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THIRD-CLASS TEACHERS AS ASSISTANTS IN THE PUBLIC SCHOOLS.

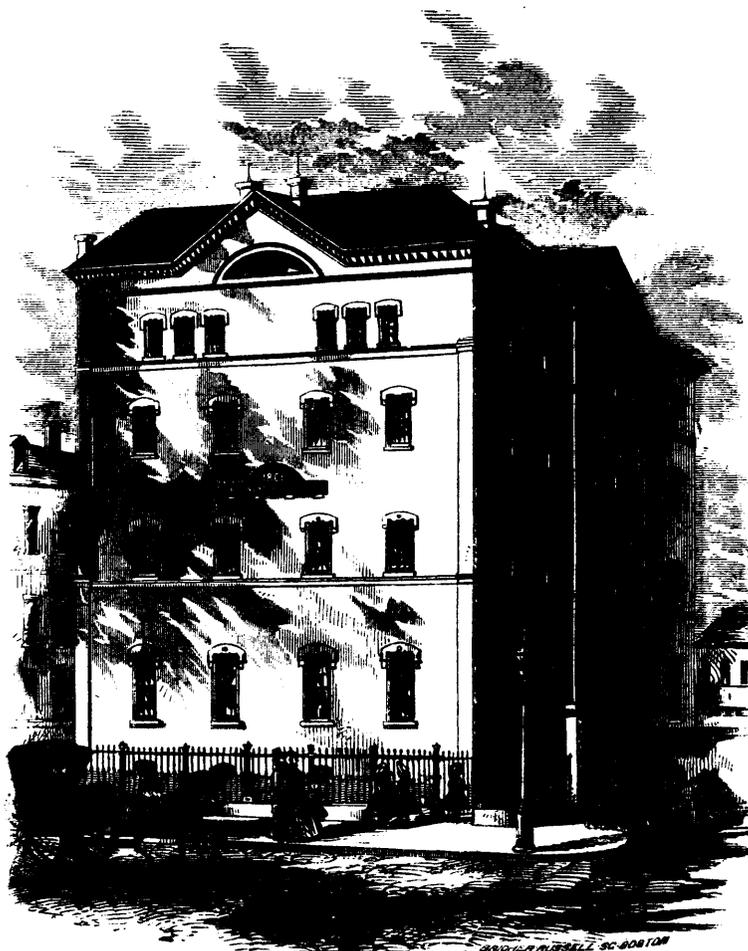
A good deal of confusion and embarrassment has arisen in many localities, owing to the determination of Trustees to employ none but a third-class teacher in their Schools. Trustees excuse the employment by them of third-class teachers on the ground that the law places no restriction on them as to the class of certificate which the teacher employed by them shall hold. True, the particular section of the Act, which authorizes them "to contract with and employ teachers for such school, section and determine the amount of their salaries," says nothing about the class of certificate which these teachers shall hold—the term "qualified teacher" being defined elsewhere—but it speaks of "teachers" for the school, and not a teacher, thereby implying that an assistant should be employed in every school. It, however, requires Trustees to "see" that their school "is conducted according to the authorized regulations;" and it further declares that "no Public Schools shall be entitled to any share in the fund applicable to it unless it is conducted according to the regulations provided by law." Now, these regulations require that the subjects mentioned in the Official Programme and Limit Table, and prescribed by the Legislature, shall be taught in the various classes of every school.

The law itself requires

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the teacher "to teach diligently and faithfully all the branches required to be taught in the School, * * according to the provisions of this Act."

Knowing that third-class teachers are not competent to teach "all the branches required to be taught in the School," the Council of Public Instruction has prescribed that in every School in which two or more teachers are employed, one of them "shall be designated and known as the master, and the others as first, second, assistant," etc. The regulations also give the master power, "to prescribe (with the assent of the Trustees) the duties of the several teachers in the School,"—but makes him responsible for the control and management of the classes under their charge." The regula-



BOWDITCH GRAMMAR SCHOOL, SOUTH STREET. BOSTON, MASS.

tions further prescribe the specific duties of assistant teachers, and declare that in every school, where the number of pupils on the roll exceeds fifty, an assistant teacher shall be employed.

Overlooking the words of the Statute and the general regulations, Trustees, in some cases, object to the Programme as beyond the capacity of third-class teachers, and argue that as the subjects prescribed for the examination of third-class teachers are much below those required by law to be taught in the Public Schools, it is both anomalous and unjust to require their third-class teacher to teach them. They say: "We are authorized to employ third-class teachers for our School, and yet you require these teachers to teach subjects with which they are wholly unacquainted, and in which they themselves are not required to pass an examination."

We have already answered these objections, and have shown that, according to the letter of the Statute, Trustees are required to employ more than one teacher in every School. We have also shown that the regulations provide for the employment of a master and an assistant or assistants, and prescribe a programme of studies which this master and his assistant shall teach, in order to afford to every child in a Section an education suitable, &c., in the various branches of instruction prescribed by the Statute.

To admit these objections as valid would be to declare that no child shall receive an education beyond that which a third-class teacher may be able to give! This would, indeed, be an absurdity, as well as a gross injustice to the pupils in our Schools. This, also, as we have shown, was neither the intention of the Legislature, nor the spirit or provisions of the law and regulations which were framed to give effect to that intention. In nearly every school there are advanced pupils (or would soon be, if proper teachers were employed). According to the theory advanced by some trustees, these pupils must remain satisfied with the meagre education which third-class teachers can give them, and be denied that better education which the law secures to them, and for which their parents pay rates. Third-class teachers may be competent to teach the first and second and possibly the third classes in a school, but they are not qualified, and should not be employed to teach the fourth, fifth, and sixth classes. They can, therefore, only be useful as assistant teachers.

Formerly (under the School Law of 1850) County Boards of Examiners were required, in the issue of third-class certificates, to limit them to a particular School Section (on the application of Trustees), where the pupils were quite young, or were not far advanced. Under the present law, this restriction was removed; but in its place other provisions were introduced, which were designed to give greater facilities for the more thorough instruction of all the pupils of a School Section in the various subjects of a good English education, which the Legislature itself had declared to be necessary.

It would certainly be a singular anomaly for the Legislature, on the one hand, to determine that certain higher subjects of instruction be introduced into our Public Schools, and then declare that incompetent persons should be legally qualified to teach them. The law and regulations must be taken as a whole, and their symmetry and completeness must not be destroyed by giving a forced construction to one part alone.

The following article will give additional information on this subject:—

ADEQUATE ACCOMMODATION AND ASSISTANT TEACHERS.

In reply to a communication from a Trustee, on these subjects, the Chief Superintendent has sent the following reply:—

"The second section of the School Act of 1871 provides that 'Each school corporation shall provide adequate accommodation for all children of school age in their school division or municipality.' The seventeenth section of the Consolidated School Act authorise the trustees of each school section to see that the school under their charge is conducted according to the authorised regulations.' The seventh of the authorised regulations says: 'When the pupils in a school amount to more than fifty, and less than one hundred, the trustees must employ an additional teacher as an assistant.'

"Such are the provisions of the law, which it is my duty to see executed by all parties concerned. It is thus seen that the trustees of your school section are required to provide adequate school accommodation, not for the number that may be in the school for the time being, but for 'all the children of school age' in your section. The law makes the school free to all; requires the attendance of all, at least, one-third of the year; assumes that all may be present at one time, at least, a part of the year.

"In examining the returns, I find that the number of children reported of school age in your section in 1872 was 129, with 112 names on the school register the first half of the present year, although average attendance is only little more than half that number—

certainly a great shame to the managers of the school, whose neglect of adequate accommodation or adequate teaching must cause indifference and neglect in the attendance of pupils. I find by the returns that your school-house is 48 by 30 in the clear in the inside—affording sufficient space for all the children of school age in your section, if properly arranged, and for two teachers, if divided into two rooms, as so large a school-house ought to be.

"I can find no reasons in your letter that would justify me in not insisting upon the execution of the law in your section as in other sections much less favourably situated and much less wealthy than yours. You and your trustee colleagues are certainly bound by law, as well as by a consideration of the interests of the children under your official charge, to employ a second or assistant teacher. I observe that you speak of the average attendance of pupils; but that is not the law which speaks not of the average attendance, but of the 'number of pupils in a school;' and this is determined, not by the average attendance, but by the number of pupils on the school register. It is possible that trustees, from mercenary or other unworthy considerations, may keep the average attendance of pupils low by not providing adequate teaching or school accommodation for a large number; but the number of children whose names are on the School Register show the number of children whose parents wish to have them taught in the school, and for whose teaching and accommodation the trustees are bound to provide, under pecuniary penalties equal to the amount of the school money lost to their section by their neglect, besides being liable to prosecution for damages by any parent whose children or child is not provided with the legally required means of school teaching and school accommodation.

"Experience shows that trustees in rural sections who provide proper teachers and proper accommodations will secure an average attendance of nearly, and in some instances quite three-fourths of the children of school age in their division. Trustees who neglect their duty, not only violate the law and the public trust committed to them, and incur a pecuniary penalty, but they do a great and irreparable wrong to the rising generation, whose interests they have been elected to protect and promote, and for the sacrifice of which no money can ever compensate."

I. Papers on the Teachers' Examinations.

1. PUBLIC SCHOOL TEACHERS' EXAMINATIONS.

There is undoubtedly an impression to some extent prevalent among the public that the examination of Public School Teachers under the new regulations is unnecessarily strict and severe, and much displeasure is expressed by some good people, that so very small a proportion of the numerous candidates who flock to the half yearly examination succeed in obtaining certificates. It is undoubtedly a subject of just regret that our young people are not better instructed, and this regret is fully shared by the members of the Board.

In the County of Oxford the number of applicants for second-class certificates was six; only five, however, put in an appearance. One of these retired at the close of the first day, finding he was not equal to the exercises required in Arithmetic, and all the remainder at the close of the third day followed his example. To one of these, however, a third-class certificate was granted.

In the third class there were fifty-six applicants, of whom seven failed to appear. The total aggregate number of marks possible in this class was 1,185. Of these 50 per cent., or 593 marks, were required to pass, and thirteen obtained the required number.

The highest number of marks obtained by any of the failing candidates was 582—six ranged below that number down to 550—eight below the latter number down to 500—three from that down to 450—eight between 450 and 400—nine between the last number and 300—and one as low as 184.

It has been stated, in explanation of this not very reputable state of things, that many young persons present themselves for Examination without any expectation of passing, but come up, so to speak, to get their measure taken, that they may know what their intellectual standing is. This may display a very laudable ambition on the part of the applicants, but it is a practice that ought not to be encouraged, and it might be well for the Board to adopt some sort of test by which all would be excluded except such as really intend to enter the profession.

It is very much to be regretted, that most of those candidates who fail at a given Examination, and afterwards renew the attempt, not only fail again, and in some cases repeatedly, but, what is worse, many of them do not appear to have made any material advancement in the interval.

It might reasonably be expected that all who aspire to become the instructors of the rising generation should be able, if not in six, yet certainly in twelve months, so to master the subjects in the programme as to secure for them at least 50 per cent. of the marks required at these examinations.

Such, however, it is shown by the records of the Board, is not the case. Of the forty-eight candidates at the late meeting, 24 had previously applied and failed, only two finally obtaining certificates. Of the remaining twenty-two, eight had twice before failed; two, three times; and one, on that occasion, suffered a fifth defeat.

The following instances will show that some of the candidates, though threatened with the mortification of successive defeats, are unable during 6, 12 or even 24 months, to make any solid advancement in those very subjects in which their deficiencies had before been demonstrated. One candidate who competed in four successive Examinations obtained the following marks in arithmetic, at those several Examinations respectively; the highest number possible being 200; viz.: 28, 75, 45 and 52.

The same; spelling, 50 being the maximum, 40, 10, 30 and 15 respectively.

Another in the three successive Examinations in Geography, 150 being the maximum; 65, 78 and 49 respectively.

Surely the public will suffer no loss by the elimination of this sort of material from the teaching class.

"From such apostles," exclaimed the indignant Cowper, after describing an unworthy class of clergymen:

"From such apostles, O ye mitred hands, preserve the flock, and lay not careless hands on empty skulls, which cannot teach and will not learn."—*Woodstock Times*.

Toronto, 15th September, 1873.

