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VOL. XXVI.

TORONTO, DECEMBER, 1873.

No. 12.

HIGH SCHOOLS—LEGAL DECISION.

IN THE COURT OF COMMON PLEAS: IN THE MATTER OF THE TRUSTEES OF THE PORT ROWAN HIGH SCHOOL AND THE CORPORATION OF THE TOWNSHIP OF WALSHINGHAM.

High School Trustees—Description of—Demand—Sufficiency of—Maintenance and school accommodation—Meaning of.

Digest of case. On an application for a mandamus to compel a Municipal Corporation to provide \$286.74 for a Board of School Trustees, they were described in the proceedings as "The Trustees of the Port Rowan High School;" and it appeared that on the 1st of July, 1872, a demand was made on the Township Corporation, headed, "School Section, No. 12, Walshingham, Port Rowan, July 1st, 1872," and stating that the amount required was "for expenses of conducting High School;" and was signed "William Ross, Secretary and Treasurer of Port Rowan High School Board." Subsequently to this, on the 19th August, 1872, the Secretary of the Board sent a letter to the Clerk of the Township Corporation, headed "Office of High School Board, sec. No. 12, Port Rowan, 19th August, 1872," stating that in making up the estimates for the "current expenses of High School," an error had been made, and that the amount actually required was \$286.74, which amount he was required to make immediate demand for from the Council, &c.

In reply the Township Clerk sent a letter addressed, "To ——— Ross, Secretary, P. Rowan High School Board," enclosing a copy of a resolution passed by the Township Council, stating that they declined to pay "the demand of the Port Rowan High School Trustees," &c.

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Held by the Court—1. That the description of the Trustees was sufficient; for that although "The Trustees of the Port Rowan County High School" would appear to be more correct, yet the Act 34 Vic., ch. 33, O., did not in express terms give any corporate designation, and the Township Corporation by their action had shown that they fully understood the body with whom they were dealing.
2. That the demand was sufficient, being signed by the Secretary and Treasurer, the officer and organ of the Board, and having been recognized by the resolution of the Township Council as the demand of the Board.



HIGH SCHOOL, WENONA, MICHIGAN, U. S.

3. That it was not necessary to give the estimates on which the sums required were based ; there being a difference in this respect between the Grammar School and Common School Act.
4. That the purposes for which the money was stated to be required, viz., "For expenses of conducting High School," and "current expenses of High School," fell within the meaning of the words "maintenance and school accommodation," used in the Statute.

In Michaelmas Term, *Patterson*, Q. C., obtained a rule calling on the defendants to show cause why a mandamus should not issue, commanding them to raise \$286.74 for the maintenance and school accommodation of the Port Rowan High School, in pursuance of the application of the trustees of said school.

The application was founded on an affidavit of W. Ross, entitled, "In the matter of the Trustees of the Port Rowan High School and the Corporation of the Township of Walsingham," stating that he was the Secretary and Treasurer of the School Board : that the school was established under Consol. Stat. U. C., ch. 63, about the year 1865, in the Village of Port Rowan, which forms part of the Township of Walsingham, in the County of Norfolk : that the moneys required for the maintenance, &c., of said school from the 15th of February to the 31st of December, 1871, amounted to \$658.43 : that during that period they had received from the Government for High School grant \$400, and from the County of Norfolk \$200, leaving \$58.83 still required for the maintenance and school accommodation for 1871 : that from January to the 30th of June, 1872, they required \$484.83 : that they had received from the Government grant \$171, and from the county \$85.50, leaving \$228.30 still required, making a total of \$286.75 to be raised by the municipality of Walsingham.

That an application was made on the 1st of July, 1872, by the Board, in writing, but the defendants refused to raise the money : that the collectors' rolls for 1872 had been since the application given to the collectors, not including any rate for raising these moneys.

The demand of the 1st of July was headed :

School Section No. 12, Walsingham,
PORT ROWAN, July 1st, 1872.

Township of Walsingham in account with the Trustees of High School Board, of School Section No. 12,	Dr.
To expenses of conducting High School from 15th February, 1871, up to 1st January, 1872, over and above the amount received from Government and County grants	\$66 60
To amount of expenses as aforesaid from 1st of January to 30th June, 1872	188 00
	\$254 60

You will please raise the above amount as soon as possible.

WILLIAM ROSS,
Secretary and Treasurer, Port Rowan High School Board.

On the 19th of August, 1872, Mr. Ross wrote as follows :

Office of High School Board Section No. 12,
PORT ROWAN, 19th August, 1872.

To J. PHELAN, Esq.,
Clerk of Municipal Council of Walsingham,
Pleasant Hill.

DEAR SIR,—In making up the estimate of the current expenses of High School, I reckoned the amount of Government grant at \$200 and County grant \$100, but we have only received for the six months of 1872, from Government grant \$171, and from County grant \$85.50, leaving a deficiency of \$44.50 to be charged to the municipality in addition to the claims already made, which makes in all our claim against the township \$286.74, which amount I am requested to make immediate demand for from the Council, and save all unnecessary expenses.

Yours truly,
WILLIAM ROSS,
Secretary and Treasurer.

On the 17th September, 1872, the following letter was received :
Clerk's Office, Walsingham, September 17th, 1872.

SIR,—I have the honour to send you a copy of a resolution passed by the Council yesterday.

JOHN PHELAN,
Township Clerk.

To WILLIAM ROSS, Esq.,
Secretary, Port Rowan High School Board.

Moved by Mr. Dewitt, seconded by Mr. Boughner, *Resolved*, That this Council declines to pay the demand of \$286.74, of the Port Rowan High School Trustees, believing it to be illegal.

In this Term *M. C. Cameron*, Q. C., showed cause. The proceedings are altogether wrong. The affidavit upon which the application is based is entitled : "In the matter of the Trustees of the Port Rowan High School," and there is no such school. By section 24 of Consol. Stat. U. C., ch. 63, it is enacted that "The Board of Trustees of each County Grammar School shall be a corporation by the name of "The Trustees of ——— County Grammar School, prefixing to the term 'County' the name of the city, town, or village within which such Grammar School is situated," &c., so that under this Act the correct name would be "The Trustees of the Port Rowan County Grammar School." By sec. 34 of 34 Vic., ch. 33, Ont., it is enacted that "Boards of Grammar School Trustees shall be designated High School Boards, and the Grammar Schools shall be designated and known as High Schools ;" the word Board being specially mentioned. We would then have as the correct designation under the amending Act, "The Board of Trustees of the Port Rowan County High School." The rule is entitled in the same manner as the affidavit, and for this reason is bad. The demand is bad for the same reason as the affidavit, and also because it must be made by the High School Board. By sec. 36 of 34 Vic., ch. 33, it is enacted that the amount required to be raised by the municipality shall be raised "upon the application of the High School Board," &c. Here we have on the 1st of July, a demand made by the Secretary and Treasurer, as of his own accord, but subsequently he writes to the corporation that an error has been made in the estimates which leaves a deficiency of \$44.50 to be charged to the municipality, which, "in addition to the claim already made, makes our claim against the township \$286.74, which amount I am requested to make immediate demand for," &c, but he does not state by whom he is requested. The demand also is informal, in not giving the estimates upon which the expenses are based. There must be a separate demand for each year, and therefore a demand made in 1872, including the amount of the previous year, is bad ; also the demand must be for the amount due for the whole year ; a portion of the amount so due cannot be demanded. Moreover, the purposes for which the amount is required would not come within the meaning of the terms, "maintenance and school accommodation ;" these words simply refer to the erection of buildings in which schools are to be held, and their maintenance when erected. Sec. 5 of the original Act, Consol. Stat. U. C., ch. 63, shows that the Government grant is to be applied to the payment of the teacher, and the amending Act shows that if school accommodation is required, the local municipality is to provide it.

Patterson, Q. C., contra. The proper style of the applicants is : "The Trustees of Port Rowan County High School." The word Board is not necessary. Sec. 24 of Consol. Stat. U. C., ch. 63, states the Trustees are to be a corporation by the name of "The Trustees of the ——— County Grammar School," the blank being filled up with the name of the city, town, or village within which such grammar school is situated. In this description the word Board is not mentioned, and is therefore not required. Now the only alteration in this description made by the amending Act, 34 Vic., ch. 33, sec. 34 O., is, that the words "High School" are substituted for the words "Grammar School," and therefore the proper description would be, "The Trustees of the Port Rowan County High School." As to the want of a proper description, there is abundance of authority to show, that as long as a corporation is designated so as to be known, an error in the name will not affect the matter. The demand is sufficient. It was made by the Secretary and Treasurer, the proper officer for that purpose of the corporation, and the resolution passed by the township council on September 16th, namely, "That this council declines to pay the demand of the Port Rowan High School Trustees, believing it to be illegal," shows that they acknowledge it to be the demand of the Board. As to the demand not giving the estimates on which the expenses are arrived at, it is not necessary to do so ; there is nothing in the Act which requires it, as it simply says that the corporation "shall upon the application of the High School Board raise the proportion required to be raised by such municipality," &c. As to the meaning of the words, "maintenance and school accommodation," on referring to 34 Vic., ch. 33, sec. 36, we find that in speaking of cities or towns withdrawn from the jurisdiction of the county, it says, "the sums of money required to be raised from local sources, for the support of a High School." Here the only word used is, support. Then again, "such other sum as may be required for the accommodation and support of such school ;" here we have both accommodation and support ; and in speaking of towns, incorporated villages, or townships, the word "support"

is left out, and we have in its place the word "maintenance," and further on in this section "maintenance" is the only word used. Taking the section altogether, the restricted meaning contended for should not be given to the words, but they should be liberally construed. We show that the money is required for "expenses of conducting High School" and "current expenses of High School," which comes fairly within the words "maintenance and school accommodation."

HAGARTY, C.J., delivered the judgment of the Court.

The objections were wholly to the case made by the applicants. No affidavits or papers were filed in answer.

It was objected that there was no such corporation or body as the papers set out: that the demand was insufficient: that it must be by the Board: that a demand by the Secretary was not sufficient: and that the words "maintenance and school accommodation" apply only to providing buildings.

It appears this school was formed in 1865, under Consol. Stat. U. C., ch. 63. Grammar Schools are there regulated. Sec. 20 says, "In each county in which one or more Grammar Schools are established, there shall be a Board of Trustees," &c.

