measures, which now, better than at any later period, may be improved and adapted for higher usefulness. They are prophetic also, and helpful of prosperity. Wherein they reveal any excellence of method and liberality of provision, any profusion of appliance for the education of children, they invite population and improve the prospect of the State. "Nor are they void of pleasing testimony. Comparison of them with returns of other States establishes that in respect to system, provision, and facilities for popular education in elementary branches, Nevada is superior to many, and inferior to but few States of the Union." To say the least, Nevada promises well; and considered as promises, the following statistics are not devoid of interest:—The number of children in the State last year, between 6 and 18 years of age, was 3,293, an increase of 512; under 6 years of age, 2,503, an increase of 440; attending public school, 1,661; private school, 496; not attending school, 642. The State has 26 school districts, with 39 schools; 25 school-houses are owned by the State, and 8 are rented. Of the twenty-five, 18 are built of wood, 2 of adobe, 2 of brick, and 2 of stone. The character of the twenty-fifth is not reported. Four school-houses were erected during the year: two were pronounced a disgrace to the State; eleven need to be remodelled and enlarged; twelve are neat, commodious, and substantial. How many States can say the last of half their school-houses? The total valuation of school-houses and furniture was \$39,331, an increase of over fifty per cent. Forty-four teachers were employed, twelve of whom were men. The average monthly wages paid to male teachers was \$157.41; to female teachers, \$107.28; that is more than

the average *yearly* salaries paid in some of the Eastern States. The Superintendent speaks favourably of the educational ability of the teachers. Twenty-one schools were maintained nine months and over; fourteen schools six months and over; six schools less than six months; the average time being 7.28 months. In 1867 the period was 7.98 months. The aggregate cost of the schools was \$72,430; of which \$48,324 was paid to teachers.

—LADIES' HIGHER EDUCATION LECTURES.—Another series of lectures to ladies is announced. The success of the last winter's experiment was such as to prove that a real desire existed for higher educational culture. We hope that this winter's experience will be yet more encouraging, and that these "Lectures for Ladies" will become a permanent Toronto institution. We have the teachers; we have the students; why should we not improve our advantages? The courses for this winter seem very well arranged. Lectures on English literature and on Astronomy for the first term, and on mental philosophy and physical geography for the second. Dr. Wilson will treat of English literature from the time of Pope to our own day—a period full of interest. Prof. Cherriman's subject is Natural Philosophy. In January, Prof. Young will begin his course on the mind; sensation and imagination will be the topics discussed. At the same time the lectures on Physical Geography, by Prof. Chapman, will show that the natural sciences are not to be overlooked in the "higher education" offered. This subject embraces the whole circle of these sciences, and botany, zoology, mineralogy, geology and meteorology are all its tributaries.—*Globe*

—FEMALE EDUCATION IN EUROPE.—An English paper says the higher education of women is attracting as much, if not more, attention in Slavonic countries as in England. Nowhere has more been done for it than in Bohemia. In Russia it has made great progress, and now we are told that public lectures are to be provided for Polish ladies. They are to be delivered at Warsaw, and will treat of technology, natural science and political economy. In order to assist in providing employment for women, the Directors of the Black Sea Navigation Company propose to employ women in future as bookkeepers, telegraph clerks and accountants.

## VII. Departmental Notices.

### ONE HUNDRED PER CENT ON REMITTANCES ALLOWED FOR

*Public Library Books, Maps, Apparatus, and School Prize Books.*

The Chief Superintendent will add *one hundred per cent.* to any sum or sums, *not less than five dollars*, transmitted to the Department by Municipal and School Corporations, on behalf of Grammar and Common Schools; and forward Public Library Books, Prize Books, Maps, Apparatus, Charts, and Diagrams, to the value of the amount augmented, upon receiving a list of the articles required. In all cases it will be necessary for any person acting on behalf of the Municipal or Trustee Corporation, to enclose or present a written authority to do so, verified by the corporate seal of the corporation. A selection of Maps, Apparatus, Library and Prize Books, &c., to be sent, can always be made by the Department, when so desired.

N.B.—Books and requisites supplied under these regulations *do not cost the schools more than half price.* Thus, for every \$5 sent, ten dollars worth of articles at the reduced prices are sent, being equal in value to at least \$12.50 at the ordinary selling rates.

☞ Catalogues and forms of application will be furnished to school authorities on their application.

\* \* If Library and Prize Books be ordered *in addition* to Maps and Apparatus, it will be NECESSARY FOR THE TRUSTEES TO SEND NOT LESS THAN FIVE DOLLARS for each class of books, *additional* to that sent for Maps, Apparatus, &c., with the proper form of application for each class.