To the Editor of the Journal of Education:

SIR,—I send herewith for publication in the *Journal of Education* some notes which I think may be of interest to teachers.

Yours very truly,

GEORGE PAXTON YOUNG.

SOLUTIONS OF THE QUESTIONS IN ALGEBRA AND NATURAL PHILOSOPHY PROPOSED AT THE RECENT EXAMINATION OF TEACHERS FOR FIRST-CLASS CERTIFICATES.

2. ALGEBRA.

1. Book-work.

2. Book-work.

3. Assume $x + y + z = t(m + n + r)$(1)

$\therefore x + 2y + 3z = t(m + 2n + 3r)$(2)

$\& x + 3y + 4z = t(m + 3n + 4r)$(3).

Subtract (1) from (2). Then $y + 2z = t(n + 2r)$.

Subtract (2) from (3). Then $y + z = t(n + r)$.

$$\therefore z = tr, \text{ and } \frac{z}{r} = t.$$

In like manner, $t = \frac{y}{n} = \frac{x}{m}$.

4. We have given the three equations,

$$xz = y^2, z = \frac{8y}{y+4}, y + \frac{1}{4} = 2x.$$

The solution of these presents no difficulty.

5. Let r and s be the roots of the first of the given equations.

$$r + s = -(m + 1)$$

$$rs = -3$$

$$\therefore A = r^2 + s^2 = m^2 + 2m + 7.$$

In like manner $B = m^2 + 4m + 7,$

and $C = m^2 + 6m + 11.$

$$\therefore (m^2 + 2m + 7)(m^2 + 6m + 11) = (m^2 + 4m + 7)^2.$$

$$\text{or, } 8m + 28 = 0 \therefore m = -\frac{7}{2}$$

6. Because $(x + y \sqrt{-1})^5 = a + b \sqrt{-1}$, therefore also

$$(x - y \sqrt{-1})^5 = a - b \sqrt{-1}.$$

Multiply these together. Then $(x^2 + y^2)^5 = a^2 + b^2.$

But $x + y^2 = 1 \therefore a^2 + b^2 = 1.$

7. Let r be the common ratio. Then the series is,

$$\frac{2}{r^2}, \frac{2}{r}, 2, 2r, \&c.$$

$$\therefore 7\text{th term} = 2r^4 = \frac{1}{2}.$$

The two real values of r are $\frac{1}{2}$ and $-\frac{1}{2}$; and the series are,

$$8, 4, 2, 1, \&c.$$

$$8, -4, 2, -1, \&c.$$

The remainder of the question is simple.

8. Because $m + n \sqrt{-1}$ is a root of the equation $x^3 + qx + r = 0$, $m - n \sqrt{-1}$ is also a root of that equation. Therefore, $x^3 + qx + r$ is divisible by $x^2 - 2mx + m^2 + n^2$ without remainder. Let the quotient be $x - s$. Then the expressions,

$$x^3 + qx + r, \\ (x^2 - 2mx + m^2 + n^2)(x - s),$$

are identical. Therefore,

$$2m + s = 0, m^2 + n^2 + 2ms = q, -s(m^2 + n^2) = r.$$

Eliminate s and n ; then

$$8m^3 + 2mq - r = 0.$$

9. It is easily seen that $a_1 ar - ab_1 = ar^2,$

$$a_{21} br - a_{12} b = ar^3,$$

and so on. Therefore, &c.

10. [This question was not solved by any of the candidates at the recent examination. It requires reasoning of a more delicate kind than any of the other questions; and, none of the others presenting any special difficulty, I gave it as a test question, in view of the competition for the McCabe medal. I leave it as an exercise for students. I may add, that, taking into consideration the difficulty of this 10th question, I reckoned $9\frac{1}{2}$ questions a full paper at the recent examination.—G. P. Y.]

3. NATURAL PHILOSOPHY.

1. *Mr. Cochrane's Solution.*—Suppose the cube to be 1 cub. ft.

Pressure on interior surface = $\frac{6}{2} \times 1000 = 3000$ oz.

\therefore Pressure of air on one surface = $1\frac{1}{4} \times 3000 = 4320$ oz.
= $\frac{1}{8}$ lb. on the sq. in.

But pressure of external air = 15 lbs. to sq. in.

\therefore Elastic pressure of air inside receiver = $\frac{1}{8}$ of elastic pressure of external air. [A considerable number of the candidates offered no solution of this very simple question; and a considerable number of others gave a partially erroneous solution.—G. P. Y.]

2. *Mr Cochrane's solution.*—Let $F \parallel H$, $K \parallel E \parallel G$ be drawn parallel to $A D$, $A B$, respectively. (The point K is in $A D$, H in $D C$, G in $C B$, and F in $B A$.—G. P. Y.) Then, because $E A$ represents the first force in magnitude, its components will be represented in magnitude and direction by $E K$, $E F$. Similarly the components of $2 E B$ are represented in direction by $E F$ and $E G$, and in magnitude by $2 E F$ and $2 E G$. The components of $3 E C$ are represented in magnitude by $3 E G$ and $3 E H$; the components of $4 E D$ by $4 E H$ and $4 E K$. Hence the particle E is kept at rest by a force of

$$3 E F \text{ in the direction } E F, \\ 5 E G \dots\dots\dots E G, \\ 7 E H \dots\dots\dots E H, \\ \text{and } 5 E K \dots\dots\dots E K.$$

But the forces $5 E G$ and $5 E K$ are opposite in direction; \therefore they must equilibrate each other; $\therefore 5 E G = 5 E K \therefore E G = E K$, which proves first. And the forces $3 E F$ and $7 E H$ are opposite in direction \therefore they must equilibrate each other.

$$\therefore 3 E F = 7 E H \text{ or } E F; E H = 7:3,$$

which proves second. [Mr. Cochrane's was the only perfectly satisfactory solution of this easy question in the Resolution of Forces.—G.P.Y.]

3. Let $B D$ be the perpendicular let fall from B on $A C$. The candidates, who solved this question, reasoned in the following manner: Let P , acting in direction $B A$, or W in $B C$, be counter-balanced by Q acting in direction $B D$. Then,

$$Q : P = B D : B A$$

$$\text{and } W : Q = B C : B D. \text{ Therefore, } \&c.$$

charge of such a duty, however, the services of a gentleman of exceptional skill, experience and ability will be required.

To competent scholarship must be added a thorough acquaintance with the best and most approved methods of teaching, as well as with school organization and school government.

We look forward to see in the near future in Ontario greatly increased Normal School facilities, the establishment of Teachers' Institutes all under intelligent supervision and all except trained teachers excluded, as is the case in Europe, from the schools of the country.—*Bradford Expositor.*

2. BRANT COUNTY TEACHERS' INSTITUTE.

The teachers of the County of Brant during Friday and Saturday of last week were privileged as few ever have been in this Province. Dr. Sangster, late head-master of the Normal School, Toronto, having been casually met with a few weeks ago by our esteemed and energetic Public School Inspector, and upon the matter of a Teachers' Institute in this town being broached, and the earnest desire of the Brant Teachers' Association expressed that he should be present if possible, he at once tendered his services gratuitously, offering to conduct the exercises during two or more days if desirable. Ample notice of this important event was given through the local press, and cards of invitation with a printed programme thereon were sent to all the leading officials and prominent educationists in this county as well as to several in neighbouring counties. The Institute was held in the Central School, and a very large number of teachers and others were present to profit by the instructions of the accomplished and distinguished lecturer. We regret to be compelled to state that several of the young teachers who are most in need of instruction in all matters pertaining to their profession, who were present during a portion of the first day, failed to appear on the second. We are not sure that it would not be an act of justice to them and their friends to give their names in full, and thus teach them a lesson for the future. The profession would be well rid of such members, and we would advise them to make themselves acquainted with the requirements of some less noble calling. It is satisfactory, however, to know that the great majority of our teachers, male and female, took a hearty interest in the proceedings of the Institute, and plied their pencils with extraordinary diligence.

I think it might be said without fear of contradiction that there has not been anything of as intellectual a character in Brantford for many years.

Promptly at ten o'clock on Friday morning the meeting was called to order by the President, Dr. Kelly, who in a few well-chosen and eloquent sentences introduced the lecturer. On rising, Dr. Sangster was greeted with loud applause, and forthwith proceeded to discuss the most approved method of teaching arithmetic. Two things, he said, must be kept constantly in mind in teaching this and all branches of education, namely, the development of the child intellectually at the same time that the mind is stored with useful practical information. It might seem too strong perhaps to state that many of them would be puzzled to say how they stumbled into a knowledge of arithmetic, but the condition of schools in other parts, if not in Brant, justified the assertion. He believed that the child was made an arithmetician during the first six months of his school life, or for ever debarred from success in its study. He could not then too strongly deprecate the too early introduction of a text book into the child's hands, as this tended to involve rather than to simplify the subjects. The living voice of the active, energetic and intelligent teacher, mind speaking with mind, was the only proper method of instructing the child when first introduced to school. A second error, he said, was a want of thoroughness. The admission that one has been "through the book" two, three, or more times was sufficient to show that he knew nothing at all of the subject. When the child was properly taught there was no need of having him repeat his book. Some teachers are deceived as to the thoroughness of their class—a small percentage, perhaps, giving the correct solution while the others copy from them. Hence he would recommend placing the pupils in such positions as would render prompting and copying impossible. He would also recommend holding thorough, impartial and strict examinations at stated periods. A mariner imbued with a sense of his responsibility omits not to take his reckonings; why then should the educator of the youth spend month after month without determining the position of his class—who are making progress and who are not? Some teachers also, he regretted to say, were wilfully dishonest in this matter. Finding it an easy matter to persuade the child, and through the child, the parents, that progress was being made, they lustily sounded their own praises for a year or two, until some fortunate

event revealed the truth. Such teachers were constantly shifting their places, and the pity was that they were ever allowed to rest. They cursed the community instead of blessing it where they happened for the time to get employment. A third error was allowing the pupil to wander from rule to rule without giving any other reason for the operation than that the book said so. Every step of such process should be explained and repeated till a clear perception of it was fixed in the mind. He did not mean till the pupil could explain it in return, for this required a power of language which was not always found in children. To understand was one thing, to explain another. But the intelligent teacher was never at a loss to know by the eye of his pupil that the mind apprehended his explanation.

A fifth error and a most crying evil was not making the matter practical. How many pupils were there who had gone through the whole course of arithmetic, and could, perhaps, solve tolerably difficult examples, and yet when required to calculate the price of a load of hay or wood or the interest on an ordinary note were utterly at sea. The urgent demand of the age, and one to which teachers would do well not to close their eyes, was for a more practical common school education. The want was felt in the United States, and is beginning to be felt in Canada. Having thus pointed out the more common defects, he proceeded to show what method he would recommend. And first, he would say, that the perceptive faculties develop before the reflective. Hence the child first learns things, then names as attached to things. Therefore in teaching young children abstract numbers should never be used.

Begin by teaching the child to perform simple operations mentally, then to represent these on the board or slate, and, lastly, to reproduce the same operation with the use of other numbers, always following the order, *mental-work, black-board, slate*. At least one-half the time should be spent in review, that every operation may be understood and remembered.

I have thus far given a brief outline of the accomplished gentleman's lecture on arithmetic, which will give a key to his method of teaching other subjects, with, of course, such differences as are interesting to the practical teacher alone. His instructions, couched in language most elegant and eloquent, listened to with rapt attention for six or eight hours each day, cannot fail to elevate the status of schools in this and surrounding counties. At the close of the second day the following resolutions were adopted:—

Moved by James Mills, Esq., M.A., seconded by Wm. Wilkinson, Esq., M.A.:

"First, that the members of the Brant County Teachers' Association and the other friends of education here assembled embrace this opportunity of testifying to J. Herbert Sangster, M.A., M.D., their very high estimate of his abilities as a teacher, author and lecturer; secondly, that they tender that gentleman their most cordial thanks for his great kindness in conducting their Teachers' Institute during the last two days; and, lastly, that in their opinion his lectures are of inestimable value to teachers, and his generosity in giving them gratuitously beyond all praise."