Sec. 24 says, "The Board of Trustees of each County Grammar School shall be a corporation by the name of 'The Trustees of the County Grammar School,' prefixing to the term 'County' the name of the city, town, or village within which such Grammar School is situated."

Sec. 17 says, "The several County Councils may establish additional Grammar Schools within the limits of their Municipality," &c., &c.

Sec. 1 says, "There shall be one or more Grammar Schools in each county, * * to be distinguished by prefixing to the term 'county' the name of the city, town, or village within the limits of which it may be situated."

Under this Act we presume the name would be, "The Trustees of the Port Rowan County Grammar School."

29 Vic., ch. 23, passed 18th September, 1865 (the year in which it is said this school was established), provides for the County Council naming three persons as Trustees of each Grammar School, and other bodies to have a like power.

Sec. 3.—"The Trustees so appointed as aforesaid shall be a corporation, and shall succeed to all the rights, names, powers and obligations conferred or imposed upon Trustees of Grammar Schools by Consol. Stat. U. C., ch. 63."

This Act makes no further provision as to corporate names.

The Ontario Act 34 Vic., ch. 33 (passed 15th February, 1871), sec. 34, enacts, "Boards of Grammar School Trustees shall be designated High School Boards; and the Grammar Schools shall be designated and known as High Schools."

Sec. 35.—"All the provisions of the Grammar School Act shall, as far as is consistent with the provisions of this Act, apply to High Schools, their Trustees, head masters, and other officers, as fully as they apply to Grammar Schools and their officers."

Sec. 36.—"The Grammar or High School grant shall be exclusively applied in aid of High Schools. * * In the case of a High School in towns, incorporated villages, or townships, one-half of the amount paid by the Government shall be paid by the Municipal Council of the county in which such High School is situated, upon the application of the High School Board; and such other sums as may be required for the maintenance and school accommodation of the said High School shall be raised by the Council of the Municipality in which the High School is situated, upon the application of the High School Board."

The term "High School" seems first introduced instead of "Grammar School," by this Act of 1871.

We suppose the nearest approach to the correct corporate name under the last Act would be, "The Trustees of the Port Rowan County High School." But this Act does not in terms give any corporate designation.

Apart from this technical question, it seems to us that there is evidence before us of a sufficient demand and refusal: that the letters of the Secretary and Treasurer sufficiently show the sums required, and that a demand was made on the Municipality by the High School Board through their officer and organ.

The resolution of the Council declining to pay shows fully that they understood the requisitions to be made by the Board of Trustees.

As to the alleged insufficiency in the form of the demand, we must bear in mind that the words of this Grammar School Act are different from the Common School Act. In the latter it is directed that the Trustees prepare and lay before the Municipal Council "an estimate of the sums which they think requisite."

In the Grammar School Act, as cited, it provides, that the sums required for maintenance and school accommodation shall be raised, &c., upon the application of the High School Board; and

the succeeding sub-sec. 1 says, that the Council "shall, upon the application of the High School Board, raise the proportion required," &c., &c.

The distinction therefore seems important. *The School Trustees of the City of Toronto and The Corporation of the City of Toronto*, 23 U. C. R. 203; same parties, 20 U. C. R. 302; *In re School Trustees of Mount Forest and The Corporation of Mount Forest*, 29 U. C. R. 422; *School Trustees of Port Hope v. The Town Council of Port Hope*, 4 C. P. 418.

The purposes for which the money is required is stated to be "for expenses of conducting High School," and again as "current expenses of High School."

We think the "expenses of conducting," and the "current expenses," certainly fall within the words "maintenance and school accommodation."

The nominal difficulty remains. The introduction of the word "County," before the words "High School," would, we think, be more correct. But we do not see our way to holding that, under the not very clear directions of the Statute, we should on that account refuse the application.

The Council in their resolution call them the Port Rowan High School Trustees, showing that they fully understand the body with whom they are dealing; and they address their answer to the Secretary of that Board, and the demands are signed by the Secretary of the Port Rowan High School Board.

The introduction in both the demands of the words, "Section No. 12," are not explained.

On the whole, we think the rule should be absolute for a mandamus.

It is to be regretted that the utterly careless manner in which these matters are transacted raise all these legal questions.

Rule absolute for Mandamus.

II. Educational Matters in Ontario.

1. HIGH SCHOOL ENTRANCE EXAMINATIONS.

On Monday and Tuesday of last week were held the examinations for entrance to the High Schools throughout the Province. The Board of Examiners for Barrie met in the High School building on Monday morning, and His Honour Judge Gowan, the chairman, in opening the proceedings, took occasion to explain the circumstances under which the examinations were held. For the last two or three years the duty of admitting pupils to the High Schools had been committed to local boards of examiners, each board preparing its own set of questions, and affixing values thereto. It soon became apparent that the standards set up were as various as the boards themselves; that whilst, in some places, pupils were compelled to exhibit a fair amount of preparatory knowledge, in others the entrance examination was nothing but a sham and a delusion. To remedy this, and establish uniformity, the Council of Public Instruction last year instructed the High School Inspectors to prepare a set of questions upon each of the subjects appointed for the entrance examination, and at the same time issued minute directions for the conduct of the examination to each Local Board. The Government, however, vetoed these regulations on the ground that the Council, in passing them, was not administering the law, but adding to it. At the same time the Government declared that the High School Inspectors had no right to supervise the work of the Local Boards. All check upon the admission of pupils being thus removed, the demand for High School education increased with astonishing rapidity, and in less than six months not fewer than 2,000 new pupils were admitted to the High Schools. In one school in the west of the Province, which, for some time had been languishing with an attendance of about 20 pupils, there was suddenly found to be an attendance of about 200. The secret of this haste to swell the attendance lay in the fact that the Legislative grants in aid of the schools were based on average attendance alone, no regard whatever being had to work done. Some few schools, among which His Honour was glad to say our own was to be found, acted in accordance with the spirit of the law, and suffered financially in consequence; for although the average attendance at our school has been slightly increased during the last two or three years, yet as the Legislative grant is a fixed sum, and the increase in attendance here was not in the same ratio as that of other schools where the stuffing process had been adopted, the receipts from Government, and consequently from Municipal grants, were considerably diminished. A scheme has been matured by the High School Inspectors for the classification of the schools according to work done, and the Inspectors now urge the adoption of a certain rate per pupil of average attendance according to the class of the school, those of the first class being paid at a higher rate than those of the second, and so on. His Honour was in great hopes that in consideration of the classification, and the check now placed by

law upon the undue inflation of attendance elsewhere, our own school would henceforth be placed in such a position financially as to enable the Trustees to administer its affairs with greater efficiency than had heretofore been possible.—*Northern Advance*.

2. HIGH SCHOOL ENTRANCE EXAMINATION.

The examination for entrance into the High School was held, as we previously announced. On this occasion, the papers in the six subjects of examination, viz.: dictation, spelling, grammar, geography, arithmetic and composition, were set by the Education Office, and sent with values attached to each question, to the several High Schools of the Province. This was done with a view of obtaining uniformity of attainments among the entrants. This latter step was rendered imperative by the fact that when the examinations were left entirely in the hands of local boards of examiners, there were great varieties of attainments among those, and some were admitted for the sake of increasing the Government grant to the school, who sorely needed more public school instruction. This occurred most in the case of High and Public Schools, and in places where the trustees measured a head-master's success by, or paid him according to, the amount of public money which he obtained for the school. The Education Office now seeks to remedy such anomalies as these by rendering the entrance examinations, as far as possible, uniform, by setting the questions, assigning values to them, and insisting on all candidates being rejected who do not make fifty per cent. of the total number of marks in their papers.

It shows the desire of the Board of Examiners to abide by the regulations laid down, and the absence of any desire to crowd pupils into the High School contrary to those regulations, that the Board, under the impression that fifty per cent. of marks was required in the two papers of arithmetic and composition separately, rejected fourteen candidates who fell short (some only by a little) of this standard in these two subjects, though they had a large margin over the half of all the others. But a subsequent telegram from head-quarters stated that a note on these two papers was not to be so understood. Consequently, as the lowest had a margin of nearly twenty over the required percentage, all were admitted.—*Port Hope Times*.

3. HIGH SCHOOL EXAMINATIONS.

The High School Examinations are becoming events of considerable importance—events that are looked forward to with a good deal of solicitude by candidates for admission to the school, and which are looked on by the successful ones with much satisfaction and not a little pride. To be enrolled as a student in the High School may now be looked upon as an honourable distinction, inferior only in degree to that of being a University matriculant. The regulation, adopted by the Council of Public Instruction, of sending out examination papers from the Department to all the schools in the Province, thereby establishing a uniformity in the examination of all the schools, will give great satisfaction to all such as are properly conducted. It is the only method by which anything like a correct idea of the standing of the different schools can be obtained, and while it effectually blocks up the old easy-going slipshod way, that was open to any that chose to try for admission, it at the same time, by making the admission more difficult, renders it a prize to be coveted, and when obtained, an honour to be proud of. I believe that our own examination in Woodstock has been very successful. The papers being sent from the Department in Toronto, acted as a powerful stimulant to both pupils and teachers, and they have worked with an earnestness and a success that shows how much can be accomplished when there is a definite object in view, and which will tell favourably upon the result of the examination. The Board of Examiners have not as yet, I believe, compared notes, but it is understood that there will be very few failures, while most of the pupils have answered the questions so correctly, and with such a fulness, as to place ours, without doubt, in the front rank of the schools in Ontario. The papers sent up from the Department are very fair, creditable papers, such as any High School pupil ought to be able to grapple with successfully. No one would appear to have reason to find fault with the new regulation, unless possibly the Board of Examiners might, as they are required to spend *two days* conducting the examinations, and then another day valuing the papers, for which, I believe, they receive neither fee nor even "casual advantages;" honour, perhaps, is sufficient compensation for them: or like noble patriots, they may be ready to sacrifice themselves for the public good.

A word, Mr. Editor, with regard to our High School and I have one. The change that has taken place in the old Grammar School, thin the last year or so, is something like a miracle. It is a surprise to itself. Surprised by making the discovery that it possesses city for development and expansion, which for twenty-five

years it supposed did not exist. But it has at last waked up, has caught the spirit of the age, and is fairly started upon the highway of progress and prosperity. Teaching all the branches that are necessary for matriculation at the University, with merely a nominal fee for tuition, and with an excellent staff of teachers, and a public interest excited in its behalf, it may well be expected to grow up into an institution of which the people of Woodstock and of the County will have reason to be proud.—"CHRYSLER," in *Woodstock Times*.

