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THE

JOURNAL OF EDUCATION

FOR

ONTARIO.

EDITED, UNDER THE DIRECTION OF THE

REVEREND EGERTON RYERSON, D.D., LL.D.

CHIEF SUPERINTENDENT OF EDUCATION,

BY

J. GEORGE HODGINS, LL.D., BARRISTER-AT-LAW,

DEPUTY SUPERINTENDENT.

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JOURNAL OF EDUCATION,

Province of Ontario.

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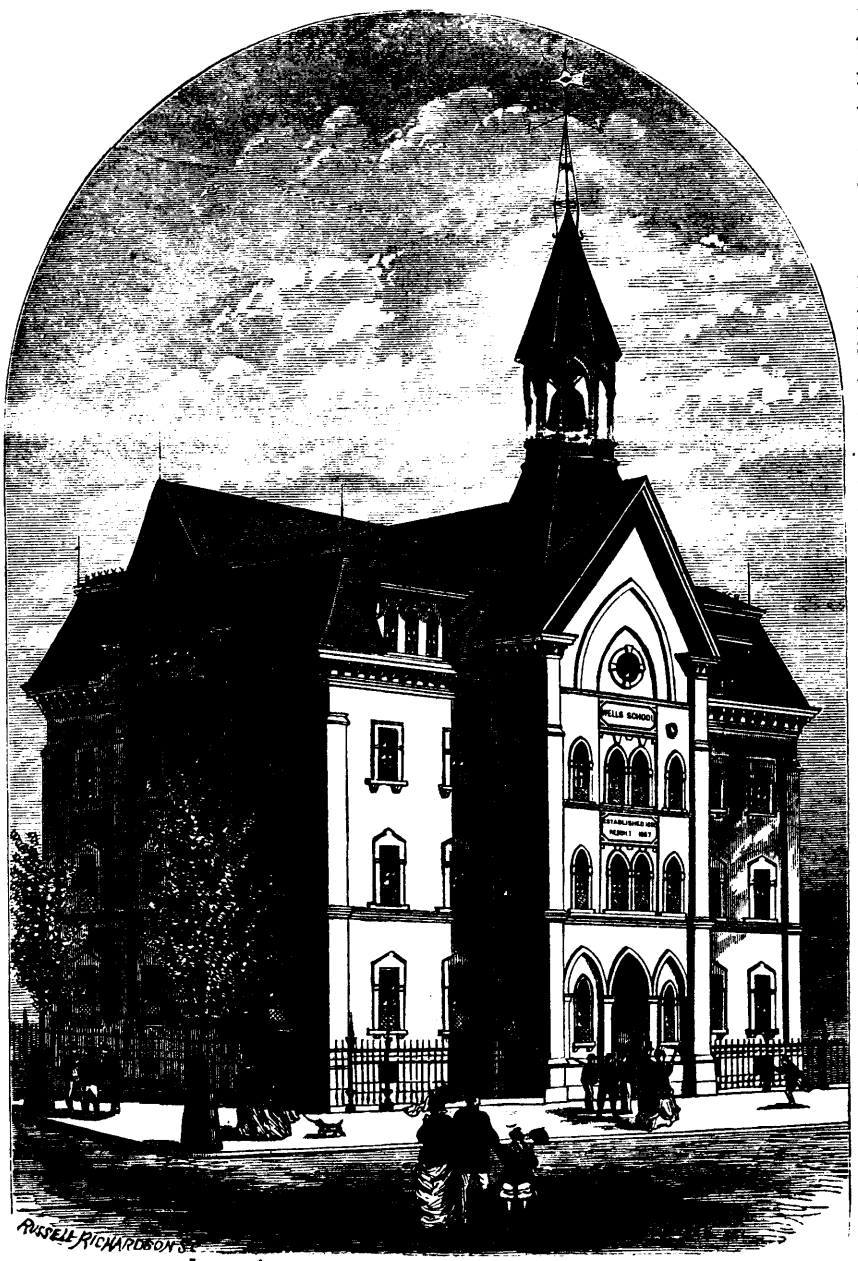
I. IMPROVEMENT OF SCHOOL HOUSE ARCHITECTURE.

(For "Contents" see last page.)