Moved by Thomas Pearce, Esq., Inspector of Schools, Waterloo Co., seconded by Wm. Rothwell, Esq.:

"That the members of this Association being fully convinced of the great benefits that must arise to the profession from Teachers' Institutes being held throughout the Province, consider it very desirable that they be established by the Government at its earliest opportunity, and that a copy of this resolution be forwarded to the Hon. the Attorney-General.—Carried."

Moved by W. A. Douglas, Esq., M.A., seconded by G. B. McIntosh, Esq.:

"That the members of this Association desire to express their sincere thanks to their esteemed President, Dr. Kelly, for his untiring efforts in behalf of the Association, and especially for his success in securing the services of so able and experienced a lecturer as Dr. Sangster."

At the close Dr. Sangster was enrolled as an honorary member of the Association.

The Association then adjourned, to meet again three months from date.

WILLIAM ROTHWELL,
Sec. B. T. C. Association.

3. TEACHERS' CONVENTIONS AND INSTITUTES CONTRASTED.

There does not seem to exist, in the minds of educators, a very close discrimination between the legitimate duties of a convention and those of an institute. The exercises of one very often run into those of the other.

A convention of teachers is one where educators meet for the discussion of questions of a general nature, and where any man may freely ventilate his opinions, independently of all other exercises. The lecturer finds here a prominent place.

On the other hand, an institute should be conducted by one master spirit, whose influence, like a golden thread, should run all through the exercises. He should have just assistance enough to relieve him from the too continuous strain upon his mind, and he should be able to hold the attention of as many teachers present as possible, and to keep them there throughout the session. Extraneous lectures should be reserved for evening exercises, or omitted altogether. The convention may combine with it the exercises of the institute, but the institute should not partake of the character of a convention. The institute should be chiefly devoted to methods of imparting knowledge, and such other matters as belong to the immediate exercises of the school-room. Theories and doubtful questions should be reserved for the convention. The institutes in this State for the last two years have generally been of the character here indicated, and owe their great success to this fact.

It is believed by the writer that our State association, at its annual meeting, should have, at least, one subsection for the special benefit of the majority of lady teachers present. Few of this class of teachers take any interest in subjects of general discussion, while they would be greatly benefited by listening to a discussion and illustration of the best methods of teaching and managing their schools. If there is a fear that the subsection would draw too heavily upon the educators present, and leave the principal meeting in a minority, it would only prove which was of the greater value and interest. It is to be hoped that the managers of our State association will take this subject into consideration at the next meeting.

With reference to an institute, there is no place where the incidental lecturer will find himself placed in a false position and feel it, as one who breaks in with some topic out of the regular course of thought which should pervade all the exercises. As a rule, then, *the teachers will carry away practical knowledge from an institute, in the ratio of the small number of persons employed as instructors.* It will be understood that this does not interfere with discussions which may arise that are often of the greatest value, nor with the evening lecture, which often has a most powerful influence in educating public sentiment, that could not be reached in the day exercises of the institute.

As the fall institutes will commence in a few weeks, it is hoped that any defects that may have heretofore been felt to have existed, will be removed, and that this most powerful agency in stimulating teachers in their work will be more powerful than ever.—N. T. T.

4. THE MANAGEMENT OF TEACHERS' INSTITUTES.

It seems to us that the time has come when the teachers' institute should enter on its distinctive work. It is neither a convention nor a literary exhibition, and it is no longer necessary to make it popular by exercises entirely foreign to its great object—the professional improvement of teachers. The hours of the day sessions should certainly be filled with lectures, class drills, and other exercises which bear directly on school organization, management, and instruction. The exercises of the evening sessions may very properly be of a more popular character; and this will be found necessary when an admission fee is charged to meet the expenses of the institute. The sparkling essay, the literary lecture, the elocutionist's art, and the choicest music may be used to interest and delight the audience.

While no part of the evening sessions should ordinarily be devoted to professional instruction, we see no reason why educational topics should be excluded. There are no questions of greater general interest than those relating to education, and none which more fully meet the conditions of a popular lecture. It is, moreover, very important that the great educational issues of the day be discussed before the people by the ablest speakers of the country. Public interest and confidence in the schools will thus be increased, and the school system will be still more strongly fortified against the assaults of its enemies.

But we see that our pen has run away from our purpose, for we intended to write but a brief paragraph on this subject. We wished simply to bear testimony against the foolish idea that the work of an institute should be done by its members. An institute thus conducted is just about as efficient as a school in which the pupils successively act the teacher. An institute should bring to inexperienced teachers the ripest experience, the best methods, and the soundest views of the profession.

5. TEACHERS' INSTITUTES IN MANY STATES.

The laws of many States, in regard to Teachers' Institutes, are more liberal than ours. Aside from the provisions for State Institutes (which do not reach the mass of the teachers, and present such instructions as they most need), the law is absolutely silent, except in the obscure mention of Institutes by the County Superintendents' Act, as among the means to be used by these officers for the improvement of the schools, and the elevation of the character and qualifications of the teachers, in their respective counties. How the Superintendents were to hold these meetings, and secure adequate assistance and equipment, without some pecuniary foundation, does not seem to have entered the minds of our legislators. In the unregretted days of the peripatetic book agents, it was quite easy to secure gratuitous assistance, some of which was very valuable; but, since their withdrawal from the field, the organization of a first-class Institute is almost impossible, unless the Superintendent will personally assume the expense.—Not being compelled by law to attend such meetings, teachers will not join them in any large number if a tuition fee is charged, or a liberal assessment is likely to be made upon them. It is extremely difficult, in many counties quite impracticable, to secure the vote of a subsidy by the Board of Supervisors, and, as already noted, the State makes no pecuniary provision for this important work. This matter is better managed elsewhere. Wisconsin compels the County Superintendents to "organize and conduct at least one Institute for the instruction of teachers in each year," and authorizes the Board of Regents of Normal Schools to use any sum within \$5,000 per annum for Institute expenses. In the expenditure of this allowance, they must give preference to the sections of the State receiving least direct benefit from the Normal Schools. District Boards are authorized to allow teachers their wages for time spent in actual attendance upon Institutes. In Maine, whenever twenty-five teachers of any county make a written request to that effect, the State Superintendent may hold an annual Institute in that county, of at least ten days' duration, and may expend \$4,000 per year upon such Institutes. California appropriates \$100 for each County Institute of three to five days' length, which the local Superintendent must hold annually in counties having ten or more school districts. Every teacher of a public school must attend, and the school boards "shall not only allow, but shall require the teachers in their employ to attend every Teachers' Institute held in the county," and their pay is not diminished for such attendance. Any county having a regularly organized Teachers' Association or Institute, holding meetings monthly, may be exempted, if a majority of the teachers in the county vote to sustain monthly meetings. Pennsylvania appropriates \$60 to \$200 (according to attendance) for every five days' Institute. Each County Superintendent must hold one yearly. The teachers may be allowed their time, and "any teacher who absents himself from the Institute of his county without a good reason, may have his want of professional spirit and zeal indicated by a lower mark on his certificate in the practice of teaching than he would otherwise have received. Two Saturdays in every school month may be used for Institutes in any district, and reported as a part of the school month. Iowa gives a subsidy not exceeding \$50 for each Institute of not less than twenty members, and six working days. Any school in the county must be closed while the Institute is in session, and the teachers' pay goes on during the time. They, as well as all candidates for certificates, are required to attend, or present satisfactory reasons for non-attendance, before receiving licenses to teach. Similar provisions subsist in Kansas. Indiana allows \$50 for an Institute having an average attendance of forty, and \$35 for one with an average of twenty-five. The common schools must be closed during the session, but the teachers are not compelled to attend, nor is their time allowed them, even though they attend. A good foundation for an Institute fund is provided in Ohio, where teachers pay a fee of fifty cents for examination, which is set apart for their benefit, in meeting the expenses of County Institutes. The plan contemplates a permanent organization, with at least forty members. In most of these States, and in New York, the county school officers are required to hold Institutes once a year. In the State last named, the Commissioner must "induce, if possible, all the teachers in his district to be present and take part in the exercises." A teacher who closes his school to attend an Institute does not thereby forfeit his contract, and his time allowed. The necessary expenses are paid by the State. In Vermont, only two days' time is allowed teachers for attendance upon Institutes, without diminution of wages. Louisiana has a curious provision that Institutes shall be held "where the teachers will receive the encouragement of hospitality." Illinois makes a very indifferent provision for Institutes, but, by a recent law, provides for the organization of County Normal Schools.—Michigan

Teacher.

III. Papers on various School Subjects.

1. HIGH SCHOOL BENEFITS.

As the following, from the Port Hope *Guide*, places a matter which is of interest to all in a light which will be new to some, we transfer it to our columns :

"With much gratification we notice at the meeting of friends of Trinity College School, called to devise ways and means for finishing the building, the large amount of \$20,000, 'by which the authorities of the school claim that our town was benefited last year by the existence of the School here.' The statement is a truism, yet it cannot be too often repeated, that whether it be a factory or a school, a company or a college, if it brings to our town mouths which must be fed, and backs which must be clothed, and the money from outside to pay for the feeding and the clothing, it must make more money circulate in the town, to the direct benefit of our merchants and tradespeople, and to the indirect benefit of the whole community. Therefore, we repeat, we were highly gratified to learn that the School mentioned had been the means of causing that additional sum to circulate in our town during the past year, and we think that this gives that institution just claims upon the support of our business men and others who have the welfare of the town at heart. These considerations led us to reflect on the amount of benefit conferred on the town by the excellent High and Public Schools which it possesses. We pass over, as patent to all, the convenience and advantage of having at our own door institutions in which our youth of both sexes can receive an education, ranging from the merest elements to such as will enable our boys to enter any university, and our girls any sphere of life that may be open to them.

"We say this is an inestimable advantage patent to all, but it is not so patent, and therefore not so well known, that the excellence of our schools attracts not a few pupils from the surrounding country into the town, thus benefiting it to the extent of what they spend in it. We knew this was more or less true, but not till we inquired did we know to what extent it is true. We find that some few pupils from the country, notwithstanding the fee charged to non-residents, attend our Public School because the education there given is of necessity better than that which the free rural school of the rural section affords. They are for the most part children whose parents wish them thoroughly prepared for entrance after a time into the High School.

"But it is chiefly to secure the advantages which the latter School affords that pupils from the country come into town. We were shown the names of no less than 33 pupils from the country, who have attended the High School since the beginning of the present year. Of these some were from beyond Peterboro', some from Millbrook, some from near Newcastle and Newtownville, and some from the neighbourhood of Bowmanville. Now the point we would urge upon the attention of our business men and others is this, that, allowing that some 70 or 80 pupils attending Trinity School bring to the town the sum of \$20,000 per year, the 33 pupils attending our own High School must benefit the town to a proportionate extent—say between \$7,000 and \$8,000; and that it is their interest to maintain its efficiency, increase its excellence, and add to its reputation by all the means in their power. It is certainly nothing less than suicidal to begrudge it a liberal support.

"It will easily be seen, too, that the town is not only vastly benefited by the pupils from a distance which the High School attracts here, but also by those pupils which it keeps here. For, doubtless, if we had no such institution of our own, or if the education given in it were not such as the community demands, scores of our youth would be sent elsewhere to obtain what was denied them here, and the \$200 per year not including extras' would be lost to this town and go to enrich some other. If any doubt the correctness of this view, let them ask Cobourg, at what it values the possession of Victoria College, and the Corporation of Toronto the value to the city of the numerous educational establishments within its limits."

2. CLASSICAL HUSKS.

Professor Taylor Lewis read some time ago before the University Convocation a very weighty paper, the object of which was to show that students in our colleges should be taught either considerably more Latin and Greek or considerably less. It is pretty clear that, so far as the classical languages are concerned, our colleges now occupy a position utterly unsatisfactory to everybody. The scientists tell us that not much worth while is learned of the dead languages in college, and they would have something else take their place, and the classicists repeat the strophe, only varying the anti-strophe to urge that, if so much time is given to these languages, so

much more be allowed as is necessary to give our graduates a real command of them.

The facts are beyond dispute, and some change seems needed, though what it should be it is hard to tell. A college, be it understood, in the first place, is not an institution which professes to give exhaustive instruction on any subject. Its object is to open a great many doors, and to ask its pupils to look in and see the treasures beyond them, that they may be able to decide afterward which they will make their own. A college, besides its disciplinary function, has the object of giving valuable information, but that information, being on all branches of learning, is necessarily only of a very rudimentary sort. There is, we confess it, but a smattering of anything taught in a college, and the complete instruction is left to the post-graduate university courses and to private study.