4. COMPETITIVE EXAMINATIONS IN PAKENHAM AND RAMSAY.

Competitive examinations of the public schools of the townships of Pakenham and Ramsay were held in the villages of Pakenham and Clayton respectively—the former on Wednesday, Oct. 15, the latter on Friday, Oct. 17. Pakenham sent representative pupils from five sections out of eight, and Ramsay made the handsome turn out of twelve sections out of fourteen; twenty-six intellectual combatants assembled at Pakenham, while no less than forty-five contended for the honour at Clayton. The examinations were conducted (with the exceptions of reading) exclusively in writing. This mode, though uninteresting to the spectators on these occasions, is the only one by which a correct estimate of the relative merits of competitors can be arrived at in a limited space of time. Moreover, it is very desirable that children should be habituated to written examinations, and thereby acquire that neatness, style and accuracy which are not to be gained in oral recitations. These examinations, which are being held in seven out of the twelve municipalities of the County of Lanark, if they have been participated in by the teachers, children and parents in the proper spirit, are calculated to do an immensity of good. Without discussing the great advantage of competition in the abstract, and the desirability of encouraging it in every possible way in our schools, we would merely allude now to the good results likely to accrue from the bringing together of the teachers and children to a common battle ground, there to measure swords with each other, and to test their respective prowess. If teachers are possessed of that teachable disposition so essential to the efficient discharge of the duties of their high and responsible vocation, they cannot fail to learn much at these gatherings. If we would progress, if we would enlarge our ideas, if we would keep pace with the advancement of the times, we must constantly seek opportunities to mix with others, and move outside of the narrow circle circumscribed by our own individuality. This observation most emphatically applies to the teacher. He requires to mingle with those who are pursuing the same calling in life, to compare notes with them and—what he can well do at these competitive examinations—compare results. Without attempting to criticize the work done in each subject that came up at the examination, we will confine our remarks to two heads, the first a general one—the written work—the second the subject of Reading. There is, in most of the written work exhibited at these examinations, a want of neatness and style—throwing accuracy out of the consideration altogether. Nothing is more striking than the careless, irregular and illogical manner in which the work is put down. This defect without doubt betrays a want of practice and particular instruction in this line. Nothing but frequent written examinations, written exercises and composition, will effect the desired change. With reference to the reading, it is discouraging to observe the very great rarity of good or even of fair readers. In several of the classes that have been examined at the different competitions in the country, none have been found deserving of any praise, none really deserving of a prize. This subject is not sufficiently taught. There are certain stereotyped styles prevalent—the high-pitched tone, the monotonous, the regular cadences of the voice, &c., &c., and until teachers set to work with a will to root out these evil practices, we will not have any improvement where it is so much needed.

In the Township of Pakenham, S. S. No 4, the village school carried off the greatest number of prizes, while Nos. 1 and 2 divided the honours well and came off a good second. In the Township of Ramsay, S. S. No. 10, at Bennie's Corners, took the lead, followed closely by No. 4, the Clayton school, No. 16 making a very good third. At Clayton the children were sumptuously entertained in the school house by the people of the village. There was a large turn out of parents on both of these interesting occasions. May they be attended with much good.—*Almonte Gazette*.

5. TOWNSHIP BOARDS vs. SCHOOL SECTION BOARDS.

To the Editor "Journal of Education."

SIR,—I regret that you did not give your readers a full report of the paper read on the above subject by Mr. Jas. Turnbull, B.A., before the late meeting of the Ontario Teachers' Association.

The address of the able President—those on the books of Euclid, common sense or logic, modern culture, the moral elements in common school education, were all highly interesting, and were sublime displays of eloquence and deep thought, but none are of so much practical and vital importance as the discussion of the subject which forms the title of this letter.

Sooner or later this question must be taken up and definitely settled.

The shameful mismanagements, and ignorant and arbitrary conduct of many of our School Section Boards, as now constituted, are beginning to cause a ferment in the minds of the ratepayer. The members of many of these boards can barely read or write, and are incapable of examining the junior classes of the schools over whose educational interests they are appointed to preside. The effect is that our schools, upon which the expenses greatly increase, are no better managed than in the days of local superintendents and inferior teachers.

The ill-feelings, heartburnings, to be found in nearly every school section in Ontario are, to men of sense, easily accounted for.

On the one side, are conceited teachers and educated inspectors, with little or no real power; on the other side are found, as a rule, ignorant and unlettered trustees with almost absolute authority.

Upon the effects of such a combination for the purposes of school management, it does not need a Daniel to pronounce judgment.

Amongst the outlines of Mr. Turnbull's paper, given by you, I find the following disadvantages in the Township Boards plan:—

"The change not yet demanded by the people." Did the people demand a change in the former system of local inspectors, in the Rate Bill, or in many other of those reforms that have been adopted in our school system within the last decade?

To wait for a reform until it is generally demanded by the people, is a very lame excuse for not improving that which common sense shows to be rotten. It would be a feeble Government that waited to bring in all its Bills until the people had expressed a demand for the improvement or reform. To my mind, it is the duty of the Council to take this subject into consideration and to take action upon it, as they have done upon very many other less important and more important matters, without waiting for the expressed demand of the people. If they do not consider it desirable to effect the change without the given consent of the people, it is at least their place to submit the question in a formal and practical shape for the opinion of the public.

The abolition of the Rate Bill was adopted by law without any immediate reference to the people, and I am sure there would have been plenty of opposition to that clause, one effect of which has been that I, a farmer on two hundred acres of land, pay for the education of a large number of the children of mechanics in the neighbouring village, who (the mechanics) are in the receipt of from \$1.50 to \$3 per day. Whilst their children are educated at my expense, my taxes amount to the nice little figure of 56 odd dollars, or at the rate of nearly *eight mils* in the dollar.

And yet there was no squeamishness about "the change not having been demanded by the people" before the abolition of the Rate Bill.

The second disadvantage as shadowed forth is "Poor and small sections assisted by the more wealthy part of the townships." I can, Sir, find no words to express myself in regard to the adoption of this reason as against the establishment of Township Boards, better than "this is indeed mean." The present system is willing that I, who send no child to school, should pay three times the school tax of my grocer, my blacksmith, and free schooling for the mechanic in possession of an income of from \$500 to \$900 per year; but it shudders at the idea of any of my \$56.00 per year going to benefit poorer sections. I thought that the grand principle constantly paraded by the advocates of free and compulsory education was the improvement of the people generally. Surely, then, if I and others, in similar circumstances, are to pay for the education of other people's children, we should be permitted the satisfaction of knowing that our money has been appropriated not to wealthy sections and people, but to poor or small sections.

I would simply ask why, on the principle of free and compulsory education, the acme of philanthropy, the poor or small sections should not be assisted by the more wealthy part of the township?

Next comes "Let what is considered by some well enough, alone." Was there there ever any system of religion, of finance, or of general polity, aye, or any system of injustice, cruelty, roguery or blasphemy, but was not considered by some well enough?

The man who could advance such a reason for the retention of any system, against which, it cannot be denied, there are strong advocacies, must be near his last resource for argument.

"A desire to retain power, and a fear that the new board would not take a sufficient interest in all the schools."

What an argument! We are not to change the system, because the present trustees "desire to retain power." Of course they do. The more ignorant a man and the less fit for a position, the more eager is he to retain power, and the more reason, in the eyes of sensible men, for preventing his accession to a new lease of authority.

And, then, why would not the new board take interest? There would be a representative to watch the interest of his own section, and he would have to take interest, to protect his own section at the general board.

I feel, Sir, that this is an almost inexhaustible subject. For my own part, I am at a loss to find, nor have I heard of a single argument worthy of a moment's consideration, in favour of the retention of the present "School Section" system. On the other hand, there is to my mind, and although the mass of the people have not yet publicly declared it, I believe, to them, all the arguments, as shadowed in your report of Mr. Turnbull's paper, are full of suggestion and are of great weight.

The permanency of teachers, convenience to parents, saving of expenditure, an *impartial tribunal*, teachers' residences, &c., &c., &c.

I am, Sir,
Yours truly,
SCHOOL TRUSTEE,
Co. of Wentworth.

13th October, 1873.

6. AGRICULTURAL COLLEGE FOR ONTARIO.

In the address of the President of the Provincial Association we find the following reference to the new Agricultural College for Ontario:—

"It is proper to direct your attention specially to the proposed Agricultural College and Model Farm. During the present year the Ontario Government have purchased the farm of Mr. Stone, near Guelph, for the purpose. It is one of the best farms in the Province, and in every respect admirably fitted for the institution. It is pleasing to be assured that it will be soon opened for the reception of students. In Ontario we need an institution in which *teaching the science and practice of agriculture is the leading feature*. We have tried the same experiment which has been so often tried elsewhere, with invariably the same result, that is, we have tried to unite an agricultural school with a literary institution, on the theory that an agricultural student could combine a literary course with an agricultural one; the result has been failure. The literary has overshadowed and extinguished the other. The *general* has overpowered the *special*. Notwithstanding the teaching of an able professor in our own University College this has been the result. The same thing is the case at Cornell University. A large endowment was given to New York for an Agricultural College, and that was ceded to Cornell, and an agricultural faculty was established, but as part of a great literary institution, and the result has been that in a University roll of several hundreds the students in a given time number less than twenty. We propose that our farmers' sons shall receive that kind of training which has a special reference to the profession of agriculture; in other words, that as in the case of other professions, they shall be trained for their own profession, taught scientific and practical agriculture, and that they shall also be taught to feel that the profession of agriculture is a noble pursuit, a pursuit first in importance to the world, and largely free from temptations to vice, and very favourable to the practice of virtue. The Ontario Government have secured the valuable services, as Principal, of Prof. McCandlers, formerly of Glasnevin, Ireland, and lately of Cornell University. Under his auspices we hope to have a prosperous career for our Ontario Agricultural College and Model Farm. To the farmers of Ontario this institution belongs, and they ought to give it their confidence and extensive patronage.

"The Government and Parliament are supplying these valuable privileges—see to it that your sons take advantage of them."