With a view to aid Trustees in the desire to improve the style of the architecture of their School House, we have procured several new plans, and insert a selection from them in this number of the *Journal of Education.*

We are the more anxious to insert these plans at this early day, in order that they may be available to the Trustees before they give out contracts in the spring for the erection of the new School Houses We cannot but be gratified at the laudable desire felt in many places to make the School House more convenient and attractive than formerly. They have, hitherto, in many cases, been unsightly, inconvenient and most incomplete in many essential details. An interior of four bare walls was, in numberless instances, considered sufficient to constitute a School House—a simple room destitute of any accommodation for the teacher—for the pupils' hats, caps or coats—for the books, maps or charts. In fact, in some schools none of the latter were ever to be found, and the teacher was left to do his work literally without tools or appliances of any sort! Happily, this state of things is fast passing away; and Trustees are now generally not only anxious to be informed of the best methods to be adopted and the most useful suggestion to be acted upon, but are most anxious to avail themselves of both.



WELLS' GRAMMAR SCHOOL HOUSE, BOSTON.

In another part of the "Journal" we insert the result of the recent competition for original School House plans by trustees, teachers and inspectors in this Province. The competition, as will be seen, has been highly creditable to the parties concerned. (*See p.* 16.)

IMPORTANT PRELIMINARY CONSIDERATIONS IN ERECTING SCHOOL HOUSES.

In erecting School Houses, it should be borne in mind that the essential conditions to be observed in their construction are, that they should be convenient, adapted to the purpose to which they are put, and that they should afford abundant facilities for warmth, light, proper ventilation and shelter.

We might class with these another scarcely less important, viz., durability. Hence the strength and stability of walls, the tightness of roof and outside covering, are matters of prime interest; and if neglected in the outset, no subsequent expenditure of skill or labour can provide a remedy.

To secure these results, attention should be specially paid to two things.

1. The *materials* used should be excellent in *quality*.

It is a false economy that consents, under any circumstances, to use inferior materials. There may be, in the beginning, a small saving of cost, but the result will be premature decay, and consequent expense for rebuilding. The greatest care should be taken to procure bricks properly burned, straight-grained timbers for frames, sound roof-boards and siding, floor-boards without knots, shingles of the first quality, and fresh-burned lime. These precautions can not be too strongly urged. A single stick of bad timber will sometimes ruin a whole building; and many a brick wall has fallen in consequence of using lime which has been too long exposed to the action of the air. The money annually expended in repairs occasioned by the use of poor materials, is more than triple that increase of the first cost, which would have entirely obviated the difficulty. *Every part of the materials should be carefully examined by competent judges, and all except the very best, rejected.*

2. The *work* should be *well* done.

Job-work, as it is usually termed (often another name for work miserably performed), can not be too earnestly deprecated. With the best of materials a careless or unskilful workman will construct a worthless building. Lumber of the best kind may be worse than wasted by a slovenly manner of framing and adjusting it. Shingles poorly laid will be followed by leaks, which must seriously damage the plaster and inside finish. Foundations insecurely built will rack and destroy every other part of the building. Window-frames imperfectly constructed, siding and floors loosely laid, and doors with yawning joints, all allow the entrance of the cold and storms, and thus become the source of unnecessary expenditure for fuel, as well as of serious injury to the entire structure. Lath and plaster badly put on, last but a short time, and constant patching presents an unsightly appearance, besides being the cause of annoyance and expense. Surely no further specification is needed to satisfy the most reluctant, that the truest economy demands such an expenditure for labour in the outset as shall secure the best possible construction. Faults in workmanship should be carefully provided against, and every part of the work should be subjected to the closest scrutiny. But workmen are not alone to blame for improper construction. It is quite as often the result of false economy or parsimony on the part of trustees. The estimates of mechanics are often cut down without an intelligent reason, upon the assumption that they are not made in good faith. In consequence, the workmen, who perhaps are forced by circumstances to undertake the job, are obliged to slight their work to save themselves from absolute loss. The injury resulting does not end with the work imperfectly done, but it has a direct tendency to impair that confidence in man which is the basis of all true humanity, and to lead to a regular system of deceptions on the part of both employer and workman. Let those having charge of the construction of buildings therefore beware of offering a premium for *poor* work by paying less than *good* work is worth. Let them remember that the "labourer is worthy of his hire," and that to extort labour for less than its value is only a safe and legal species of robbery.