Remembering this principle, it might seem reasonable to expect that a man should leave college with but little Latin and less Greek. But, as we understand it, the object sought in studying the classical languages is an acquaintance with classical literature, and not a facility in rendering a classical author. The ability to translate is elementary. It is the door, and not the treasure.

A college graduate has been studying Latin and Greek for six or seven years. In that time he ought to be able to gain such a facility in translation that he would hardly notice whether he were reading Latin or English prose. And yet we venture to assert that of the two or three thousand young men who will be graduated this summer from our colleges, there will hardly be five (omitting, possibly, a few graduates of Catholic colleges) who will be able to read Cicero's Letters or Quintilian's "*De Institutione Oratoria*" fluently at sight. Our graduates will infallibly forget the most of their Latin and Greek, retaining enough of the former to understand a legal or medical term, or as much of the latter as may be secured by an occasional reading with Robinson's Lexicon of the Greek Testament. On Commencement Day it would yet be a task for them to get the sense out of a page in the languages to which they have given half of their study for seven years. They are not prepared to become enthusiastic students in the choicest literature of the world.

There must be a serious error in the present style of instruction, and we are confident that it is in the object aimed at by our teachers. They naturally hold up as their end of instruction a grammatical acquaintance with the language, rather than a knowledge of the literature contained in it.

What we would have is, not a less thorough, but a less persistent teaching of grammatical rules. One lesson or lecture a week might be devoted to grammar and derivations, and the main study directed to a large acquaintance with literature and a rapid command of the language. The ability to repeat the exceptions "*Alica, brassica, dica, fulica,*" etc., wastes a great deal of time and adds nothing to the scholar's command of Latin. Cudworth could not have repeated that list, and he knew more Latin and Greek than all our colleges put together. What is the necessity of drilling wearisomely in the rules of pronunciation, the euphonic changes of letters, the succession of tenses, and the canons of the subjunctive, when this disproportionate attention necessarily compels inattention to the enlargement of one's vocabulary and the facility of reading the classical authors? The Greek rules for "*Tau* mutes" are not a whit more important than that which gives *d* a *t* sound after *c* in "*priced,*" while it retains its own sound after *s* in "*raised.*" There is as much a rule in English as in Latin—but nobody thinks it worth while to know it—which controls the subjunctive in the sentence "*We have not so much as heard whether there be any Holy Ghost,*" but which is to be learned rather by literary instinct than by formulation.

We cannot urge that more time be allowed for the study of the dead languages. The sciences and mathematics press too close upon them. We do urge that the main object in studying them be not forgotten. Let us teach our young men that above the roots of a language they may pluck flowers and gather fruit.—*Independent.*

3. WILL EDUCATION PAY?

Does it pay to educate the people? Shall we get back the cost? This is the question of the day put into its shortest form. In other words, the problem stands thus: It takes a certain amount of hard honest thinking to do the work of the world. We cannot cheat nature. "*An eye for an eye and a tooth for a tooth*" is her motto. We hang a small weight on the long arm of a lever and chuckle with satisfaction to see the heavy weight on the other end rise. And in our delight at outwitting gravity we do not notice the very small distance moved once by our great weight as the immense sea described by our power. We cheat ourselves only. We put the execution of our plans into the hands of an ignorant unthinking set of labourers, and sit back in our easy chairs serenely smoking, and

congratulating ourselves on our escape from toil. And we find ourselves worn out with vexations and annoyances, our material is wasted, our directions misunderstood, our plans "gang aley;" the more seeming help we have, the more weary we grow, and the more utterly unable we are to foresee or prevent the absurd escapades from our carefully arranged regulations. In despair we find ourselves forced to perform the work from which we had cheerfully assured ourselves that we are the small power at the large end, and it is only by the most absurdly disproportionate exertions that we can succeed in starting the big weight at the other end and moving the beam at all. We spend our energy on that which profiteth not, and are only conscious all the time that we are converting our gold of rational thought into dirty paper.

We need only appeal to the employers in all lines of business to be answered that we have spoken the truth.

Now, is it not plain that the only remedy for the trouble is to convert the paper into gold, that is, to educate the labouring classes into intelligence? Till we do, we must pay the penalty. The rich man leaves the streets and alleys of the poorer section of the city uncleaned, and builds his tenement houses without ventilation, and the malaria from the alleys and the fever poison from the overcrowded tenement houses enters his own palace windows, and feeds on the life of his own children. This is no more true in the physical than in the mental world. The rich man grudges, refuses money to the public schools, cuts the teachers' salaries so low that no teacher worthy of the name will stay with him, and he dies in an insane asylum or drops in the street struck with apoplexy, or gradually becomes an idiot, as his over-worked brain returns before his death to primitive chaos.

We must have thoroughly educated labourers; this is what the death-columns in our papers every day says. Can we not intelligently accept their warning; or shall we still persist in using up our gold for worthless paper.—*St. Louis Journal of Education.*

4. EDUCATION DOES PAY.

Education pays. Pennsylvania taxes herself \$9,000,000 a-year for the education of her children in the common schools, and makes money by so doing. The man who pays his school taxes merely loans his money, and, if well used, it will come back to him, or to those who shall inherit his property. True, even if education did not pay in money, it would be worth all it costs, for money can have no better use than to lift men up to a higher intellectual and moral level; but just now we want to emphasize the truth, that every dollar judiciously spent for educational purposes brings back another dollar with usury.

In this connection, we beg to present a few extracts from an address recently delivered before the Wisconsin Horticultural Society, by Hon. Samuel Fellows, Superintendent of Public Instruction:—

"I have just been perusing with intense interest the report of the bureau of education, on the relation of education to labour. A series of questions was addressed to a large number of intelligent employers in all parts of the Union as to the effect of education—mainly common school—upon each person in their employ. The answers were nearly unanimous 'that his value to the community at large is positively increased, and his power as a producer of adding to the common stock of wealth is materially enhanced by the education given him as a child in the common school.' The increase of wages he will receive on account of his knowledge is put at various figures, averaging nearly twenty-five per cent. That this increase of value arises, 1st, from the fact of his being more readily instructed in the duties of his work; 2nd, that he needs less supervision; 3rd, that he does his work to better advantage; 4th, that he is less liable to join in unreasonable strikes; 5th, is more industrious; 6th, less dissipated; and lastly, is less liable to become an expense to the Commonwealth through poverty and crime.

"Now, remember, gentlemen, that twenty-five per cent. is added to the value of the labourer from the possession of the slender outfit given in the common school. What will be the per cent. of value if, in addition to this, he receives a training, in part, which specially fits him for his work? The answers are given to such an inquiry in the report alluded to. That a knowledge of the sciences that underlie the occupation gives greatly increased value to their possessor is agreed on all hands. It does this: 1st, by enabling him to avoid dangers, in mining, for instance, to which ignorant men are exposed; 2nd, by enabling him to detect and remedy difficulties which else would cause expense and delay; 3rd, by enabling him to discover shorter and simpler methods of work, thereby increasing his powers of production; 4th, by stimulating his qualities of contrivance, so that he adjusts and modifies the tools or machines which he uses, and becomes eventually an inven-

tor of simpler and better machines, thus increasing the wealth-producing power of his fellow-labourers. In this direction, it is estimated by these men, competent to judge, that his value is increased *one hundred per cent.*, while in certain exceptional cases it is incalculably higher. Better even than all this, it advances the well-being of its possessor. By virtue of his increased education, he commands higher wages for his services, and also adds largely to the common production.

"What a convincing argument is given in this report for our common school system. It *pays*, in the lowest as well as in the highest sense, to educate the people. According to the last census, 1,554,931 adult males were regarded as illiterate. If, now, according to the opinions before given, these parties should earn each one dollar per day in their illiterate state, by learning to read and write, twenty-five per cent. would be added yearly to the production of the country, or \$116,612,425, nearly twice as much as is paid annually for public instruction in the United States. If, now, we take four-fifths of the 8,287,043 engaged in various pursuits in the United States in 1860, who received their education in the common schools, considering each one as capable of earning one dollar per day without such education, and \$1.25 with it, we have a yearly addition to the production of the country of \$523,740,178, nearly nine times the amount paid annually for public school instruction. Then consider what the increased production would be if specific instruction were given to these persons in the different branches of industry represented by them, or, if, in early life, studies were pursued bearing directly upon their vocation. The instruction that these men need, in the main, is in the facts and truths of natural science, for these lie at the foundation of the life-work of the vast majority of the producers of our country's wealth. These sciences must be studied if our nation would attain the exalted destiny which clearly awaits it."—*Pennsylvania School Journal.*

5. EDUCATIONAL WORK IN ENGLAND.

Notwithstanding the wranglings between the party represented by the Birmingham League and that which has for its head the quasi-defunct National Union, practical progress has been made of late towards the more general education of the English people. Statistics go to show that more children are now attending schools than formerly, that the supply of teachers has been increased by placing before them better opportunities for advancement, and that the education afforded is of a more thorough character than that which had hitherto prevailed.

Elementary instruction in England and Wales is provided, first, by schools receiving Government grants according to the work they accomplish; and second, by schools under the charge of School Boards, established under the provisions of the Elementary Education Act. It is to the former that the credit is due of having given for many years tolerably good elementary training to a large proportion of the children of the poorer classes in a remarkably quiet way, and it is not, therefore, surprising that a large body of the public should feel gratified at knowing that the fears of their promoters, that the Education Act would terminate their existence, have proved groundless. Instead of declining in interest, those denominational schools receiving grants and under Government inspection appear to have become increasingly flourishing since the Birmingham League undertook its mission in favour of secular instruction. This is proved by the facts, that during the past four years the accommodation provided by these schools had risen from eight to ten per cent. of the population, and that the average attendance during this period increased from five to over six per cent., representing two million names on the school registers. The figures are these:—11,833 day schools, with 2,235,936 children on their registers, having accommodation for about 225,000 more; and 2,122 night schools, attended by 75,000 children over twelve years of age. The average attendance at the elementary schools of England and Wales should, however, be about three millions, and the accommodation ought to be in excess of this number. The supply afforded by schools in receipt of annual aid is little more than room for two millions and a quarter, sufficient it is true to accommodate the number of children on the books, which of course vastly exceeds the number actually in attendance, but considerably within what will be required within the next two or three years.

The second class of educational machinery, the schools under the direction of School Boards, is actively engaged in supplying educational deficiencies in special districts. The population under School Boards, the establishing of which rests primarily with the people, is about ten millions, including the metropolis, and the number of Boards elected is placed at about six hundred. That a great work has been done within the past few years towards meeting the educational wants of the country, is seen by an official declaration to the effect that 3,465 parishes possess sufficient facili-

ties for their educational work, even though a larger number are reported as being deficient in these respects. These latter, however, are largely situated in outside districts, and can best be dealt with by forming them into united districts, as contemplated by the Department of Education. The School Boards have now got fairly to work, and are evidently resolved to provide the requisite number of schools for all the children of school age, at the risk of largely increasing the local rates. They are availing themselves freely of their borrowing powers. London has raised loans amounting to £250,000 wherewith to meet in part the cost of providing for 100,600 children; and the Education Department have recommended the Public Works Loan Commissioners to advance more than three hundred loans, exceeding a million pounds sterling, by which accommodation will be furnished for one hundred thousand children. Compulsory attendance has been put in force by London, 80 municipal boroughs and 110 civil parishes, representing a population of 8,926,349. These figures show that compulsion is now the law for 39 per cent. of the whole population of England and Wales, and for about 74 per cent. of the total borough population. The exercise of these powers has been attended with the most satisfactory results. The increase of average attendance in Stockport has been 15 per cent., in Bath 17 per cent., in Wrexham 25 per cent., and in Manchester (in fifteen months) the weekly average has been 36 per cent. In London the increase of the average attendance has been 36,041 in the two years ending December last; in Sunderland the number on the rolls has increased 32 per cent., in Leeds 63 per cent; while in Macclesfield, in the last week of March last, 94 per cent of the children of school age were either at school or beneficially employed at work. In West Bromwich, in the year ending May last, there were 9,207 in public elementary schools alone, and only 776 children not at schools, the increase for the year being 3,000, or 25 per cent. of the whole school population.