7. BOTANY IN OUR PUBLIC SCHOOLS.

The efforts made by the Chief Superintendent of Education to promote the study of botany among the youth of Ontario are deserving of all praise. As a first step in the attainment of a very desirable object, the little compend prepared and published by Dr. Ryerson is valuable for beginners, and in schools where the organization will not permit the teacher to apply any great amount of time to one subject. But we fear in this, as in almost every other attempt that has been made to popularize the science of botany through the medium of text books alone, the subject will present a dry and forbidding aspect. This is the charge usually brought against the

study by teacher and pupil alike, and there is nothing in the present effort to prevent such a charge being made, and such a feeling from springing up in connection with the present attempt to make the study of botany a part of the course prescribed for our public schools.

The great question is—are we to consider this *dryness* as an essential and inherent element in the science of botany? Cannot the study of this useful and delightful subject be prosecuted by a class, with such a degree of pleasure as will make it an agreeable recreation rather than a dry, repelling pursuit? How few can be found in an ordinary community who love not flowers! This admiration for nature's handy-work as seen in the flowers that beautify and adorn the earth is confined to no class, but is found as vivid in the ranks of the illiterate as among the most cultivated. One would naturally think that a subject which addresses itself so forcibly to the taste and sympathy of all should elicit some inquiry, some curiosity regarding the different parts of the plant itself, the organs of growth and reproduction, and the peculiar functions of each. When one looks around him he is struck with the endless variety of plants and flowers that meet his eye at every step, while the beauty of their colours, the delicate symmetry of their forms and their sweet fragrance excite in the mind the most agreeable sensations. There is surely something amiss in the usual manner of treating a subject whose material development is surrounded with so many attractions, and whose physical forms and beauty excite an admiration so general, when we find students in such numbers turn away from the study in the course of a few weeks, and even those in our colleges dipping into the science no farther than necessity compels them.

In the first place, in order to make this branch of science as attractive to the student as it ought to be, the teacher should be master of it himself. What means have been adopted by the Council of Public Instruction to secure teachers competent to give instruction in this branch, now that it has obtained a place on the curriculum of the Public Schools? Is botany taught in a scientific manner in our Normal School? Are the students of this institution, in which are trained our Provincial teachers, made acquainted with the *Flora of Canada* through actual forms and specimens, or is the teaching the same as that introduced into our Public Schools, consisting of a series of hard technical terms, explained, or attempted to be explained, by a few imperfect plates in a text-book? If this be all, and we have good reason to fear it is, then a failure on the part of the teacher and his inability to interest his class might have been predicted with safety from the first.

With a teacher pretty well up in his subject the matter might present a different aspect. Give such a teacher an hour and a half or two hours in the week, and he will have no complaints of the dryness of the subject, nor of unwillingness to follow it up on the part of the pupils. He would most likely divide this time or whatever he could spare into two parts, the one devoted to book-work, the other to a practical application of the science. If the weather be fine, the teacher will occasionally take his class with him into the grounds, the fields or the woods, and illustrate there the principles he has been teaching in the class-room. A flower is taken up, the plant classified, and the principles upon which this classification is made pointed out clearly to the students. The flower is examined, the different parts taken separately, each examined by itself, and if need be, magnified with a convenient microscope, the peculiar formation of each part accurately pointed out, and its function explained. The root, the stem, the leaves may all undergo a careful inspection at the same time; the food of the plant, the organs of growth, and the mode of action explained. The form of the leaf will be pointed out, the name it receives from this form, even the peculiarity of veining in the leaf, and the manner in which they spring out along each side of the stem or branch, made a subject of careful study, with the designation assigned to each variety.

Suppose one pupil presents a flower of a peculiar shape, the teacher calls it a *Raceme*, another he calls a *Corymb*, and a third still he calls a *Panicle*; and he invites his class to collect specimens of each kind, after he has explained the distinctive peculiarities of each, and the manner in which they may be classified in this way. With what interest will they set about a task so pleasant! How their knowledge will be extended in a few lessons! How their powers of observation will be cultivated; and how enthusiastic they will become in collecting specimens, and in classifying those they collect! There will be no dryness in this pursuit now, simply because they are under the care of one who understands his subject, and the investigation is pursued in a manner at once interesting and instructive. The same course might be pursued in the class-room, were the pupils to bring specimens and the teacher to assist them in the naming and classifying of each. In this manner the study of botany would soon become a favourite pursuit with the students, and the time devoted to it would be well, pleasantly and profitably spent.—*London Free Press.*

9. RE-UNION AT THE CANADIAN LITERARY INSTITUTE.

On Tuesday, the 14th October, after a collation in the dining hall of the Institute, all proceeded to the spacious lecture room, or chapel. The business was opened with prayer, when, on motion of Mr. Pavey, seconded by Mr. R. W. Sawtell, Rev. Dr. Fyfe was called to preside. The Rev. President referred to the object of the meeting briefly, and introduced the Rev. Dr. Casswell, of Toronto. This gentleman is an exceedingly pleasant speaker—evidently a man of the world, and withal full of the graces that belong to the Christian. Like most Americans, he enlisted the attention of his audience by a well-turned period of a humorous character. He said he had been invited, with others, to make a visit to Washington, and to call on the President of the Republic, but he had preferred this occasion and the call of the worthy President of the Canadian Literary Institute. Having secured the good opinion of the meeting, he next proceeded to impress upon the people the advantages, educational and otherwise, of the Institute. He followed with startling premises—to many at least—that education without religious training was like seed cast among stones. He contended that such was the enlightenment of the present day—such the advancement of scientific achievements—such the scepticism of the age, that the youthful mind required, nay, should have the watchful guardianship and culture which only could be given by one devoted to the cause of Christ. He referred to the excellent economy and discipline of the Church of Rome, that took care to have its roots placed deep in the youthful mind. He was not in favour of a State Church, but he was emphatic in his advocacy of denominational teaching; and of course he looked upon the Canadian Literary Institute as fully capable of all that was required for this church. The Rev. speaker enlarged on the necessity of higher education. The dull axe, with force, might accomplish its work, but the sharp and polished edge was the more effective; and denominations that took no heed of this requirement were certain to fall into disrepute. Nor was it sufficient that ministers alone should be taught. The higher walks of life, men in Parliament and the municipal councils, require cultivated intellects. He then referred to the liberality of individuals who of their abundance had left a heritage to their fellows, and said that no better use could be made of the blessings bestowed by the Giver of all good than the endowment of institutions for the culture of the young; and he appealed to those present to evince gratitude for the blessings enjoyed by contributing to the support of the Canadian Literary Institute. The Report of the Treasurer, Mr. Sawtell, was read, showing that upwards of \$28,000 had been spent in the last year on the new apartment intended for the ladies. The Report seemed eminently satisfactory. Hon. W. McMaster, in moving a vote of thanks to the management, paid a high tribute to Dr. Fyfe, who he said had twice been his spiritual adviser, and to whom the denomination and the Institute were deeply indebted, as well for the high religious standard reached as for the scholastic and financial success attained. This resolution was followed by another in respect to contributions in aid of the Institute, and a goodly sum realized; and the pleasant meeting separated.

The ladies' department is now under the care of an efficient staff. Miss Dorr, Governess, is a lady of winning manner, and Miss Brown and Miss Fanches, in their respective duties, appear quite at home. The prospects of the Academy certainly never were brighter than at present.

It was moved by the Hon. W. McMaster, seconded by W. Craig, Esq., of Port Hope, "That we, the brethren here assembled from different parts of the country, having surveyed the Institute buildings and surroundings, and especially the recent additions and improvements, Resolved, that we feel greatly pleased and gratified in witnessing the results of the wisdom, foresight, efforts and pecuniary expenditure put forth, and consider that our beloved brother, Dr. Fyfe, and those associated with him, deserve the gratitude of our denomination throughout the Dominion, and in the future their generous and hearty support."

PAPER READ BY R. W. SAWTELL, ESQ., TREASURER.

The origin of the Canadian Literary Institute is of such recent date that there are few present unacquainted with the general outlines of its history; and it would not be proper for me, on the present occasion, to anticipate the labours of some future historian in relating facts now known only to a limited number of persons, of its early struggles for existence, of the prejudices allayed, the obstacles encountered and surmounted, the incessant vigilance required to guard it in its infancy and youthful weakness; the great and continuous responsibilities of the charge, and the self-sacrificing labours of a small number of devoted men, some of whom have gone to their reward, and whose memory we reverence, while others are still plodding on in their labour of love, solicitous only for the welfare of the Institute, and hopefully looking forward to the time when it shall not only be self-sustaining, but when it shall be second

to no educational institution in our land, in imparting that knowledge which shall prepare its students for the practical duties of life.

It may be truly said, that for sixteen years the Trustees have been begging and building, building and begging; and their object in inviting you here to-day is to witness the result, to give an account of their stewardship, and await your verdict. Before presenting to your consideration the present financial position of the Institute, I beg the privilege of referring briefly to a few facts in the past history of the enterprise. It is well known that at the time the plans for establishing a denominational school assumed practical shape, the Baptists of Canada were neither very numerous nor very rich, nor had they then learned or appreciated the scripture rule of giving as God had prospered; hence, it became almost an herculean task to erect the first building by voluntary contributions. Scarcely was it finished and had been occupied but a few months, when, in the providence of God, it was destroyed by fire, leaving us only three acres of land, and a blackened heap of doubly burned bricks. When the Trustees met to consider what course to pursue, they felt that a cloud of appalling darkness overshadowed them; and when about to decide to abandon the enterprise as lost, a brilliant flash of light skirted the eastern horizon, and soon a still small voice flashed along the wires, saying, "Cheer up, and take courage—put me down for \$4,000." This was the turning point, and very soon old friends doubled their subscriptions; and those who had either opposed or were indifferent to its welfare, voluntarily offered gifts to the treasury, and the result was the erection of a building exceeding in size and accommodation the one consumed. Large as it then appeared, it was not long before an appeal was made to the Trustees to provide more room. The denomination responded at once, and the building on the west side was erected. This did not long satisfy the insatiate demand for room; but while no solution of the difficulty was apparent to the Trustees, the same overruling Providence opened up a way which gradually led to the present results.