In the erection of every School-house particular care should be taken to observe the rules of taste as regards form. In our country districts, where a small and plain building only is demanded, we need to consider proportion and symmetry alone; the other principles of architecture applying chiefly to larger and more pretending structures. If this is done, if our School-houses all conform to these two fundamental laws, they can not fail of becoming strong educational influences in the right direction. The advantages, in this regard, of obeying the principles of architecture in the construction of School-houses may be summed up in a few words.

1. If the building is an object of beauty, the very sight of it inspires emotions of pleasure.

2. It adorns and beautifies the landscape of which it forms a part.

3. It becomes an attractive place to children, and does not repel them, as now, by its deformity

4. It practically teaches ideas of proportion and symmetry, and new and exalted conceptions of beauty of form.

5. It throws over property the shield of beauty, and so checks, and finally eradicates the rudeness which is stimulated to destructiveness by deformity.

6. It forms one of those influences which have most power over the heart and affections, directly aiding the teacher in the most difficult and important part of his work.

In adorning and decorating School-houses, however, care should be taken lest the cost exceed the means or inclination of those for whom it is built. Neither should any mere ornament interfere with health or comfort.

PRINCIPLES TO BE OBSERVED.

HEALTH.—The preservation of health should be considered a matter of prime importance in the erection of every School-house. Everything else, including cost, comfort, and convenience, should be subordinated to this. Unless our children can be educated in a way compatible with the preservation of their health, it were better at once to tear down our School-houses, and abolish our School system. Minds refined, however highly, in broken-down and sickly bodies, are of very little practical value in *this* world.

To accomplish the end so much to be desired in this regard, great care should be taken in the following particulars:

1. THE SITUATION.—This should be at a distance from all sources of malaria. The foul breath of decaying vegetation, or of stagnant water, becomes a fruitful source of disease and death. Unseen and unnoticed, it insidiously does its work, and spreads the atmosphere of the charnel-house as far as its influence extends. The diseases seeming to be epidemic, which sometimes break out in Schools, may often be traced to some neighbouring swamp or marsh, or heap of rotting vegetables. Some manufactures also generate disagreeable gasses, which, if breathed for any considerable time, are deleterious in the extreme. The School-house should be placed at a distance from all these sources of disease.

Again; it should be situated away from the noise and dust of the street. There is scarcely anything more annoying or unwholesome than the clouds of dust which, upon a dry summer's day, are driven along the highway, covering and clogging everything in their path. Let the location, if possible, be upon a hill-side, where it may be free from these annoyances, and where the purest air is poured out in unstinted measure.

2. THE SIZE OF THE SCHOOL-ROOM.—This is a consideration of great importance. Every pupil should have sufficient room to sit and move without being confined or jostled by any one else; and there should be sufficient space in the room for a large reservoir of air. Packing children close together, so that the breath and atmosphere of each is shared with all his neighbours, is an unmitigated evil. The rule laid down on this subject in the official regulations are as follows:—The vitality of the air is exhausted by breathing, and a constant supply of fresh air is necessary to preserve life and health. Air, absolutely pure, is essential to the highest degree of health. Rendered partially impure by breathing, it will sustain life, but then all the machinery of the body becomes clogged, and the brain is so enfeebled as to be unable to perform its functions. Every person contaminates, and renders unfit for use, at least five cubic feet of air per minute. A School-room, twenty by thirty feet in size, and ten feet high, would contain six thousand cubic feet of air. Forty scholars would consume this, and render it unfit for sustaining the bodily functions, in just thirty minutes. Yet a larger number are often confined in a smaller room, and during a much longer time, without any possibility of a change of air. The effect of this is to excite disease and impair the more delicate organs of the body. The most virulent poison could scarcely be more fatal. The only remedy is to provide means for the rapid and frequent change of the air in the room, throwing out that which is contaminated and impure, and replacing it with that which is fresh from without.

In every School-house without proper means of ventilation, there is a slow and subtle poison which enters the blood and brains of the pupils, and saps the very foundation of life. There can be no escape from its deleterious influences, for exposure to it is a violation of one of the laws of GOD.