These educational statistics are very gratifying, for they establish the fact that, notwithstanding the strife of religious factions, every British child has now a chance of receiving an elementary education. The truth is, that the more schools cover the land the less will be the talk about religious and theoretical difficulties, which have in the past done so much to retard the spread of education among the poorer classes in the United Kingdom.—*Montréal Gazette.*

IV. Papers on School Architecture.

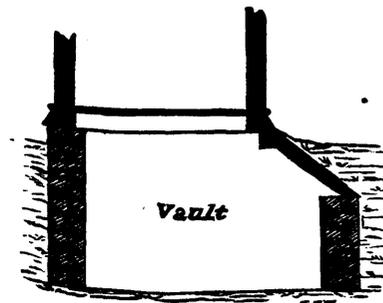
IMPROVED SCHOOL-HOUSE ARCHITECTURE.

In this number of the *Journal* we are enabled to present several valuable illustrations relating to plans of school out-houses. These plans have been recently prescribed by the Provincial Board of Education for New Brunswick, for use by the School Trustees in that Province. They have been kindly furnished to the Ontario Education Department by Theodore H. Rand, Esq., Chief Superintendent of Education for New Brunswick.

As our regulations require that the School Trustees shall provide out-houses somewhat of the description given in the illustrations, it is hoped that the Trustees will not hesitate to avail themselves of the plans and illustrations now given. They are drawn on the scale of 8 feet to the inch and are accompanied with specifications, as follows :

THE OUT-HOUSES.

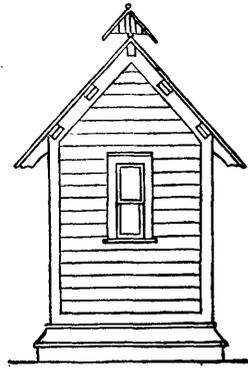
EXCAVATIONS.—The vault to be excavated 5 feet deep below the surface of ground, and to be made 4 feet longer than the building; this projection of 4 feet to be made at the gable end, opposite to or at one side of the door.



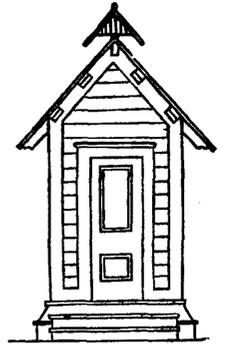
Section thro Vault

WALLS, &c.—Build rubble stone walls under three sides of the building one foot above the surface of ground, to receive the sills; the side and end walls projecting beyond the building to be built only 3 feet high from the bottom of vault, and the space to be covered with 3-inch plank laid sloping, and secured at the foot to a plate

laid on the low wall, and at the top to a 3-inch piece, supported at the ends on the side-walls; these planks to be so secured in place that they can be readily removed for the purpose of cleaning the vault, and to be covered over with earth, sloping from the building to shed the rain.



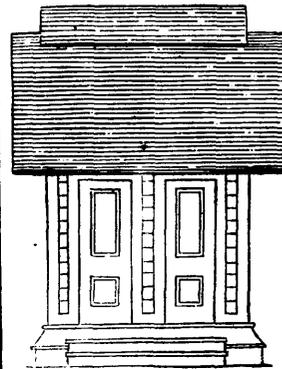
End Elevation (BOYS')



End Elevation (GIRLS')

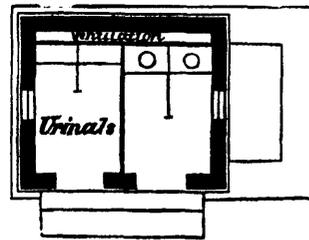
FRAMING, &c.—The frame to be boarded with sound boards, and covered with rough siding or shingles; the roof to be shingled; the ridge of roof to be left with an open space of 6 inches for the escape of foul air, and this opening to be protected from the weather by a saddle with a flat soffit, and closed at the ends and supported on board brackets. The smaller class of houses both for the boys and for the girls, and the larger class for girls, to have a clear space of 4 inches left at the back of seats for ventilation; this space to have free connection with the vault and with the opening in ridge of roof; the larger class of houses for boys to have this space for ventilation in the centre of the building.

The sills to be set in the centre of the stone walls, and the water-table to be sloped to cover the projecting wall.

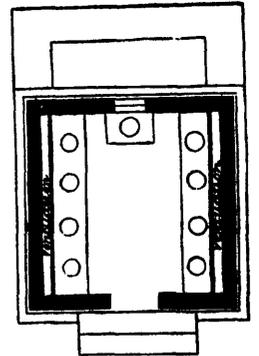


Front Elevation (BOYS')

The floors to be laid double.

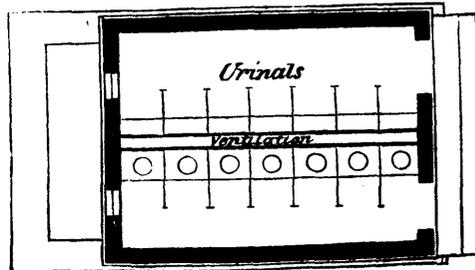


Boys'

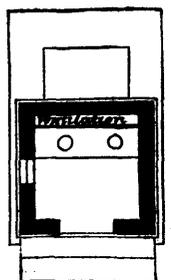


Girls'

The smaller class of houses for boys to be divided by a partition, made of 1 1/2-inch tongued-and-grooved plank, not planed; one side of the houses for boys to be fitted up with seats with hinged flaps, hung with butts, and a sloping plank to be fixed above the seats to prevent the flaps from being opened beyond an angle of sixty



Boys'



Girls'

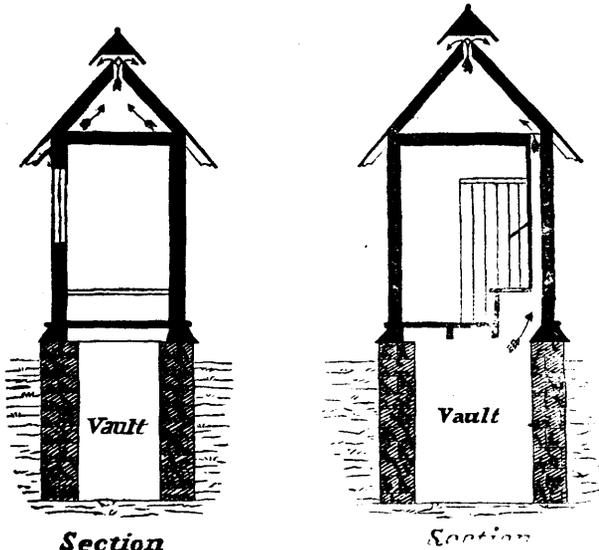
degrees, the other side to be fitted up with a trough, set with a sufficient incline to carry off the water, and to have a down pipe leading into the vault. The seats and the trough to be divided into stalls by tongued and grooved boards 6 feet high.

The houses for girls to be fitted up with seats with hinged flaps.

The doors to be panelled, hung with butts, and supplied with mortice or rim lock, with mineral knobs.

The windows to have 2-inch sills and 1½-inch casings, and 1½-inch sashes, glazed with two panes 10-inch by 16-inch glass.

The interior walls and ceilings to have one thick coat of coarse brown mortar.



All the wood work usually painted to have three coats of paint, and to be sanded with coarse sand on the last coat, to prevent scribbling.

V. Papers on Practical Education.

SOME POINTS FOR YOUNG TEACHERS.—Somewhat personal. 1st. Do not wait for your pupils to be courteous to you. You are teacher of this particular as much as you are of arithmetic. Always set the example of politeness by bowing and speaking first. 2nd. Come into your school-house with muddy feet—and your pupils will do likewise. 3rd. Retain your hat upon your head while in your school-room, also whistle or indulge in other thoughtless noises—and your pupils will do likewise. 4th. Treat your female pupils with brusqueness and uncourteous inattention—and your male pupils will do more than likewise. 5th. Tilt back your chair and place your feet upon the table—and your pupils will do likewise. 6th. Never clean your teeth; also, use tobacco freely—and your pupils will only too soon emulate you in dirtiness of mouth, filthiness of habit, and foulness of breath. 7th. Do not hesitate to spit upon the floor—then your pupils will not hesitate. 8th. Do not clean or trim your finger nails—then your pupils may not think there is anything slovenly in long and dirty nails. 9th. Continually “hem,” and hawk, and expectorate—so that your pupils may acquire the same pleasant habit. 10th. Care very little for personal cleanliness—and your pupils will care less.—*National Normal.*

A NEW THOUGHT FOR EDUCATORS.—In one of our large Western cities, I came a few weeks ago upon a unique school, illustrative of the desire to do something that is becoming so distinguishing a characteristic of the woman of the period. Three wealthy and accomplished women, leaders in society, came to the conclusion that they could give their children better instruction than they were receiving at the schools, and determined to try the experiment. Living in the same block, the matter was easily arranged. Reception-room in house No. one became a school-room, and its mistress a teacher from 9 till half-past 10, of number two from half-past 10 till 12, of number three from 2 till half-past 3 o'clock. Each taught those branches in which she was a proficient; the interest of the pupils was unflagging, and their progress wonderful. The experiment at the time of my visit was nearly six months old, and no signs of waning enthusiasm had manifested themselves on the part of teachers or pupils; it was in every sense of the word a success.—*Anonymous.*

VI. Papers on Boys and Girls.

1. A MOTTO FOR BOYS.

A boy who does a stroke and stops,
Will ne'er a great man be;
'Tis the aggregate of single drops
That makes the sea the sea.

The mountain was not, at its birth,
A mountain, so to speak;
The little atoms of sand and earth
Have made its peak a peak.

Not all at once the morning streams,
The gold above the gray;
'Tis thousand little yellow gleams
That make the day the day.

Not from the snowdrift May awakes,
In purples, reds, and greens;
Spring's whole bright retinue it takes
To make her queen of queens.

Upon the orchard rain must fall,
And soak from branch to root,
And blossoms bloom and fade withal,
Before the fruit is fruit.

The farmer needs must sow and till,
And wait the wheaten bread,
Then cradle, thresh, and go to mill,
Before the bread is bread.

Swift heels may get the early shout,
But spite of all the din,
It is the patient holding out
That makes the winner win.

Make this your motto, then, at start,
'Twill help to smooth the way,
And steady up both hand and heart—
“Rome wasn't built in a day!”

2. OUR BOYS.

Dio Lewis has written a work for “Our Girls,” and numerous others have criticized the “Girls of the Period;” but no one, to my knowledge, has yet told us what to do with our boys.

All the way from the cradle up to womanhood, a girl seems to fall naturally into her place, or the place assigned her, and never appears to feel awkward or in the way. But there is a period in the life of a boy, when neither he, his guardian, or friends, know where he belongs, nor how he should be treated. A girl glides naturally along from childhood to womanhood, and sometimes in this fast age so rapidly, that you almost conclude that the period of girlhood is left out entirely. With boys it is very different. There is a time in a boy's life when he seems to feel that he is out of place everywhere. And at this very time, when he needs sympathy the most, as a rule he gets the least of it. He is too big to be petted like a baby, and not large enough to be treated as a man. He is too boisterous to be in the parlour; the cook sends him out of the kitchen, because he asks too many questions; the father is too much engrossed in business to notice him or give employment or direction to his active, inquiring mind; the mother is too busy, preparing dainties for his stomach, or flounces for his sister's dress, to pay much attention to her son's brain or heart, and, as a natural consequence, he goes into the street. The education he receives there is soon made manifest.

To me, there comes a question, deep and momentous: “What shall I do to save my boy from the snares that are laid for his feet?”