Three years ago Mr. Henry Burtch advertised his farm for sale, consisting of sixty acres, immediately surrounding the Institute property, then consisting of six acres only. It was felt that to enable the school to enlarge its sphere of usefulness it was necessary to procure more land; and to protect it from undesirable evils, that would probably hem it in on every side, it was essential to become the owners thereof. The scheme for acquiring the whole, and disposing of the part deemed unnecessary, was matured, and from this circumstance the enlargement plan grew into its present dimensions; and the whole property, consisting of thirty-six acres of land, with all the furnished buildings thereon, is now worth at a fair valuation upwards of sixty thousand dollars (\$60,000), owned by the denomination, and, we are proud to state, by the voluntary contributions of a free people unaided by the legislative subsidy.

The prospectus for the last scheme limited the outlay to \$20,000, but it will be seen that this amount has been exceeded by \$8,000. This needs explanation or an apology.

Many will be ready to ask why the Trustees did not first sit down and count the cost; and I will as readily answer that they did. But, have not hundreds of individuals, firms and Boards of Trustees been caught in the same snare? The sudden rise in labour and materials has crippled many an enterprise, and ruined many contractors. The Trustees matured the plans for the accommodations required, and when returned from the hands of the architect, found it necessary to strip them of every unnecessary ornament; but they felt that it would be better to lay themselves open to censure for excess of expenditure, than to dwarf the accommodation and mar the appearance and harmony of the whole; and with enlarged faith in the willingness, as well as the ability, of the denomination, the Trustees may reasonably hope that they will be sustained in the course pursued.—Woodstock Times.

9. TEACHERS WHO HAVE RETIRED FROM THE PROFESSION.

STATEMENT showing the NAMES of the Teachers who have given notice of Retirement from the Profession, as provided by the School Law of 1871. (Continued from March number.)

NAME.	COUNTY.	Subscription returned and date.
127 Anderson, John.....	Bruce.....	\$2, May, 1873.
128 Burns, James.....	Renfrew.....	4, September, 1873.
129 Carpenter, J. O.....	Wentworth.....	2, April, " "
130 Crookshanks, Simon.....	Hastings.....	2, " " " "
131 Crawford, Geo. E.....	P. Edward.....	2, June, " "
132 Coulter, Robert.....	Essex.....	4, July, " "
133 Donnelly, James.....	Simcoe.....	3, October, " "

NAME.	COUNTY.	Subscription returned and date.
134 Bingeman, Joseph.....	Oxford.....	\$3, May, 1873.
135 Elliot, George.....	Welland.....	4, October, " "
136 Foran, James M.....	Wentworth.....	2, May, " "
137 Garner, Charles.....	Perth.....	2, June, " "
138 Gerrard, Alexander.....	Huron.....	2, September, " "
139 Georg, J. E.....	Waterloo.....	5, " " " "
140 Gilbert, Geo. H.....	Elgin.....	3, " " " "
141 Henry, Wm.....	Toronto.....	5, October, " "
142 Harris, J. H.....	Durham.....	2, April, " "
143 Howe, Henry V.....	Grey.....	3, May, " "
144 Jenkins, A. H. M.....	Wellington.....	3, July, " "
145 Johnson, Wm. D.....	Toronto.....	4, October, " "
146 Kaercher, J. G.....	Simcoe.....	4, April, " "
147 Kiernan, Wm. M.....	Do.....	4, May, " "
148 Libb, John C.....	Toronto.....	5, October, " "
149 Ledingham, George.....	Do.....	4, " " " "
150 Little, W.....	Hastings.....	1, September, " "
151 Moulton, Proctor.....	Victoria.....	3, April, " "
152 Miller, Thomas F.....	Huron.....	3, July, " "
153 Moore, John M.....	London.....	4, May, " "
154 McKee, George.....	Oxford.....	1, April, " "
155 McArtou, Stuart.....	Lanark.....	4, July, " "
156 Munroe, John A.....	Lambton.....	4, September, " "
157 Mortimer, R. S.....	Wellington.....	3, May, " "
158 McLean, William.....	Simcoe.....	4, October, " "
159 McFarlane, Robert.....	Bruce.....	4, " " " "
160 McGregor, John O.....	Toronto.....	4, " " " "
161 McCormack, J. C.....	London.....	3, May, " "
162 Ockley, R.....	Frontenac.....	1, April, " "
163 Quin, Wm.....	Grey.....	2, May, " "
164 Russell, W. D.....	Peterborough.....	3, April, " "
165 Riddell, Wm.....	Northumberland.....	3, " " " "
166 Rae, George.....	Durham.....	2, September, " "
167 Rowe, Edward J.....	Peel.....	3, " " " "
168 Read, Joseph.....	Leeds.....	5, October, " "
169 Stewart, Alexander.....	Huron.....	1, May, " "
170 Stuart, W. T.....	Grey.....	3, " " " "
171 Sparling, Wm. W.....	Kent.....	4, April, " "
172 Stuart, James G.....	Toronto.....	3, September, " "
173 Teetzel, James V.....	Elgin.....	3, July, " "
174 Tennant, Walter.....	Simcoe.....	4, September, " "
175 Vermilyea, Nathaniel.....	Hastings.....	5, October, " "
176 Vickers, J. W.....	Durham.....	1, September, " "
177 Wrigley, George.....	Middlesex.....	2, June, " "
178 Wright, R. Walter.....	Grey.....	4, July, " "
179 White, Joseph.....	Peel.....	3, May, " "
180 Wittet, George.....	Oxford.....	4, June, " "
181 Watson, C. W.....	Peel.....	5, September, " "

In addition to the above, the following payments have been made to widows of subscribers :-

Bennoch, Mrs. Jane.....	Perth.....	\$116 56, Feby., 1873.
Cooley, Mrs. Matilda.....	Peel.....	6 63, July, " "
MacTavish, Mrs. Mary E.....	Peel.....	8 63, " " " "
Styles, Mrs. J. E.....	Dundas.....	8 55, Oct., " "

—UNIVERSITY COLLEGE.—The annual Convocation of University College, for the admission of students and the presentation of prizes, took place 18th October. A number of students were presented by the Registrar, Mr. Vandermissen, as having matriculated this year. The prizes were then called up, and received from the hands of His Excellency the rewards of their industry. At the conclusion of the distribution of prizes, the President called upon Mr. John McDonald—the founder of the McDonald bursary—for an address. Mr. McDonald, who was received with great applause, said that it afforded him a very great deal of pleasure to be present on that occasion, to listen to the remarks that had been made in presenting to His Excellency those gentlemen to whom had been awarded the prizes in the various departments; but more particularly to hear the testimonies that had been borne to the admirable manner in which those prizes had been won. No better preparation could any young man have, who went out to fight the great battle of life, than the very labour which enabled him to secure one of those prizes. (Applause.) To obtain one of these implied the profitable use of one's time; it implied careful and thoughtful study, and was, indeed, the very groundwork of one's success in future life. He had a very great deal of delicacy in speaking before an assembly such as that without preparation, and in an extempore way, but he might say that it afforded him special pleasure to make a remark with reference to the gentleman who had carried away this bursary. He (Mr. McDonald) trusted that, like some gentleman who had preceded him, this gentleman might make his mark, and that the very principles which had enabled him to be a successful competitor on this occasion might serve him throughout his entire life. (Applause.)

The Lieutenant-Governor was then called upon for an address, and said that the duties imposed upon him that day in his official capacity had been most pleasing. He assured the President that it had afforded him the greatest possible gratification to be the medium through whom

the prizes had been presented to the young gentlemen who had been brought before him that day, and to have the assurances of himself and the gentlemen associated with him that those prizes had been well earned, and that the gentlemen who had received them were well entitled to them. He hoped these rewards would be an encouragement to those to whom they had been awarded to continue to push forward in the work in which they were engaged, and an incentive to those who had not been successful to the same degree, to determine if possible to secure their share of the prizes in the future. That institution having been established and endowed by the State, and being open to all without respect to religion or politics—(applause)—was truly national in its character, and they had had evidence that day that it was equal to the performance of all that its founders had intended, or that the country expected of it. The Government, wisely in his opinion, had extended the basis of representation of the governing body of the University. (Applause.) He hoped, and he had no doubt, that this would tend to keep up an interest in the institution throughout the country, and prevent any feeling that it was local in its government or in its objects. This being the last occasion on which he should be present with them in his official capacity, he desired to avail himself of the opportunity to express the obligation he (and he believed the people of the country also) felt himself under to that eminent body of men who were associated in the management of the institution, for the very great efficiency they had shown in the performance of their duties. He felt, whatever position in life he should occupy in the future, the interest he now felt in University College would remain undiminished. (Applause.)

The President then said that, after the remarks that had fallen from His Excellency and from Mr. McDonald, it would be quite unnecessary for him to detain them by any lengthened address. There was a duty, however, which he should discharge connected with the annual Convocation, one in which great interest was felt throughout the country. Perhaps they would excuse him for a few minutes while he read them the results of the last matriculation examination in the University. For the senior matriculation, which was the same as the examination at the end of the first year, there were four candidates, of whom three obtained scholarships. The first of these was Mr. Nicholson. (Applause.) To this competition, he was glad to tell them, Peterborough sent one candidate, and the Canadian Literary Institute, Woodstock, one. In the junior matriculation, Upper Canada College obtained four scholarships. One of her candidates, Bowes, obtained a treble. Hamilton took two scholarships, and Morrisburg two, Johnson obtaining a double. Port Hope took two, Hayter receiving a double; Galt one, Burt; Whitby one, Davison. Of the other schools which competed, some were rather more successful than the others. One other duty now remained for him to perform, which his own feelings, and he was sure the feelings of none of them, would not permit him to pass over in silence. During the past year they had lost two of their students by death, one of them in the spring of the year, Duncan Cameron, a fine young man, healthy and vigorous, the last any one would have expected to be carried off as suddenly as he had been. He was sorry to hear, and he was afraid he was bound to believe, that that death was the result mainly of over-exertion in study. It might seem strange for a person in his (Dr. McCaul's) position to give a warning such as that, but they might depend upon it that the bow which sent home the arrow surely and swiftly must be unbent sometimes. There must be relaxation. He (Dr. McCaul) was sure that he would never have been able to endure the fag that he had had during the time he had been in Ontario if it had not been for the strength he laid up in his youth by devotion to athletic games, more especially to cricket. (Applause.) There was one other to whom he must refer, and whose name appeared on the prize list. He meant Mr. McKeown. This gentleman came to the College at a very early age this time last year. He was most attentive on lectures, and at the matriculation examination he obtained a double scholarship—one in classics and the other in general proficiency. He obtained the same honours at the examination last June. He was carried off during the vacation. Although he (Dr. McCaul) was far from wishing to cloud the brightness of their gala day by a single sombre reflection, yet he could not but feel it to be his duty to press upon them the important lesson that might be derived from these events, which was, to be prepared for the summons of death whenever it might come. He hoped all might be prepared to meet that summons, as he had reason to believe poor McKeown was.—*Globe*.