### SUNDAY SCHOOL BOOKS AND REQUISITES.

Application having been frequently made to the Department

for the supply from its Depository of Sunday School Library and Prize Books, Maps and other requisites, it is deemed advisable to insert the following information on the subject.

1. The Department has no authority to grant the one hundred per cent. upon any remittance for Library or Prize Books, Maps or Requisites, except on such as are received from Municipal or Public School Corporations in Upper Canada. Books, Maps and other Requisites suitable for Sunday Schools, or for Library or other similar Associations, can however, on receipt of the necessary amount, be supplied from the Depository at the net prices, that is about twenty-five or thirty per cent. less than the usual current retail prices.

2. The admirable books published in England by the Society for Promoting Christian Knowledge, and by the London Religious Tract Society, are furnished from the Societies' catalogues at currency for sterling prices (i. e. a shilling sterling book is furnished for twenty cents Canadian currency, and so on in proportion.) These two catalogues will, as far as possible, be furnished to parties applying for them. Books suitable for Sunday Schools are received from the other large religious societies, Presbyterian and Methodists, and from the various extensive publishers in Britain and the United States, but the list would be too extensive to publish separately.

3. On receiving the necessary instructions, a suitable selection can be made at the Department, subject to the approval of the parties sending the order. Any books, maps, &c., not desired which may be sent from the Depository, will be exchanged for others, if returned promptly and in good order.

### ASSORTED PRIZE BOOKS IN PACKAGES.

*Selected by the Department, for Grammar or Common Schools, from the Catalogue, in assorted packages, as follows.*

Package No.	Books and Cards,	5cts. to 70cts. each	...	\$10
" No. 2.	Ditto ditto	5cts. to \$1.00 each	...	\$16
" No. 3.	Ditto ditto	5cts. to \$1.25 each	...	\$20
" No. 4.	Ditto ditto	10cts. to \$1.50 each	...	\$26
" No. 5.	Ditto ditto	10cts. to \$1.75 each	...	\$30
" No. 6.	Ditto ditto	10cts. to \$2.00 each	...	\$36
" No. 7.	Ditto ditto	15cts. to \$2.25 each	...	\$40
" No. 8.	Ditto ditto	15cts. to \$2.50 each	...	\$46
" No. 9.	Ditto ditto	15cts. to \$2.75 each	...	\$50
" No. 10.	Ditto ditto	20cts. to \$3.00 each	...	\$56
" No. 11.	Ditto ditto	20cts. to \$3.25 each	...	\$60
" No. 12.	Ditto ditto	20cts. to \$3.50 each	...	\$66
" No. 13.	Ditto ditto	25cts. to \$3.75 each	...	\$70
" No. 14.	Ditto ditto	25cts. to \$4.00 each	...	\$76
" No. 15.	Ditto ditto	25cts. to \$4.25 each	...	\$80
" No. 16.	Ditto ditto	30cts. to \$4.50 each	...	\$86
" No. 17.	Ditto ditto	30cts. to \$4.75 each	...	\$90
" No. 18.	Ditto ditto	30cts. to \$5.00 each	...	\$96
" No. 19.	Ditto ditto	35cts. to \$5.25 each	...	\$100
" No. 20.	Ditto ditto	35cts. to \$5.50 each	...	\$120

### PART IX.—LIST OF AUTHORIZED TEXT BOOKS.

*(Sanctioned by the Council of Public Instruction for use in the Public Schools of Ontario.)*

NOTE.—In the following list some books are *prescribed* under the authority of the fifteenth section of the Consolidated Grammar School Act, and approved by the Lieutenant-Governor, and others are *recommended*. The use of the books *recommended* is discretionary with the Board of Trustees. The Council has decided that the books on English subjects authorized for Grammar Schools may also be used in Common Schools.

#### I. LATIN.

#### TEXT BOOKS PRESCRIBED :

Harkness's New Series, viz :

1. An Introductory Latin Book. By Albert Harkness, Ph. D.
2. A Latin Reader, intended as a Companion to the Author's Latin Grammar. By Albert Harkness, Ph. D.

3. A Latin Grammar for Schools and Colleges. By Albert Harkness, Ph. D.

*If preferred, the following may be used instead of the above series :*

Arnold's First and Second Latin Books and Practical Grammar, revised and corrected. By J. A. Spencer, D.D.

A Smaller Grammar of the Latin Language. By William Smith, LL.D.

LATIN DICTIONARY RECOMMENDED : (See note above.)

A Latin-English and English-Latin Dictionary. By Charles Anthon, LL.D., *or*,

The Young Scholar's Latin-English and English-Latin Dictionary. By Joseph Esmond Riddle, M.A.

## II. GREEK.

TEXT BOOKS PRESCRIBED :

A First Greek Book, comprising an outline of Grammar and an Introductory Reader. By Albert Harkness, Ph. D.