One thing I have determined on, and that is, I will never knowingly, by word or deed, cause him to feel that he is in my way, in the house he calls home. Not even though my carpets be soiled by muddy boots, and my best furniture marred by finger marks. It were better that my carpets be soiled and worn, and my best furniture be scratched or broken, than that the immortal soul which God has entrusted to my keeping should become scarred and mired by the vileness which is found in our streets and public places of resort. Soiled and worn furniture may be repaired or replaced by new; but the soul once scarred and disfigured by sin can never be what it might have been, had it been shielded a little more carefully during these few years of youth when it was so pliable to every touch.—*Central Advocate.*

3. AMBITIOUS BOYS.

There are thousands of boys born into the world possessing scarcely a trace of ambition. Such do not care for distinction, or even for wealth; if they can procure the humblest fare, by constant toil, the

aspirations of their boyhood, and subsequently of their manhood, are fully met. They are negative characters, happy with nothing, and suffer no elation or depression, whether in sunshine or under a cloud. These boys, who often afford much mortification to ambitious parents, fill a most important niche in the world; in fact, the world could not do without them. They constitute the great army of men who build our railroads, tunnel our mountains, load and unload our ships, cut down our forests, and manipulate the red-hot iron masses which come from our blast furnaces. Scold and fret as we may, we cannot alter the temperament or proclivities in such boys. Nature is stronger than we are, and well it is for us that this is so. If our boys are born to live in subordinate or humble positions we can hardly help it; we may hold them in a false position by the power of wealth, or strong controlling influences; but when these fail, they fall at once in their place, in obedience to a law as irresistible as that which Newton discovered in the fall of the apple.

4. MANAGEMENT OF BAD BOYS.

To the Editor of the Journal of Education.

The goodness or badness of boys or men depends upon the standard of comparison. If this standard is low, we have few bad boys and bad men; if it is lowered, so as to license an extension of indulgence, we should have less bad people; and if we do away with standards of morality, we should have no bad people at all.

Christianity is a high standard of morality; we know it is high, because few, if any, can reach it. Experience proves that it imposes no restraint but what a well-regulated society needs, even if Christianity had never been known.

Now, as Nature works on the *free will* principle, but brings on her penalties afterwards, experience shows that, to avoid her penalties, restraint must be used. As restraint is unpleasant, and since order depends on it, then, order at first is unpleasant; and no one will give up a present pleasure without prospect of a better, or prospect of pain for refusal to desist. For order, many expedients are employed: among these love, moral suasion, bribe, and last of all, fear are used. Which one of these is employed, depends somewhat on the temper of the teacher himself, and a little on that of the neighbourhood. Loving teachers can think of nothing but *love* to govern bad boys with. I shall therefore examine this agent.

Suppose that, on entering a new school I choose love as my means of order. Is this emotion latent within me, so that I can apply it as soon as I see a necessity for it? or, must I wait on the good actions of others to stir it up in me? I am now looking up an illustration.

The man whom I met daily and for many months, on a street in Toronto, I neither loved nor hated. But one day, I went to have a sail on the bay; after a little a storm arose, and I was in jeopardy; meanwhile a crowd gathered on shore to watch my distress; finally, the boat upset, and I was on the point of drowning. One, only, of the crowd would risk his life to save mine; when he had brought me to shore, and I had regained sensibility, I asked who saved me; when he was pointed out to me, I remembered I had met him so often; need anyone advise me to love this man?

Suppose that, instead of the wind, some one had *pushed* me overboard; need anyone tell me to *hate* that man? What made the man save me? Was it love or duty? It was duty; for, even if he had known me to be the one he had met so often, he was just like myself, he neither loved nor hated me; duty, then, in another may stir my love for him, but my own duty can never stir my own love. If families and societies, at the point of separation, for want of love to bind them together, could create it by a piece of advice, they would never separate; for there is nothing of which men (lawyers excepted) are more liberal than of their advice. If then, in order to rule my bad boys by love, I must wait till they do something to make me love them, does not the whole affair depend on the action of bad boys? If they can stir my love by good deeds, they can govern themselves; viz., bad boys are good boys. Love, on account of its reciprocal action, would rule any creature sweetly, provided we had it to work with; but, the stirring up of a person's love is not his own act, but the act of another; and no man can tell to-day whom he shall love or hate to-morrow.

JOHN IRELAND, Teacher,
No. 6, Pilkington.

5. SLEEP FOR GIRL PUPILS.

Good scholars need more sleep than they are inclined to take. The interest in lessons, the increased activity of the brain, makes them wakeful, and often the more they need sleep, the less able are they to find "the dominions of the drowsy god."

In the majority of our large schools I find the hour of retiring to be 10 o'clock, and of rising at 6 o'clock. This will do for some, but the younger and more sensitive need from 9 to 7 in winter and from 9 to 6 in summer. I would give the man an hour longer during the long nights, because at best students study more by artificial light than their eyes can well endure. In cold weather they are more inclined to keep close to books, less inclined to out-door exercise, and hence are better off in bed cold mornings than anywhere else. The indications of all nature are that at this season we should sleep up, rest up, and be ready for summer gaities. But in modern days, between bright lights, gay colours, lectures, concerts, and parties of varying brilliancy, the brain and optic nerve are overstimulated, and summer finds too many of our young ladies, whether in school or in social life, in need of summer restoratives, such as the sea-side, the mountains, and mineral springs afford. Students do not get as much sleep as their hours in bed seem to indicate. If they have studied closely and to advantage in the evening, it takes some time to arrest the mental action, to cool off head-wise, so to speak. Intellectual activity makes them dislike to retire at night, and brain weariness makes them dread to rise in the morning, and they get up feeling wretched, and as if they *never did and never could* learn anything. Hence, while they might retire before the required time, they do not want to, and would not get any sleep if they did, while the school world in which they are so much interested is all astir. When once asleep, they go on until a late hour if not called by duty, as is shown by the many who sleep over the breakfast hour, and go without that meal if not obliged to rise at an early hour for morning prayers. Instead of giving a general permission to retire early, and requiring all to rise early, we would reverse the order, and require all to retire early, and let them rise when they had slept all they wanted to.

6. CARE OF THE PUPILS' EYES.

Trouble with eyes is becoming very common among our pupils in advanced classes. The normal eye is capable of an almost infinite variety of uses. It can see near and far with equal facility, but like any other organ, if used almost exclusively in one direction, it loses its range of ability. Hence if kept too constantly on the printed page, the range of vision is impaired, and it may become near-sighted by much reading of fine print.

We have long known that the eye is often injured by looking at the sun, in case of an eclipse, without the aid of smoked glass, the perceptive power being impaired by excess of light and heat. It is also often injured by looking at small objects with too little light, as for instance, reading fine print by moonlight. But we are yet to fully realize how often the eyes are injured by strong gas-light. It is often too intense, and has a flicker which is particularly trying without a shade. Those accustomed to gas or kerosene, find it difficult to see by candles or any light less brilliant. But those who have habitually used candles, can not only see well with less light, but their eyes last longer without the aid of glasses than those who have rejoiced in the flood of light which the gas-burner emits.

When the optic nerve has become supersensitive to light, a good candle is a great relief. Of course, it will not make the room bright as gas or kerosene, but will furnish light enough for reading, and the soft light will be much less trying to the eye.

Twilight is very grateful to the eye, if we rest in it, but very trying if we read or sew in the transition stage from day to night, or night to day. The use of artificial light at early morning is very bad for the eyes, much more so than at evening. To go from sound sleep and deep darkness into the light of gas, especially for study or piano practice, is very injurious.

Within a few weeks several young ladies have consulted me in regard to their eyes, where they have been seriously and permanently injured by piano practice at early morning in the gas-light. As the music cannot be changed to suit the exact focus of the eye, it is the more likely to become injured in this way, than in most other ways.

The study of any foreign language is much more trying to the eye than the reading of one's own. The words lack the familiar look, and hence they are not so easily recognized. The searching for words in the dictionary is particularly hard for the eye, and if the alphabet be dissimilar to ours it is still more trying. Hence those who have weak eyes, and those who don't want to have them, should avoid piano practice and lexicons by artificial light, especially at early morning. Those whose eyes are in any degree sensitive will accomplish more in the week or month to study only by daylight, and during the evening avoid gas and give themselves up to plain knitting and cheerful conversation; for deep study, close thought even, if the eye is not used, tends to determine the blood to the head, and makes the eye worse if it be inflamed or painful. Em-

broidery, or even any kind of worsted work, is bad, as bright colours tax sensitive eyes very seriously:

Reading from a moving page is also trying to the eyes. Many persons who have travelled much, tell me they have permanently impaired their sight by reading on the cars. Young ladies who go out to walk with a book cheat themselves in two ways. The exercise they get is not good for anything, and the moving page and the brighter light than within doors, injures the eye. To make bodily exercise profitable, the brain must rest from books, and send its nervous and circulatory force into the muscular system—*Mrs. Gleason.*

7. CHILDREN'S RIGHTS.

"According to the last census there are in the United States five millions of children, of school age, who never attend school."

Children come into the world with certain rights which society is bound to respect. Besides the traditional claim to life, liberty, and the pursuit of happiness, there is a recognition now of the right to the best means of perpetuating or attaining these, in the best knowledge, the most useful instruction which can be given to the child.

This is a matter of self-preservation for a country, for it is on the intelligence of the many, rather than the wisdom of the few, that it must place its dependence. Ignorance can support no form of government higher than the patriarchal, of which the tribe with its chieftain is the simplest type, and the empire with its arbitrary ruler the most magnificent.

But we have passed the patriarchal rule; even the father has no longer, as in the old Roman days, absolute control over the life of his child. The State steps in and protects the future citizen.

Just as much right has she to protect his moral and intellectual life. It is of far greater value to her than his mere physical existence, or power to wield a weapon in her behalf. The day has passed when it was necessary for the State to bring up every male child to the profession of arms; the day has come when she needs to arm every child with the best culture and the best morals that the most intelligent thought of the age can give.

No more than Sparta could afford to have a weak or diseased child grow to manhood or womanhood, can our country afford to have diseased or weakened minds among those that shall control her future destinies.

It would be idle to argue that culture in pure knowledge and the useful arts improves the mind and disposes it to morality and good citizenship. Even the habit of learning the self-control and steady attention, are in themselves a benefit.

We may admit all that can be said of scoundrels generally—forgers, for example, as a representative class, using the knowledge they have gained to the detriment of society. Yet we know that it was not knowledge that injured them. The evil would have shown itself in other directions had they not known how to write, and though knowledge may increase power for evil ten-fold, it strengthens the power for good a hundred-fold. It is a blunder, which is worse than a crime, for any town to be without ample school accommodation for all her children, and not less for her to take no charge of the young Arabs who infest her streets and alleys; those who are the idlers and vagabonds of the present, and the worst criminals of the future; those who have no home influence to help to keep them in the public schools, who are the truants, and finally the expelled ones, or those who never enter the schools. For them, at least, education should be made compulsory.

A truant or an industrial school should receive these young vagabonds, and develop a majority of them into useful citizens, instead of allowing the streets to train them for outlaws and criminals.

No duty could be more apparent and undeniable. If the State gives the ballot, she is bound to confer also the knowledge and good training which will make it beneficial, otherwise she is only arming her citizens against herself—providing her Saxon Modocs with firearms of the most approved pattern.

VII. Papers on Natural History.

1. NATURALISTS' CLUB, BELLEVILLE.

A meeting of gentlemen interested in the scientific pursuits was held in the Shire Hall last evening, T. C. Wallbridge, Esq., in the chair. It was resolved that the gentlemen present form themselves into a Naturalists' Club for the purpose of investigating the natural capability of the district; and the following gentlemen were appointed heads of the several departments comprehended in the scheme:—Geology and Mineralogy, Prof. J. T. Bell; Botany and Entomology, Prof. J. Macoun; Zoology—Mammalia, A. Dulmage,

Esq.; Ornithology, R. P. Jellett; Erpetology, Dr. Clapham; Ichthyology, Prof. Bell; Conchology, C. G. Hurst, Esq.; Meteorology, A. Burdon, Esq.; Topography, G. A. Simpson, Esq., C. E.; Hydrography, J. D. Evans, Esq., C. E.; Antiquities and Traditions, T. C. Wallbridge, Esq. The above, together with the President, Vice-President, Treasurer and Secretaries compose the Council of the Club. Authentic information communicated by members or others will be recorded by the head of the department to which it properly belongs, and at the end of each year the records will be read by the Council, and such parts as they deem worthy of publication will be printed in the "Transactions," for distribution among the members, and will be forwarded to the Governmental Department and to the scientific societies of the Dominion and other countries. The members, including ladies, will make an annual excursion to some locality of interest, when addresses and explanations will be given by members. The following gentlemen were appointed officers for the present year: President, Prof. J. T. Bell; Vice-President, T. C. Wallbridge, Esq.; Treasurer, Thos. Wills, Esq.; Corresponding Secretary, W. J. Diamond, Esq.; Recording Secretary, W. McKeown, Esq. The subscription is one dollar per annum. The club numbers fifty members, and we hope it will establish a permanent record, and that its labours may redound to the advancement of science, the credit of the country and the advantage of this district, and on this ground we recommend it to the favourable regard of our readers and the community at large.—*Intelligencer.*

2. FOOD OF CANADIAN BIRDS.

There exists a general and unfounded prejudice in agricultural communities against many of our most beautiful and useful birds, which we should like to remove if possible.