—SABBATH SCHOOL CONVENTION OF CANADA.—*Religious Teaching in Public Schools.*—The Rev. W. Scott moved the following resolution with respect to ministers of religion visiting the Public Schools:—"That this Convention, representing a large body of school workers, chiefly in the Province of Ontario, is deeply convinced that the times in which we live specially demand that all education should have a Scripturally religious basis, and, therefore, this Convention earnestly urges Christian ministers of all denominations to avail themselves of the advantages and privileges granted under the admirable school system of Ontario, to visit the Public Schools as frequently as possible, with a view to communicate suitable religious instruction." Mr. Scott addressed the meeting on the necessity of there being a religious basis to school instruction. Rev. Mr. McLellan, Peterborough, considered that at the Convention was not the best place to introduce this subject. He had been practically connected with the work of education for many years, and well knew the difficulties the discussion of this subject would give rise to. There was a proper place for this matter to be dealt with, not at this Convention, but at their church meetings, conference, assemblies or synods. He spoke of times when an opportunity presented itself for

ministers to say a word or two in season. He well knew its difficulties on the one hand, and the opportunities on the other; but he felt that the subject would not be dealt with to advantage here. He trusted he had not said anything that could be misconstrued. He felt from the reasons stated that they could not safely or wisely go into the matter at this Convention. Rev. Mr. Scott withdrew his resolution, remarking that the chief reason he had in view in bringing it forward was to call attention to the privileges they had under the law. Being answered, he cheerfully withdrew his resolution. In one of the reports read yesterday, reference was made to the importance of having a Normal School training for Sunday School teachers, and of having voluntary examinations to show the efficiency of the teachers in Sunday School work. It was done in England, and attended with great success, and a similar system was adopted in Quebec. The object was to render teachers more efficient in their work, by giving them the advantage of a Normal School training. The resolution was seconded by Rev. Geo. Richardson, of Waterdown. Carried.—*Globe*.

OPENING OF THE PRESBYTERIAN COLLEGE, MONTREAL.—The handsome structure erected for the Theological College of the Canada Presbyterian Church, in McTavish Street, was formally opened on October 28th. The Principal of the College, the Rev. Dr. MacVicar, took the chair. The Principal, after singing and reading Scripture, addressed the meeting on the subject of the ORIGIN AND PROGRESS of the College. "The Synod of the Canada Presbyterian Church," he said, "having resolved to establish the Theological College here, and a charter having been obtained, the three Presbyteries of Montreal, Ottawa and Brockville were set apart for the support of the institution. The work of instruction was commenced in the winter of 1867, under the care of the Rev. Messrs. Gregg and Aitken, each delivering lectures during three months. Since then till to-night 100 classes have been held in rooms generously granted free of expense in the basement of Erskine Church. In 1868 I was appointed Professor in the College and accepted the office, leaving for this purpose one of the strongest congregations in our Church. It is not surprising that the work was looked upon as purely tentative, when you remember that we set out amid the openly expressed doubts and fears of not a few, with a mere handful of students, with no library, no scholarships, no endowments, no buildings, and only one Professor. WHAT HAS BEEN ACCOMPLISHED? After five years of arduous toil we find ourselves in possession of assets amounting in all to between eighty and ninety thousand dollars. We have a library of over five thousand volumes, twenty scholarships of the value of \$50 to \$60 each; two medals, one in gold, founded by the students last Session, and the other in silver, founded by A. Sandham, Esquire; and an endowment fund of twenty-four thousand dollars. We have three Professors, and the services of an able Lecturer and Tutor. We have forty Students and seventeen Graduates; and to-night we rejoice in taking possession of this beautiful and commodious building, of which I shall say more presently. We train men speaking English, Gaelic and French, special provision being made for the education of the last-named, so as to fit them for Missionary service throughout the country. Our students come from all parts of the Dominion, and some recently from the United States and Scotland. They are Graduates in Arts of Toronto University, Queen's College, Kingston, McGill College, and other similar institutions. As to their talents and literary attainments, suffice it to say that a reasonable number of them have taken the highest honours in their Arts course; and I can speak confidently of their devotion and success in theological studies. MISSIONARY ASPECTS OF THE WORK.—In this connection I have to mention the pleasing fact that ere long several of our young men will, I trust, by the grace of God, be found in the foreign field, in India or China. With these facts before you, I ask how far have the expectations originally entertained been realized? Was it not a good thing to have established this college? And would it not have been far better than it is to-day for our Church here and throughout the Dominion had it been established fifteen or twenty years ago? But I shall not enter upon an apology for our course, which is now too plain to require such, and which is being followed by other Christian denominations. OUR RELATIONS TO MCGILL COLLEGE.—It would be improper and even ungrateful on such an occasion as this to overlook the many advantages which we enjoy, and which are open to all other denominations, from affiliation with McGill College. The Library, Museum, Scholarships, Exhibitions, Medals and Lectures are all open to our students. Specially should I mention the facilities afforded them for the study of Hebrew and Oriental languages, which usually have to be provided by theological seminaries at their own expense. OUR NEW BUILDINGS.—It is unnecessary for me to attempt a description of the beautiful, substantial and commodious building in which we are assembled, and which you see for yourselves; it is sufficient to say that, through the skill, taste and fidelity of our architect and contractors, it more than satisfies our expectations. It contains accommodation for our library and classes, and comfortable studies and dormitories for our students. That we were not mistaken in making provision for our young men in this respect is shown by the fact that every room we have is now occupied, while some of our men are still boarding beyond the College buildings. And I feel sure that I can safely say for all students within these walls that they rejoice to-night that the thing to which some of them have looked forward for five years is now realized, that they gratefully appreciate what has been accomplished, and address themselves to their work with renewed vigour, feeling that we offer them as great advantages, and at less expense, than they can enjoy, I shall not say in Canada, but on this continent. These buildings and grounds cost \$44,100. The amount

subscribed is \$38,350, of this \$21,600 has been paid. The amount already paid to contractors is \$30,000, being \$8,400 in excess of the amount as yet received by the Treasurer. From the state of our funds it is plain that subscribers, who have it in their power to pay earlier than stipulated in the list, will confer a favour by doing so. Until this is done, we shall be obliged to make payments on an interest account, and thus increase the total cost. In this connection, it gives me pleasure to acknowledge the generous contributions given us by persons of various denominations, especially by our friends of the American Presbyterian Church in this city. I cannot refrain in this public manner from presenting an expression of admiration and grateful thanks in behalf of professors and students to all the members of the College Board for the energy and despatch with which they have carried forward this work to successful completion; and it is but right to say what all feel, that we are under special obligations to Mr. Warden King, our Treasurer, Mr. David Brown, Mr. John Watson, Mr. John Stirling, our Secretary, and to the members of our finance and building committees, for the valuable time, thought and efforts which they have expended in the work of the Church. By the blessing of God there has been no accident, interruption or conflict of opinion in carrying forward our undertaking, and I believe I can safely say of all the contractors that they have performed their engagements in a faithful and honourable manner, and now hand over to the Board an edifice of which no class of workmen need feel ashamed. WHAT IS STILL REQUIRED.—I must not, however, give you the impression that nothing further is required. Our class rooms, etc., are not yet properly furnished. Our library has room for many additional volumes. Not long ago I invited some one to send us Abbé Mingès' edition of the Greek and Latin Fathers. It is still wanting. Will some one signalize our entrance into this building by placing this unique treasure within our reach? Will some one set an example of liberality worthy of our merchant princes, of our church and cause, and which will stimulate others to do likewise by completing our original plans? I had almost asked, will the present auspicious occasion be allowed to pass without some appropriate manifestation of our wanted liberality? WORK TO BE DONE WITHIN THESE WALLS.—I cannot close without expressing, however briefly, my conviction as to the nature of the work to be done within these walls. Here we are to teach the highest of all sciences—the science of God and man. We are to train men to preach the everlasting Gospel, to expound and defend the word of the living God. We are to teach them to be 'fishers of men,' to seek to save souls and to edify the saints. Here are to grow up under our fostering care Home and Foreign missionaries and pastors for our churches. Here we are to offer, in these days of doubt and vacillation, uncompromising resistance to all forms of error. While cherishing and teaching the broadest charity, you may expect us to be thoroughly intolerant of all that would rob us of God's truth and jeopardise the souls of men. We do not think it an impertinence, or contrary to common sense, revelation or Christian etiquette, to define and announce our creed and to ask others to do the same. The fact is that every man has a creed of some sort, and if it is good, and if he is honest and clear headed enough to give it expression, we can see no reason why he should put his light under a bushel. We shall not wilfully stand in the way of the onward march of intellect, and shall seek to help and not to hinder theological and scientific investigations of all sorts; but as none of the articles of our faith have yet been annihilated by the persistent efforts of modern scepticism you may expect to find us firmly and resolutely standing by the old creed as worthy of all acceptance and full of vitality and power, because containing the truth of God. We will not, however, discourage free thought in the proper sense of the term, in the sense in which it was defined by that distinguished statesman, the Right Hon. W. E. Gladstone, in an address before the Liverpool College in December last. He said: "Saint Paul, I suppose, was a teacher of free thought, when he bade his converts to prove all things: but it seems he went terribly astray when he proceeded to bid them 'hold fast that which is good'; for he evidently assumed that there was something by which they could hold fast. And so he bade Timothy keep that which was committed to his charge; and another Apostle has instructed us to 'earnestly contend for the faith which was once delivered unto the saints.'" But the free thought of which we now hear so much, seems too often to mean thought roving and vagrant more than free; like Delos in the ancient legend, drifting on the seas of Greece, without a root, a direction or a home." Interesting and appropriate addresses were also delivered by Judge Torrance, Principal Cavan, Dr. Taylor, and Dr. Jenkins. Following these gentlemen, a very eloquent and stirring address was delivered by Brahmim Sheshadrin, a native missionary from Madras, who arrived during the evening, and was cordially received, and listened to with great attention.—*Montreal Gazette.*

8. VALEDICTORY BY THE EDITOR OF THE CANADIAN FREEMAN.

THE CHIEF SUPERINTENDENT OF EDUCATION.