3. THE CONSTRUCTION OF SEATS AND BENCHES.—For the health of the pupil, as well as for his comfort, the height of the seats ought to be so graduated as to enable him to set his feet squarely on the floor. A contrary custom often produces much suffering and a distortion of the lower limbs. Seats without backs are also to be deprecated. To relieve the overstrained muscles, unnatural postures are assumed, and a crooked spine is a very probable consequence.

4. PROPER ATTENTION TO CLEANLINESS.—As health can not be preserved without habits of personal neatness, so it is useless to inculcate these upon pupils while the dirty condition of the room they are obliged to occupy forbids the acquisition or preservation of those habits.

EXTERNAL ARRANGEMENTS.

1. THE LOT.—A large and commodious School lot is a matter of prime necessity. Without it, some of the most essential ends of education are impossible to be attained. A little attention, on the

part of trustees will secure an ample lot at very little expense. When public attention has been sufficiently turned to the importance of this subject, it will be a comparitively easy matter to secure the donation of a School lot, or, at least the purchase of one at a small price. About one acre of ground is necessary for our ordinary country Schools. If such a lot can be obtained, a School-house should never be erected upon a smaller one. It cannot be less than half an acre; but under our law an owner can be compelled to sell as large a lot as the trustees require.

If no natural obstacle oppose, the centre of the section would seem to be the best place for the School-house; this centre having reference, of course, to population as well as distance. If an acre of land is taken, perhaps it might most conveniently be laid out in a plot sixteen rods front and ten deep. Any other form might be adopted, and under some circumstances, another might be preferable.

2. Position of the Building.—In a lot, sixteen rods by ten, the house should stand very nearly in the centre. This would be at a sufficient distance from the street to avoid all noise and dust, with room enough in the rear for the necessary out-buildings. It would also divide the yard into two parts, for boys and girls. In any lot the house should be placed in the middle as to width, and at a distance from the street. The front of the house should always face the street, so that the out-buildings may be thrown into the back-ground, not only in reference to the house, but to the street also.

3. Outside Structure.—In most cases, a double porch, with separate entrances for boys and girls, or two separate porches should be provided, and this arrangement is regarded as highly important. It prevents the possibility of improper communication between boys and girls, while passing in and out of the School-room. The room in or off the lobby should be used for a hat-room, at a manifest saving of expense.

4. Wood-House.—The wood-house might be placed directly in the rear, so that a portion of it may serve for a back hall. This arrangement contributes to harmony of external appearance, and prevents the out-door air from blowing directly into the School-room. Thus serving a double purpose, the wood-house is almost indispensable. A basement, however, might be prepared for the storage of fuel.

5. Privies.—With the yard divided by a high, substantial board fence running from the back side of the wood-house to the rear fence. On every School ground two privies are indispensable. A double privy is decidedly objectionable, for although so arranged as to shut out the intrusive gaze, it can not be made entirely impervious to sound; and the vicious may take advantage of its construction to outrage the feelings of the pure-minded, without the fear of detection. A better way would be to separate the privies entirely, and place them near the middle of their respective yards. The entrances should be upon the rear side, or else a screen should be erected to shield them from observation.

6. Walks.—That is very false economy which refuses or neglects to furnish the necessary walks in and about the School premises. The country School-house is proverbial for filth. Generally but a step removed from the carriage-path in the street, and without walks of any description anywhere in the vicinity, except a single path of the native soil, the wonder is that it is not more, rather than less, offensive. During some seasons of the year the children must wade through mud and water to reach the School, and not one foot of dry space is provided where they can cleanse themselves until they enter the house itself. The consequence is, that dirt is everywhere, and tidiness impossible. To remedy this as much as possible, arrangements should be made to preclude the necessity of getting into the mud, within the School-yard, and to enable the scholars to remove it from their feet, when coming in from the road. A plank or gravel-walk should be laid from the front gate to the front door. The steps at the door should be large and commodious. These steps, and perhaps also a portion of the walk, should be provided with scrapers. A strip of band-iron, nailed upon the edge of a plank twelve feet long, so that the edge of the iron may rise half an inch above the surface of the plank, will make an excellent and economical scraper, and accommodate a dosen or more pupils at the same time. Plank walks should be extended from the back entrances to the privies, and perhaps around the sides of the School-house.