A smaller Grammar of the Greek Language, abridged from the larger Grammar of Dr. George Curtius.

GREEK LEXICON RECOMMENDED : (See note above.)

Liddell and Scott's Greek-English Lexicon.

## III. ANCIENT HISTORY, CLASSICAL GEOGRAPHY, AND ANTIQUITIES.

TEXT BOOKS PRESCRIBED :

A Manual of Ancient History. By Dr. Leonhard Schmitz.

First Steps in Classical Geography. By Prof. James Pillans.

CLASSICAL DICTIONARIES, &c., RECOMMENDED : (See note above.)

A Classical Dictionary of Biography, Mythology and Geography. By Wm. Smith, LL.D.

A Dictionary of Greek and Roman Antiquities. By Wm. Smith, LL.D., *or*,

A Classical Dictionary. By Charles Anthon, LL.D.

A Manual of Roman Antiquities. By Charles Anthon, LL.D.

A Manual of Greek Antiquities. By Charles Anthon, LL.D.

## IV. FRENCH.

TEXT BOOKS PRESCRIBED :

The Grammar of French Grammars. By Dr. V. De Fivas, M.A.

An Introduction to the French Language. By De Fivas.

History of Charles XIII. of Sweden. By Voltaire.

Horace : A Tragedy. By Corneille.

A Complete Dictionary of the French and English Languages. By Gabriel Surenne. Spiers' New Abridged Edition.

## V. ENGLISH.

TEXT BOOKS PRESCRIBED :

The Canadian National Series of Reading Books. (Authorized edition.)

The Spelling Book, A Companion to the Readers. (Authorized edition.)

Miller's Analytical and Practical English Grammar. (Authorized edition.)

An English Grammar for Junior Classes. By H. W. Davies, B.D. (Authorized edition.)

A History of English Literature, in a Series of Biographical Sketches. By William Francis Collier, LL.D.

## VI. ARITHMETIC AND MATHEMATICS.

TEXT BOOKS PRESCRIBED :

National Arithmetic in Theory and Practice. By J. H. Sangster, M.A., M.D. (Authorized edition.)

Elementary Arithmetic for Canadian Schools. By the Rev. Barnard Smith, M.A., and Archibald McMurphy, M.A.

Elements of Algebra. Todhunter's or Sangster's.

Euclid's Elements of Geometry. Poole's or Todhunter's.

## VII. MODERN GEOGRAPHY AND HISTORY.

TEXT BOOKS PRESCRIBED :

Lovell's General Geography. (Authorized edition.) By J. George Hodgins, LL.D., Barrister-at-Law.

Easy Lessons in General Geography. By ditto. (Authorized edition.)

A School History of the British Empire. By William Francis Collier, LL.D.

A History of Canada, and of the other British Provinces of North America. By J. George Hodgins, LL.D., Barrister at Law.

Outlines of General History. By William Francis Collier, LL.D.

TEXT BOOK RECOMMENDED :

The Great Events of History. By William Francis Collier, LL.D.

## VIII. PHYSICAL SCIENCE.

TEXT BOOKS PRESCRIBED : (See note above.)

Introductory Course of Natural Philosophy. Edited from Ganot's Popular Physics, by W. G. Peck, M.A.

How Plants Grow ; A Simple Introduction to Botany, with Popular Flora. By Asa Gray, M.D.

Hooker's Smaller Treatise on Physiology.

## IX. MISCELLANEOUS.

TEXT BOOKS RECOMMENDED : (See note above.)

A Comprehensive System of Book-keeping, by Single and Double Entry. By Thomas R. Johnson.

Field Exercise and Evolutions of Infantry. Published by Authority. Pocket edition (for Squad and Company Drill.)

The Modern Gymnast. By Charles Spencer.

A Manual of Vocal Music. By John Hullah.

Three-Part Songs. By H. F. Sefton. (Authorized edition.) National Mensuration.

Scripture Lessons—Old and New Testaments. (National.) Lessons on the Truth of Christianity. (National.)

The following books, approved by the whole Committee of the Council of Public Instruction for Quebec, are also sanctioned for use by French pupils, in Common Schools of this Province in which there are both Protestant and Roman Catholic pupils :

Cours d' Arithmetique Commerciale. (Senecal, Montreal.)

Abrége de la Geographie Moderne. (Societe d'Education du Quebec.)

La Geographie Moderne, de M. Holmes, M.A.

Grammaire pratique de la langue Anglaise. (Par P. Saddler, Paris.)

Traite Elementaire d' Arithmetique. (Par F. X. Toussaint.)

Le Premier Livre de L'Enfance, (de Poitevin.)

Cours de Versions Anglaises. (Par P. Saddler, Paris.)

Grammaire Francaise Elementaire. (Par F. P. B.)

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