As we are about relinquishing our connection with the *Canadian Freeman* newspaper, we would wish to part on friendly terms with all individuals of every denomination with whom we have come in editorial contact, or whom, as in duty bound, we have conscientiously differed from during our career as a journalist. We do not now, and never did, bear any malice against any person whatever, not even towards the proprietor of the *Globe*; but it is impos-

sible for the editor of a newspaper, especially a newspaper representing a minority, to pursue his course without coming into collision with those holding opposite views. Men in power are always, to the other side, intolerant. In this country at least they represent, or are supposed to represent, the majority; those who dissent from their peculiar views must fight an up-hill battle; the crowd is against them, as the Jews of old opposed Christ, and the upholders of the Roman Empire his followers. But the Church to which we have the happiness to belong teaches charity; it says "Love your enemies," on matters of conscience do not give away an inch, maintain your rights, even should those enemies insist that "We will have no king but Cæsar." Before relinquishing the editorial pen, therefore, we should like to say a few words on a gentleman whom we have for years steadfastly opposed, and whose opinions on many, but especially educational, matters, we have strenuously combated, and nevertheless have in a certain sense admired, and would, were he aught but Chief Superintendent of Education, hold in the highest esteem.

We maintain certain views on the subject of Education; we believe that when Our Lord uttered his command, "Go, teach all nations," he intended that those words should be taken in their fullest sense. You cannot bring up a youth in a Protestant or non-Catholic school, and expect that youth to be a firm believer in the Catholic faith. History, morals, geography—everything is taught from a Protestant standpoint, and of course the result must be that the boy on reaching manhood will view everything through Protestant spectacles. The wisest of men has stated that a child will go as he is trained up. The same effect therefore is produced in a Catholic school or in a Pagan school, as to Catholic or Pagan principles. The Church alone in Christian countries teaches with an infallible voice. On matters of faith she cannot err, and is quite likely to be right on educational or other things. This is our belief; therefore we hold it as a *sine qua non* that a Catholic child, where possible, should be reared up and receive its training in faith and morals, and on all subjects of learning, in a Catholic school, and under the supervision of the priesthood. In this view we differ completely from our venerable opponent, the Chief Superintendent of Education.

The Reverend Egerton Ryerson holds what the civilization of this age terms "liberal" views: he advocates the advancement of the masses, or educating every one, no matter what his position in society may be. The best part of an eventful life has been devoted by him to carry out his peculiar opinions on this subject. He is essentially a man of one idea, and he is a very determined, resolute and personally courageous person. It is individuals of his stamp who have made their mark in the world. As to politics he has really none; but in free thought, in educating the masses he does believe. From the various educational systems of constitutional England, despotic Prussia, republican America, Holland, Ireland and Scotland, with the assistance of his own powerful intellect, he has perfected a plan, according to non-Catholic ideas, an improvement on all of them, maintaining their best, rejecting their worst features. He has been assailed by various denominations and classes of our citizens, by dissatisfied freeholders, by childless rate-payers, by representatives of churches, by Grit and Conservative newspapers, by politicians and by administrations holding the most opposite views, and yet he has managed to stand his ground, and not only this, but to enforce his educational opinions on the great majority of the people of this Province. At one time he is reported by a Tory Governor as "a dangerous man," and a certain Toronto journal has pursued him with fierce malignity for years, and all kinds of politicians have at different periods attacked him in the bitterest way, and yet Egerton Ryerson has triumphed, and is at this day, in spite of all opposition, the great and successful vindicator of free, universal education. This is the man whom Governments do not care to interfere with, and who cannot be crushed; who, in spite of his seventy years, is still as fresh and as vigorous as ever, and as ready, in defence of his ideas, to smite his enemies "hip and thigh" either through a public journal or in a pamphlet of 265 pages. During our entire career we have opposed the Doctor; but we are fully aware how difficult it is to make headway against a man of his ability, holding but one idea and resolved to win. We have often wished that a Ryerson would present himself as a representative of our Catholic masses to fight as determinedly for us as he has for his Protestant fellow-countrymen—a man who would endeavour, under all circumstances, to procure what his Eminence Cardinal Cullen and the Irish Hierarchy are now labouring to attain, a Catholic, purely Catholic education for Catholic people.

Secular instruction, in spite of all that has been said to the contrary, does not do away with crime; if, however, combined with religious teaching, it certainly does. An educated rascal is infinitely more depraved and bad than an illiterate evil doer. To make a man a Christian, you must rear him up in Christian principles,

otherwise it will require a miracle, or direct action on the part of God, to convert him; therefore the first and most essential point in educating is to lay the foundation on the sure basis of Catholicity; after this, teach anything you please, provided it is not opposed to the religion of Christ. The Doctor's pet theory is non-religious instruction at school, religious ditto at home, which would, of course, answer were all parents equally wellinformed; but suppose, as is frequently the case, that the parent, though sufficiently well grounded in his own faith, has not the gift of being able to instruct others, then the superiority of our system is shown, as the school supplies the deficiency. Faith first is our motto; and better an illiterate lot of the lowest class who has faith, than the most accomplished and refined of aristocrats without it. The ordinary godless school will train up an amiable and may be even learned person, but if moral and the possessor of lofty principles, not from love of his Creator. We might hold forth on this subject to an indefinite extent, did time or space permit. The *Canadian Freeman* has always been to the best of our humble abilities a consistent advocate of Catholic education, and in retiring from its management we would, as previously stated, wish to offer the right hand of fellowship to all we have encountered, either lukewarm friends or foes, to part on amicable terms with all from whom we have differed. Foremost among these is the Chief Superintendent of Education, and we have therefore devoted this, our last article, to him. We have written column upon column against him, for the past fifteen years. We have tried with all our might to put him down, and yet he is a man for whose talents, resolution and dogged perseverance we have the highest respect, for whose courtesy and gentlemanly bearing towards our co-religionists we offer our acknowledgments, and for whom the Protestant people of this Province will, at some not very distant period, do, what a learned American historian stated the North West would do for Marquette, "build his monument."—*The Editor of the Canadian Freeman.*

III. Educational Items.

Prof. Tyndal has been elected to preside over the next meeting of the British Association, to be held in Belfast, beginning on August 9, 1874.

An effort is making in England to meet by subscription the expenses of the action recently brought by the excluded lady students against the University of Edinburgh.

Pupils going through the regular course of the Atlanta, Ga., public schools, study Latin and French. Boys who are preparing to enter college take Greek and omit French.

The School Committee of Chelsea, Mass., has ordered that no teacher shall inflict punishment upon a pupil until after consulting with the sub-committee for his school.

Education in Ohio—if we are to believe Mr. Harvey, a speaker at the late Teachers' Institute—needs three things: A State Normal School, County Superintendency, and "township district" system.

The Chandler scientific department at Dartmouth was awarded the highest prize—a silver medal—for a collection of mechanical and free-hand drawings and herbariums at the recent State fair held at Manchester.

The Worcester, Mass., Academy, which has recently been remodelled and enlarged, has received subscriptions to its endowment fund to the amount of \$32,687. Of this sum \$39,687 remains to be collected or put in a substantial form.

It is a pleasure to note the recent Teachers' Institute at Rome, wherein all the lectures and lessons tended toward the new and bitterly longed for system of teaching pupils to understand and reflect, and not merely to remember.

The Teachers' Institute of Peoria, Ill., has been discussing the question of punishment in schools. One teacher thought that whipping was beneficial; another believed that the higher natures of children should be appealed to, and then said that corporal punishment was better than expulsion from the school; and another mentioned a glance of displeasure in the eye of the teacher.

Alexander Agassiz has received the grand Walker prize from the Boston Society of Natural History as a reward for his investigations in the natural history of the Echinoderms. This prize is awarded but once in five years, and for the most important investigation in Natural History within that period, the results of which have been published in the United States one year previous to the award. Two sums are at the command of the Council, \$500 and \$1,000, the latter of which was in this case unanimously voted.

Professor A. D. White, of Cornell University, made the other day a speech in defence of scientific education, before the Teachers' Institute at Binghamton. While praising agricultural colleges and scientific farming, he stated that little Portland county during the past year had received from the sale of butter alone \$1,500,000, which speaks well for a learned and intelligent management of dairies. In reference to religion and science, he said that religion has been made grander and deeper by the triumph of science.

According to the report of Senor Flores, Minister from Ecuador, there are in that republic five national colleges, with 757 students. There are six feminine seminaries under the control of Catholic Sisters, having 741 students. At Quito, the capital, there is a polytechnic school with nine professors; besides there are colleges of law and medicine and a school of trades—the latter after the model of the Catholic Protector, at Westchester, N. Y., in which sixteen American mechanics are engaged as practical instructors. A good elementary education is also furnished.

IV. Mathematical Department.

1. FIRST CLASS ALGEBRA PAPER.

Solution of the 10th question in the First-class Algebra Paper (Examination of Public School Teachers, July, 1873).

Find a number which is greater by unity than n times the integral part of its square root; n being a whole number.

Let x be the integral part of the square root, and d the decimal part. Then

$$x^2 + 2dx + d^2 = nx + 1.$$

$$\therefore x(x - n + 2d) = 1 - d^2.$$

Since $1 - d^2$ is positive, therefore $x - n + 2d$ is positive. Now, first, suppose if possible $x < n - 1$. Therefore, since x and n are whole numbers, x is not $7n - 2$. $\therefore x - n + 2d$ not $7/2(d - 1)$: which, since $d - 1$ is negative, and $x - n + 2d$ has been shown to be positive, is impossible. Next, suppose if possible $x \geq n - 1$. Therefore,

$$x(x - n + 2d) \text{ not } < x(1 + 2d)$$

$$\therefore 1 - d^2 \text{ not } < x(1 + 2d)$$

Which, since $1 - d^2 < 1$, is impossible. Therefore the only two values which x can have, are n and $n - 1$, and the required number is either $n^2 + 1$, or $n(n - 1) + 1$.

G. P. Y.

2. MATHEMATICAL PROBLEMS.

1. Extract the square root of a given straight line AB.
2. How many terms of the squares of the numbers 1, 2, 3, 4, &c., must be added, that the sum may be a rational square number?
3. At the bottom of a lake, a globe of elastic and condensable matter is known to be 2 inches in diameter, and at the surface 10 inches; required the depth of the lake.
4. Prove that the expressions,

$$\frac{-1 + \sqrt{-3}}{2} \times a, \text{ and } \frac{-1 - \sqrt{-3}}{2} \times a,$$

are cube roots of a^3 .