Nearly all the birds that frequent our orchards and nurseries are insectivorous, and well deserve the kind protection of the farmer and gardener. The services of our pretty and familiar friend the Robin are invaluable, and the ill feeling manifested towards this bird is quite unaccountable. The food of the Robin consists almost exclusively of grubs, earthworms and those subterraneous caterpillars or cut-worms that come out of the earth to take their food; all these and many others are devoured by the Robin, and if he should occasionally taste a cherry or a plum, surely the general interests of agriculture are of more importance than a few cherries. During the breeding season a pair of Robins will destroy myriads of noxious insects; and as the Robin raises two and sometimes three broods in a season, the service he renders the agriculturist in ridding the soil of grubs and worms that would destroy his crops, certainly entitles this bird to more merciful treatment than it usually receives.

The elegant Cedar-bird is also another innocent victim of unfounded prejudice. This bird rarely touches fruit of any kind, unless it contains a worm or the larvæ of some noxious insect. Its food consists principally of caterpillars, beetles, and the canker worms that infest the fruit trees.

The brilliant Oriole or Golden Robin, the gaudy Scarlet Tanager or Redbird, love to build their nests and raise their young in the trees of the orchard, because there they find their food, which consists almost exclusively of caterpillars and the larvæ of insects. Our beautiful singers, the Thrushes, destroy nearly all kinds of grubs, caterpillars, and worms that live upon the greensward or cultivated soil. The Catbird, that charms the ear with its rich and varied notes, seldom ever tastes fruit, but feeds upon insects of various kinds. The beautiful warblers pursue their insect-destroying labours from early morn till night; the active Flycatchers capture the winged insects; the Bluebird, that loves to dwell near the haunts of man, feeds upon spiders and caterpillars; the Woodpeckers, Nuthatches, Titmice, Wrens and Creepers, feed upon the larvæ of insects deposited in the bark of trees; the Swallows and Martins feed entirely upon winged insects; the Yellow-bird and the Sparrows feed upon small insects and the seeds of grass and various weeds; the food of the Meadow Lark and the cheerful Bobolink consists of the larvæ of various insects, as well as beetles, grasshoppers, cutworms, and crickets, of which they destroy immense numbers.—*Canadian Ornithologist.*

3. CLASSIFICATION OF CANADIAN BIRDS.

Ornithologists have already classified seven hundred and eight different species of birds as belonging to North America, of which over three hundred are regular Canadian summer visitors, a few species only remaining with us during the winter.

Our birds may properly be divided into six Orders, as follows: Order I.—The Birds of Prey, includes the Eagles, Falcons, Hawks,

Buzzards and Owls. Order II.—The Climbing Birds, includes the Cuckoos, Woodpeckers, Nuthatches, and Creepers. Order III.—Perching Birds. This Order embraces the greatest number of species, and includes the Robins, Sparrows, Thrushes, Orioles, Flycatchers, Warblers, Swallows, Wrens, Crows, Jays, etc., etc. Order IV.—Scratchers, includes the Doves, Partridges, Grouse, and Turkeys. Order V.—Waders, embraces the Snipe, Sandpipers, Plovers, Cranes, Herons, Bitterns, and Coots. Order VI.—Swimmers, includes the Geese, Ducks, Swans, Mergansers, and all swimmers or web-footed birds.—*Canadian Ornithologist.*

VIII. Biographical Sketches.

1. MR. WILLIAM NILES.

The subject of this brief sketch was born in the year 1799 in Albany County, N. Y. He came to Canada in 1820, and settled in the Township of Dorchester, in the present Village of Putnamville, and afterwards in the neighbourhood of the present Nilestown, which was named after him, and entered into the farming and lumbering business, which he conducted successfully. He took an active part in political and municipal life, and was the first warden of Middlesex, which then included Elgin, elected by the people. Prior to his election, the wardens were appointed by the Governor-General, and with such fidelity and ability did he fulfil the trust reposed in him, that he was re-elected to the position for eight consecutive years. In 1854 he was elected to represent East Middlesex in Parliament in the Liberal interest, and at the expiration of his term, did not offer for re-election. He also held the commission of a lieutenant-colonel in the militia, was elected to the position of Vice-President of the Provincial Agricultural Association for one year, but did not aspire to the presidency. During his term of office as warden, Mr. Niles held the office of Great Western Railway Director, and took great interest in pushing forward the enterprise. Gifted with a strong physical constitution, and of much natural ability, the deceased was just the man to succeed in a new country. His every energy was directed to accomplish "the thing he willed and bear it through." He was one of the most active promoters of the Agricultural Mutual Assurance Association of Canada, and at his death held the position of inspector of agencies of this successful enterprise.—*London Herald.*

2. WM. MANN, ESQ.

Mr. Mann was a native of the County of Devon, in England, and came to Canada in May, 1832. Settling himself in this northern country, he made Kempenfeldt his home, in which place he prospered very well, and was the original founder of the Kempenfeldt road, which now connects with the, at that time, great Government road running directly north from Toronto to Penetanguishene. Mr. Mann subsequently built a brewery at Newmarket, we believe, which was rented by the present Mayor of Barrie, and was, during his occupancy, burned down. He afterwards built what was known as the East India House, where he carried on a general stationery business. These premises were also, years after, doomed to the flames, and Mr. Mann removed to the front street, where he carried on a business which has descended to his family. He died at the ripe age of 77 years—overstepping by a few years the Psalmist's maximum of life, "three score years and ten," and after that period in the case of our departed townsman, it may be said the balance of his life was labour and sorrow.—*Northern Advance.*

3. MR. RICHARD HOUSTON.

Mr. Houston was born in the County of Down, near Belfast, North of Ireland, on the 24th day of June, 1817. When quite a young man, he emigrated to the United States in the year 1831, settling at Rochester in the capacity of school teacher. In the following year, however, he moved to Canada, taking up his residence in the County of Halton, near Hamilton, where he remained until 1837, or just before the outbreak of the rebellion of that year, when he removed to the Township of Chatham, in the County of Kent, soon after which he joined the 5th Kent Militia, holding the rank of sergeant, from which he was promoted to be 1st lieutenant. He was at the capture of the schooner *Ann*, at Windsor, having been the third person to board that vessel. At the time of the *Trent* affair he received his commission as captain, which rank he held till the time of his death. In the first year of the passing of the Municipal Act he was elected Clerk of the Township of Chatham, the duties of which office he efficiently and satisfactorily performed, as well as those of the responsible office of

Treasurer for a period of twenty years, and resigned both offices only on the occasion of his leaving Ontario for the new Province of Manitoba, in the spring of 1872. The appearance of things in the Far West not coming up to his expectations, he returned from Manitoba in the fall of the same year, and bought the Currie Farm, near Dresden, one of the finest in the county, where he wished to pass the remainder of his days, but it was ordered otherwise.—*Chatham Planet.*

4. LIEUT.-COLONEL LEMOINE.

Colonel W. H. Lemoine, who has just died at Sillery, at the age of eighty-seven, was one of the veterans of 1812; and was the youngest of three brothers, who, in 1787, along with their parents, left this city to reside in Quebec. The eldest, Louis, died in 1851; Benjamin, his other brother, was the father of Mr. B. H. Lemoine, of the *Banque du Peuple*; of Mr. J. M. Lemoine, well known in Canadian literature; and of the Rev. Geo. Lemoine, Almoner of the Ursuline Nuns of Quebec. The deceased served during the war of 1812, and afterwards established himself at Chateau Richer. Jean Lemoine, the ancestor of these gentlemen, belonged to the establishment of the Archbishop of Rouen, and came to Canada in 1660. One of his descendants, J. B. Lemoine, the father of W. H. Lemoine, established himself in Montreal on the site now occupied by the Normal School, in Notre Dame Street. He was one of the principal contractors of the English army in the American Revolutionary war, and is favourably mentioned by several memoir writers of that period. During an expedition he was taken a prisoner by the Americans, and in a long march to New York contracted a malady which made him ever afterwards an invalid. His affairs suffered too, and he eventually retired to his lands at Lake St. Francis, and at length established himself at Quebec. It is somewhat remarkable that Mr. W. H. Lemoine had, during his last years, come to reside at Sillery, the spot where his ancestors had dwelt two hundred years ago.

IX. Papers on Physical Science.

1. THE PAST AND FUTURE OF NIAGARA.

Niagara Falls furnishes one of the most interesting of geological problems. The last number of the *Popular Science Monthly* presents the question in a form which is readily understood. There is no doubt that the falls are slowly receding, and men of science tell us that within about 74,000 years they have gone from Lewiston to their present position. They recede about six inches each year, although old citizens think it is as much as a yard annually. The rate has undoubtedly varied with the hardness of the rock. The great lakes which have their outlet by Niagara River contain 9,800 cubic miles of water, or about half the fresh water on the globe. Eighteen million cubic feet of water go over the falls every minute of time, so that it is estimated that all the water of the lakes makes a circuit of Niagara, St. Lawrence, and the ocean, once in 152 years. Man has robbed Niagara of 52,000 cubic feet of water per minute, belonging to it of old, by means of the Erie, Welland, and Illinois river canals. By means of terraces, denudation of rock, traces of glaciers, etc., the age of the river is traced, and thought to be 175,000 years, a period in the calculations of geologists but short. They were puzzled to account for the fact that through this comparatively new geological area the outlet for one of the oldest areas should be found. But this problem is rapidly being solved by fresh discoveries of the ancient life of the seas in the limestones through which Niagara is now wearing its way. The conclusion to which scientific men are led in reference to the future is, that Niagara will eventually dwindle away into a succession of rapids and cascades. But for the sake of those unfortunates who have not visited Niagara, the geologists are pleased to say, that many thousands of years must elapse before the end is reached.—*Connecticut School Journal.*

2. A LAND OF STORMS.

The States of Minnesota and Iowa are rapidly becoming famous the world over for the violence of their storms. The snow storms that prevailed in the former State last winter were almost unparalleled in severity, and attracted much attention in England, where emigration parties were in process of organization for that State. Iowa, the neighbouring State, has within the past few days been visited by a tornado which destroyed both life and property. A full page of the *Chicago Tribune* is devoted to an account of the disaster. Fifteen persons were killed and thirty-three seriously injured, and the loss of property is placed at one hundred thousand

dollars. It was a desperately savage storm. The storm cloud, which seems to have resembled a waterspout, passed through Washington County at a speed of twenty miles an hour, levelling for many miles all barns and houses within a quarter of a mile of its centre. It sawed great trees in two, or twisted them smoothly apart as if they had been sawn. A reporter says it tore a woman asunder. Her head and neck were wrenched off; her body found in one place, her arms in others; one leg was found sticking in the sand. The top of her child's head was blown off. Chickens were found dead literally stripped of their feathers. Houses were lifted from their foundations, sometimes dropping the people through into the cellar, generally carrying them off and killing or wounding them in the crash. Those who saw the whirlwind coming and betook themselves to their cellars were saved. Those who were caught up and whirled about have no conception of the manner in which it was done. They were suddenly borne away and set down again, sometimes with and sometimes without injury; but so suddenly that they had no opportunity to exercise their consciousness. In some cases the clothing was stripped from them. A flock of fifteen hundred sheep, a reporter tells us, were carried up into the vortex and only forty remained alive. The hailstones were in reality blocks of ice. The incidents of the storm are of the most extraordinary kind. Now, during the present immigration season thousands of persons from England and European countries will land on our shores with the intention of proceeding to Iowa and Minnesota to become settlers on the wild lands of the West. To such it may be worth while to point out that the climate of the North-Western States of the Union is of terrible severity; that Minnesota and Iowa are swept by storms which carry destruction and death into the new settlements and lead the immigrant to despair of building for himself a comfortable home; and that Manitoba, the prairie Province of the Dominion, is not only exempt from such disastrous storms, but equally eligible as a field for a large European immigration. The climate of Canada, moreover, according to the best authorities, is generally less severe than that of the North West States of the adjacent Republic—a fact which only requires to be more widely known to lead immigrants to try their fortune in this New Dominion, before leaving British soil to settle in Minnesota or its neighbouring States in the American Republic. Let the immigrants who land on our shores give Canada a fair trial, and they will not easily be induced to leave her borders.—*Montreal Gazette.*

XI. Miscellaneous.

1. CANADA TO THE LAUREATE.

(From Good Words.)