7. Fence.—The School-lot can never be kept in order unless it is inclosed by a good and substantial fence; this fence should be built of good materials, and put up in a solid manner. A picket, or a post-and-rail fence, would answer every purpose. The gates should be built strong and heavy, and so arranged as to shut of themselves. It might be well to set posts within the gates in such a manner that cattle could not get in, even if the gates should be left open. The fence that divides the yard should be of a matched stuff, and from eight to ten feet high, faced on the boys' side. The wood-house door should open into the boys' yard.

SCHOOL HOUSES FOR THE COUNTRY.

Fig. 1. a

A small school may be well accommodated by a plan like that represented in Fig. 1. It consists of a school-room with a single porch in front, and a wood-house in the rear. The room represented contains seats for twenty-four pupils, but by increasing the length three feet there will be room for one more row of seats, and for thirty pupils, and by increasing its width four feet, it will contain still another row of desks, and seats for forty pupils.

The porch is a single room, but of sufficient size for a lobby for cloaks and hats. The stove is to be placed in one of the niches in front, while the other niche may be used for a library. The ventilators in this, as in all the designs, are placed in the rear of the room, but each one is connected with the chimney by a tube under the floor.

The wood-house in the rear serves the double purpose of back hall or entry-way, and a place of storage for fuel. The doors upon the sides should open respectively into the boys' and girls' play-grounds. The front part of the wood-house should be provided with a platform upon a level with the school-house floor, at least four feet wide.

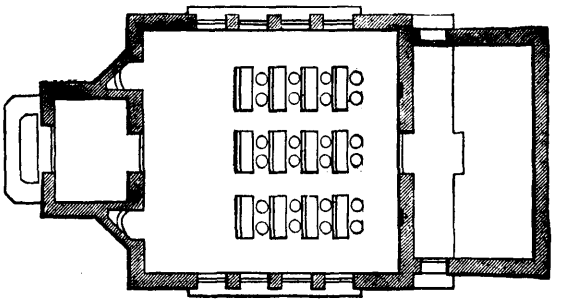
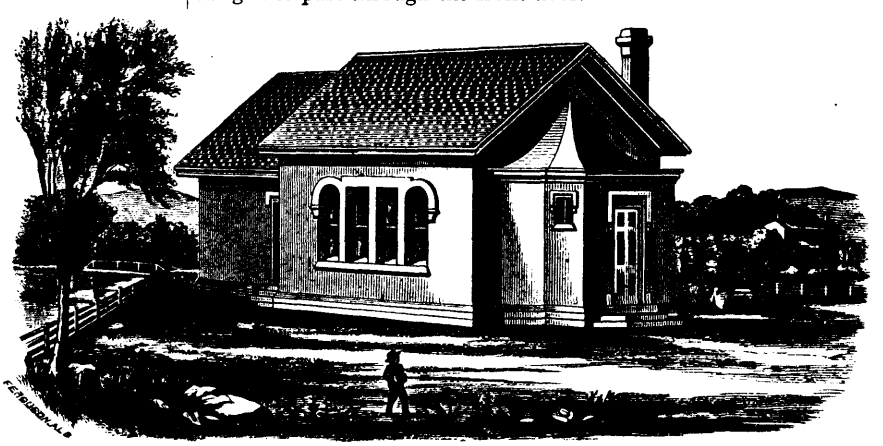


Fig 1 b. Ground plan.

This general plan is superior, in having back as well as front entrances, so that access may be had to the play-grounds and out-buildings without disturbance to classes, or to the general order of the school-room. The movements of pupils are not so conspicuous as they would be if, in their entrance and exit, they were always obliged to pass through the front door.

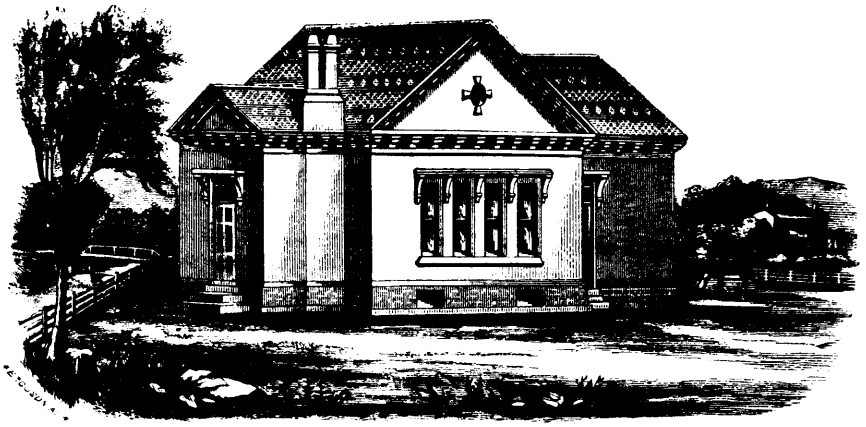


Elevation 1.