5. Detect the mistake in the following process:

Let $a = b$; $a^2 = ab$, or $a^2 - ab = 0$, and $a^2 = b^2$, or $a^2 - b^2 = 0$; thence $a^2 - ab = a^2 - b^2$, or $a(a - b) = (a + b)(a - b)$, or $a = a + b$; but $b = a$, then $a = a + a = 2a$ and $1 = 2$.

6. From what do the following absurdities arise?

$x^n + x^{n-1} = c$; multiply each side by $x^n - x^{n-1}$, $x^{2n} - x^{n-1} = cx^n - cx^{n-1}$; transpose, complete the square, &c., $x^n = x^{n-1}$.

Again, $x^n + bx^{n-1} = c$; multiply by $x^n - bx^{n-1}$, $x^{2n} - b^2 x^{2n-1} = cx^n - bcx^{n-1}$; from this expression we get $x^n = bcx^{n-1}$; hence $x = b$.

Problems contributed by correspondents.

7. By John Ireland. Which is best? Interest at 6 per cent. compounded annually on \$1,000 for 20 years, or at 5, compounded every instant?

8. By John Sheehan. A. bought a load of carrots from B.; sells them at $17\frac{1}{2}$ cents per bushel, and finds that he has gained on the sale of one dollar, as much as he paid for one bushel. Find the cost per bushel, by arithmetic.

9. By G. W. Sheldon, Morpeth. A hollow cone rests with its base on a smooth horizontal plane, and water is poured in at the top. How high will the water rise before it lifts the cone off its support, and escapes?

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

I. ABSTRACT OF MONTHLY METEOROLOGICAL RESULTS, compiled from the Returns of the daily observations at ten High School Stations, for SEPTEMBER, 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., LL.B.; Windsor—J. Johnston, Esq., B.A.

Table with columns: STATION, BAROMETER AT TEMPERATURE OF 32° FAHRENHEIT, TEMPERATURE OF THE AIR, WINDS, NUMBER OF OBSERVATIONS, HUMIDITY OF AIR, ESTIMATED VELOCITY OF WIND, AMOUNT OF CLOUDINESS, RAIN, SNOW, AURORAS, and MONTHLY MEANS.

Approximation. aOn Lake Simcoe. cNear Lake Ontario on Bay of Quinte. fOn St. Lawrence. gOn Lake Huron. A On Lake Ontario. i On the Ottawa River. j Close to Lake Erie. m On the Detroit River. k Inland Towns.

Table with columns: STATION, MONTHLY MEANS, SURFACE CURRENT, WINDS, NUMBER OF OBSERVATIONS, MOTION OF CLOUDS, & VELOCITY OF WIND, AMOUNT OF CLOUDINESS, RAIN, SNOW, AURORAS, and MONTHLY MEANS.

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

REMARKS.

Peterborough.—Lightning, 18th. Lightning with rain, 1st, 4th, 5th, 19th, 24th. Frost, 16th, 17th, 22nd. Wind storm, 1st. Fogs, 1st, 24th. Rain, 1st, 2nd, 4th, 6th, 8th, 16th, 18th, 20th, 23rd—26th, 28th, 29th. Month marked by great and rapid changes of temperature. Barrie.—Thunder with rain, 12th, 25th. Lightning and thunder with rain, 18th, 27th. Rain, 1st, 3rd—5th, 12th, 15th, 17th—20th, 22nd, 25th, 27th—30th.

Frost, 14th, 15th, 17th, 21st, 30th. Wind storms, 1st, 12th, 28th. Fogs, 4th, 8th, 11th, 23rd, 24th. Rain, 4th, 7th, 12th, 15th, 17th, 19th, 22nd, 25th, 27th, 28th, 29th. Difference of mean temperature from average of 12 years (September) - 1.05.

HAMILTON.—Lightning, 11th, 27th. Frost, 14th. Wind storm, 28th. Fog, 24th. Rain, 3rd, 4th, 7th, 12th, 15th, 17th, 19th, 22nd, 25th, 29th.

SIMCOE.—Wind storms, 12th, 18th. Rain, 1st, 5th, 6th, 12th, 18th, 22nd, 25th.

WINDSOR.—Lightning and thunder with rain, 19th. Lunar halo, 9th. Meteors, (2) 23rd, (3) 25th, (2) 27th, (2) 30th. Frost, 16th, 21st. Wind storms, 1st, 4th, 15th, 18th, 29th. Fogs, 9th, 10th, 23rd. Rain, 3rd, 7th, 12th, 19th, 22nd, 24th, 28th, 29th.

VI. Papers Relating to Science.

1. AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

A correspondent of the *New York Observer* thus summarizes the labours of the *Savans* at the late meeting of the Association at Portland, Maine:—

"I feel great perplexity in selecting so few from the 156 papers entered for reading at the American Association. Many interesting and able papers are unintelligible without the inspection of objects or drawings; others are mainly addressed to the eye. Others really interest only those who are prosecuting investigations in certain fields. But there is enough left to embarrass one in the selection. And a hasty sketch cannot be expected to keep to the order in which a deliberate editing would place them."

"*Safety at Sea.*—Prof. Rogers, of Harvard Observatory, showed that the ratio of wrecks is increasing. While in ten years, from 1848 to '58, the increase of British shipping was 38 per cent., British wrecks had increased 59 per cent. between 1852 and '62. Later the increase of shipping from 1858 to 1868 was 44 per cent., and the wrecks from 1856 to 67 was 57 per cent. In 1869, with an actual decrease of shipping of 4 per cent., the wrecks increased 21 per cent. The percentage of wrecks by preventable causes is about 70. Thirty-three times as many insured vessels are wrecked as uninsured.

"Difference of longitude is shown by the difference between the sun and the chronometer; the error of a good chronometer may cause an error of nineteen miles in twenty days. To this we may add the errors of sextant observations, which are likely to exceed two miles. Navigators will not believe that they are as inaccurate as this, and many vessels are lost from over confidence.

"*Toads.*—The most amusing paper of the whole session was by the Rev. Dr. Hill, of the First Church in Portland, ex-President of Harvard and of Antioch. A venerable toad of his had a favourite location under a bee-hive, and every over-laden bee that fell near him was a sure prey, till, at length, the toad lost an eye. Then, for quite a while, the tongue missed its mark, and the bee was not secured without repeated attempts. Practice at length remedied the difficulty, and he finally lassoed his bee at every trial. Our toads do not use their hands in cramming down an uncomfortably large mouthful, as those in England do, but thrust the projecting part against something. In the doctor's smooth walk one was obliged to throw his heels up in the air and rest his whole weight upon the projecting part of a locust (commonly called a grasshopper, but incorrectly, for all grasshoppers are green). In the case of an enormous earthworm which was escaping when nearly swallowed, the doctor's tired toad served a *ne exeat* on it, by grasping it through the walls of his own abdomen with a hind foot.

"*Snakes.*—Mr. G. Brown Goode, Curator at Middletown, Ct., has ascertained beyond a peradventure that young snakes of many ovoviviparous species take refuge when alarmed in the old one's throat and stomach. This is not ascertained of any ovoviviparous species; but in an English lizard the same has been once observed.

"*Doses of Medicine.*—Mr. H. W. Wiley, of Indianapolis, advises the diluting of all strong medicines to a uniform dose before selling them. (Some do not like large doses. Apothecaries are already too prone to dilute; and the precise strength of a diluted substance is hard to discover.) He would have all prescriptions in metric weights and measures, which are simpler and safer. Mr. E. B. Elliot, of the Treasury Department, proposes a 'tergram'—a third of a gramme—as a temporary means of stepping from old measures into new. Five grains, drops, or minims, make almost exactly a tergram; 30 tergrams are a decagram (not decigram, which is 100 times smaller). 100 tergrams are an ounce nearly, and 30 ounces a kilo, or kilogram (double pound). This is near enough for all medical purposes, and is an ingenious means of facilitating a change in which we must advance or be dragged. Mr. Elliot is having a *vern*-measure constructed, in which the unit shall be a ten millionth of the earth's radius, as the metre is of its quadrant. A circle must be twice as many metres in circumference as it is verms aëros; it will be convenient to tin-plate workers. He proposes this as an astronomical measure: 10,000,000 verms = 1 radial (earth's semi-diameter); 1,000 radials = a kiloradial; 1,000 kiloradials = a bikilo-

radial, &c. The moon is at a distance of 40 radials, the sun 23 kiloradials. The distance of the nearer stars is to be estimated in trikiloradials, the more distant in quadrokiloradials, and the stellar clusters quintokiloradials. [To all this the objection is that the human mind can conceive no difference between trikiloradial and quintokiloradial, and the inch is about as useful a measure for these distances as any other].

"*Brains.*—Prof. Burt Green Wilder presented thirteen papers, mostly short, all relating to his speciality—the anatomy of animals. The most interesting of these were on brains. He maps them by their fissures, which are much easier to outline than the 'convolutions' which they outline. The lowest animals have no fissures; the more of them, the more mental power. The animals of the same species have them not alike, nor are the two halves of the same brain alike. The adult brain is less in proportion to the whole body than the young. The dissection of the brains of paupers and criminals would afford little information, so little do we know of their real character; those of our friends we are unwilling to study. But dogs are diverse in character, and we know them well. So he has made thorough investigations for a *cynophrenology*; but he has found no relation between brain and character. He is prepared to maintain that there is no such science as phrenology.

"*Animal Structure.*—Prof. Wilder maintains that the anterior and posterior halves of the body of an animal correspond—the pelvis is a modified head, and every organ has its analogue. So the right thumb corresponds to the right little toe, &c.

"Prof. Theo. C. Hilgard believes in a radiate constitution of all animals and plants—believes in fifths, and not halves. He is very earnest and fluent, but cannot speak an intelligible sentence of English.

"*Indian Houses,* which are found of such vast proportions among the Pueblo Indians, were shown by Prof. L. H. Morgan to be not palaces of chiefs, but communal residences. Notwithstanding the vast difference between these spacious and now ancient edifices and wigwams of birch bark, it is supposed that all the Indians of America, the Eskimo excepted, are of one race."

VII. Advertisement.

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