“And that true north, whereof we lately heard
A strain to shame us, ‘Keep you to yourselves;
So loyal is too costly! friends, your love
Is but a burden; loose the bond and go.’
Is this the tone of Empire?”

TENNYSON'S *last Ode to the Queen.*

We thank thee, Laureate, for thy kindly words,
Spoken for us to her to whom we look
With loyal love across the misty sea;
Thy noble words, whose generous tone may shame
The cold and heartless strain that said “Begone,
We want your love no longer; all our aim
Is riches—that your love can not increase!”
Fain would we tell them that we do not seek
To hang dependant like a helpless brood
That, selfish, drag a weary mother down;
For we have British hearts and British blood,
That leaps up, eager, when the danger calls!
Once and again our sons have sprung to arms,
To fight in Britain's quarrel, *not our own,*
And drive the covetous invader back,
Who would not let us, peaceful, keep our own;
So we had cast the *British* name away.
Canadian blood has dyed Canadian soil,
For Britain's honour that we deemed our own;
Nor do we ask but for the right to keep
Unbroken, still, the cherished filial tie
That binds us to the distant sea-girt isle
Our fathers loved and taught their sons to love
As the dear home of freemen, brave and true.
And loving *honour* more than ease or gold!

Well do we love our own Canadian land,
Its breezy lakes, its rivers sweeping wide,
Past stately towns and peaceful villages,
Mid banks begirt with forests to the sea;
Its tranquil homesteads and its lonely woods,

Where sighs the summer breeze through pine and fern.
But well we love, too, Britain's daisied meads,
Her primrose-bordered lanes, her hedgerows sweet,
Her winding streams and foaming mountain becks,
Her purple mountains and her heathery braes,
And towers and ruins, ivy-crowned and grey,
Glistening with song and story as with dew;
Dear to our childhood's dreaming fancy, since
We heard of them from those whose hearts were sore
For home and country left, and left for aye,
That they might mould, in these our western wilds,
New Britains not unworthy of the old.

We hope to live a history of our own—
One worthy of the lineage that we claim;
Yet, as our past is but of yesterday,
We claim as ours, too, that long blazoned roll
Of noble deeds, that blind with golden links
The long dim centuries since King Arthur “passed;”
And we would thence an inspiration draw,
To make our unloved future still uphold
The high traditions of imperial power
That crowned our Britain queen on her white cliffs,
Stretching her sceptre o'er the gleaming waves,
Even beyond the sunset! There were some
Who helped to found our fair Canadian realm,
Who left their cherished homes, their earthly all,
In the fair borders that disowned her sway,
Rather than sever the dear filial tie
That stretched so strong through all the tossing waves,
And came to hew out, in the trackless wild,
New homes where still the British flag should wave.
We would be worthy them and worthy thee,
Our old ideal Britain, generous, true—
The helper of the helpless. And, perchance,
Seeing thyself in our revering eyes
May keep thee worthier of thine ancient name
And power among the nations. Still we would
Believe in thee, and strive to make our land
A brighter gem to light the royal crown
Whose lustre is thy children's—is *our own.*

CANADENSIS.

2. REASONABLENESS OF PRAYER.

During the deliberations of the American Convention relative to the constitution of the United States, Dr. Franklin introduced a motion for prayers, with the following important observation:—
“The small progress we have made after four or five weeks' close attendance, and our different sentiments on almost every question, is, methinks, a melancholy proof of the imperfection of the human understanding. We indeed seem to feel our own want of political wisdom, since we have been running all about in search of it. We have gone back to ancient history for models of government, and examined the different forms of those republics which, having been originally formed with the seeds of their own dissolution, now no longer exist; and we have viewed modern states all round Europe, but find none of their constitutions suitable to our circumstances. In this situation, groping as it were in the dark, to find political truth, and scarce able to distinguish it when presented to us, how has it happened that we have not hitherto once thought of humbly applying to the Father of Lights to illuminate our understandings? In the beginning of the contest with Britain, when we were sensible of danger, we had daily prayers in this room for the Divine protection; our prayers were heard, and they were graciously answered. All of us who were engaged in the struggle must have observed frequent instances of a superintending Providence in our favour. To that kind Providence we owe this happy opportunity of consulting in peace on the means of establishing our future national felicity. And have we now forgotten that powerful Friend? or do we imagine we need no longer His assistance? I have lived a long time, and the longer I live, the more convincing are the proofs of this truth, that “God governs in the affairs of men.” And if a sparrow cannot fall to the ground without his notice, is it probable that an empire can rise without his aid? We have been assured in the sacred writings, that “Except the Lord build the house, they labour in vain that build.” I firmly believe this; and I also believe, that without this concurring aid, we shall succeed in this political building no better than the builders of Babel; we shall be divided by our little partial local interests, our projects will be confounded and we ourselves shall become a reproach and a by-word down to future ages. I therefore beg leave to move—“That henceforth prayers, imploring the assistance of Heaven and its blessings upon our deliberations, be held in this assembly every morning before we proceed to business; and that one or more of the clergy of this city be requested to officiate in that service.”

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

I. ABSTRACT OF MONTHLY METEOROLOGICAL RESULTS, compiled from the Returns at ten High School Stations, for JULY, 1873.

(OBSERVERS:—Pembroke—R. G. Scott, Esq., M.A.; Cornwall—James Smith, Esq., A.M.; Barrie—H. B. Spotton, Esq., M.A.; Peterborough—J. B. Dixon, Esq., M.A.; Belleville—A. Burdon, Esq.; Goderich—Hugh J. Strang, Esq., B.A.; Stratford—C. J. Macgregor, Esq., M.A.; Hamilton—George Dickson, Esq., M.A.; Simcoe—Dion C. Sullivan, Esq., L.L.B.; Windsor—J. Johnston, Esq., B.A.)

Table with columns: STATION, ELEVATION, BAROMETER AT TEMPERATURE OF 32° FAHRENHEIT, MONTHLY MEANS, RANGE, MONTHLY MEANS, TEMPERATURE OF THE AIR (DAILY RANGE, HIGHEST, LOWEST), WINDS, NUMBER OF OBSERVATIONS, HUMIDITY OF AIR, WINDS, NUMBER OF OBSERVATIONS, AMOUNT OF CLOUDINESS, RAIN, SNOW, AURORAS, TENSION OF VAPOUR.

Table with columns: STATION, MONTHLY MEANS, MOTION OF CLOUDS, SURFACE CURRENT, WINDS, NUMBER OF OBSERVATIONS, HUMIDITY OF AIR, WINDS, NUMBER OF OBSERVATIONS, AMOUNT OF CLOUDINESS, RAIN, SNOW, AURORAS, TENSION OF VAPOUR.

REMARKS. PETERBOROUGH.—Lightning, 1st. Thunder, 18th. Lightning and thunder, with rain, 17th, 20th, 25th. Rain, 2nd, 7th, 10th, 11th, 14th, 17th, 18th, 25th, 28th, 29th, 31st. A terrific thunder storm on 17th from 1.50 p.m. for two hours—a building struck. No other storms. Weather quite heavy. BELLEVILLE.—Lightning and thunder, with rain, 17th, 25th, 28th, Wind storms, 6th, 23rd. Rain, 4th, 10th, 11th, 17th, 25th, 28th, 29th.

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.

c 10 denotes that the sky is covered with clouds; 0 denotes that the sky is quite clear of clouds. Gauge leaky.

31st. Crops much improved by the rain. GODERICH.—Lightning, with thunder, 24th. Lightning and thunder, with rain, 1st, 10th, 14th, 31st. Fog, 4th, 10th, 11th, 15th. Rain, 1st, 2nd, 3rd, 8th, 10th, 14th, 18th, 25th, 28th, 31st.

STRAITFORD.—Lightning, 13th. Lightning, with thunder, 25th. Lightnings, with rain, 31st. Lightning and thunder, with rain, 1st, 17th, 26th, Frost, 11th. Wind storms, 2nd. Rain, 1st, 2nd, 3rd, 10th, 14th, 17th, 14th, 17th, 25th, 31st.

WINDSOR.—Lightning, 23rd, 27th. Lightning and thunder, with rain, 8th, 14th, 18th, 26th, 29th. Wind storm, 23rd. Fogs, 9th, 28th. Rain, 1st, 3rd, 4th, 9th, 11th, 15th, 17th, 18th, 19th, 26th, 29th.

Several bright meteors, 26th. BARRIE.—Lightning, with thunder, 13th. Lightning and thunder, with rain, 17th, 25th. Wind storm, 17th. Rain, 1st, 2nd, 3rd, 10th, 14th, 17th, 25th, 31st.

18th, 19th, 26th, 31st. Excess of mean temperature from average for July for twelve years + 0°51.

HAMILTON.—Lightning, 4th, 18th, 28th, 31st. Thunder, 29th. Lightning, with thunder, 2nd, 17th, 18th, 25th. Lightning, with rain, 4th, 18th, 28th, 30th. Thunder, with rain, 29th. Lightning and thunder, with rain, 2nd, 17th, 25th. Rain, 3rd, 4th, 7th, 10th, 17th, 26th, 31st.

SIMCOE.—Lightning, 13th. Lightning and thunder, with rain, 14th, 17th. Wind storms, 5th, 25th. Rain, 2nd, 3rd, 6th, 7th, 8th, 14th, 16th, 17th, 18th, 25th, 26th.

WINDSOR.—Lightning, 1st, 15th, 24th. Lightning and thunder, with rain, 3rd, 14th, 16th, 25th. Lunar halo, 4. Meteors as follows:—11th, one in S. towards S.W.; 21st, one through *Cassiopea* towards H.; 22nd, two in W. towards H.; 23rd, one in S.W. towards S.; 24th, one in S.E. towards S.; 26th, three seen; 29th, one through Sq. of *Pegasus* towards Z.; one through *Ursa Major* towards S. Wind storms, 3rd, 14th, 17th, 18th, 25th. Rain, 3rd, 9th, 14th, 16th, 17th, 25th, 28th, 31st. On 24th, about sunset, an aerolite passed over Windsor and the Detroit River from E. to W. It presented a luminous appearance, and was just above the lower strata of clouds.

XII. Departmental Notices.

THE PUBLIC SCHOOL GENERAL REGISTER.

The General Register for use in the Public Schools of Ontario, as required by the Official Regulations, is now ready and can be supplied to schools on the following terms, viz :

- No. 1. Copy of 20 pages, paper covers, free by post 35 cts.
- 2. do 40 do stiff cover, cloth backs... 45 "
- 3. do 60 do do do ... 65 "

NOTE.—As Number 2 and 3 above, 40 and 60 pages each, have a stiff cover, they cannot be sent by post, but may be ordered by Express from the Department or through any bookseller, from Messrs. Copp, Clark & Co., Wholesale Booksellers, Toronto.

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1. Letters should be addressed to the "Education Office," or "Education Department," and not to the "Normal School," which is a Branch of the Department, having its own letter-box at the Post Office.
2. Application for Maps, Apparatus, Prize or Library Books should (as stated on the face of them) be accompanied with the remittance named in the application. It should not be enclosed in a separate envelope, unless the fact is specially noted on the application. Very often the application (stating that a certain sum *is enclosed*) comes in one envelope and the money in another. This discrepancy should not occur without an explanation being given in the letter. The Post Office authorities do not now allow the form of application filled up to pass through the post as printed matter.
3. The name of the Post Office of the writer, or School Section, should invariably be mentioned in the letter. Frequently letters are received without either the date or post office being given in them.
4. Letters are often posted and registered at one office, while another one is mentioned in the letters themselves. This fact should be noted in the letter by the writer, otherwise the discrepancy causes confusion and inconvenience in the letter registry of money receipts.

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