Elevation No. 1.—This elevation is a simple and inexpensive building, with wide projecting eaves that give to it an appearance of comfort and solidity. The porch is finished with a tent-roof, to obviate the necessity of a gable under a gable. It is lighted by small windows in the sides, as the height of the roof would hardly admit of a head window over the door. The windows are grouped together, and the whole design produces a very pleasing effect.

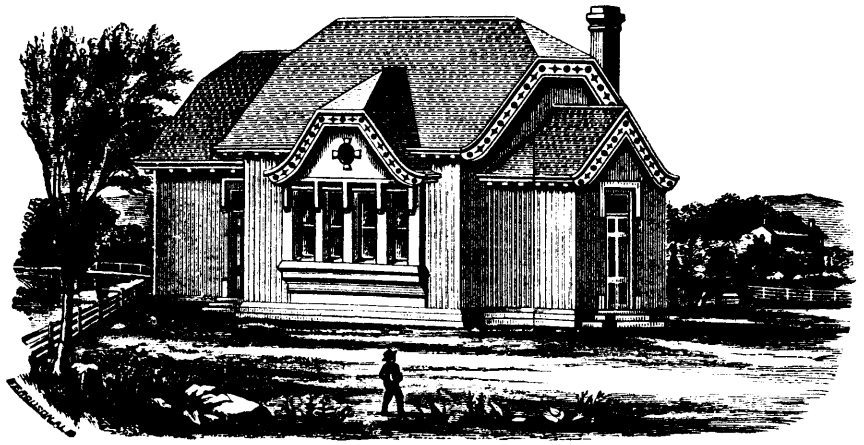
If a larger house is built upon this plan, the outside appearance

may remain the same by simply increasing all the parts in proportion. If three feet be added to the length no other change need be made, but if the addition is made to the width the porch should be enlarged in proportion.



Elevation 2.

ELEVATION No. 2.—In this elevation the roof of the main building is placed at right angles with the roof of the porch and of the wood-house, giving a fine architectural effect to the group. The cornices of the three parts are upon the same level, and an ornamental cornice extends across the gable. This feature may be omitted. In case the gable cornice is omitted the cornices of the porch and woodhouse should drop below that of the main building. The porch is lighted by a headlight above the door. The materials of this building may be either brick or wood.



Elevation 3.

Elevation 4.

ELEVATION No. 3.—This elevation is more ornamental. The corners of the gable are cut off, of which we do not at all approve, and a small gable is erected over each of the large windows in the sides. The porch is finished with a common gable. The ornamental filagree work of the gables may be omitted, and the cornice made wide and plain, like that of Elevation No. 1. The only extra cost of this elevation is raising the gables over the windows, and in cutting down the corners of the roof, the whole of which ought not to exceed a few dollars. This elevation is represented as finished with battens, but clapboards may be used, or the house may be built of brick. The superior appearance of this design will more than warrant the additional expense.

ELEVATION No. 4.—In villages and country places near cities, where the dwellings are of fine architectural appearance, the school-house should be in harmony with the surroundings, and there is a demand for ornamental designs. Elevation No. 4 has been prepared to meet this demand when a small school-house is wanted. The general features are Gothic, but the whole is chaste and neat and not excessively expensive. The steep gables all terminate in minarets or pinnacles. An ornamental bell-tower surmounts the front. The porch has an ornamental tent-roof, sloping down from the front gable. Gables are erected above the side windows, and a beautiful ornamental chimney extends upward from one side of the porch. The material may be brick or stone, the finish of the gables being a stone coping instead of a cornice. This coping may be made of wood with a covering of tin. This elevation might also be used as a Sunday school room for a church, and for a variety of other public school purposes. The roof should be covered with slate.

In some parts of the country the small number of pupils in the district is given as an excuse for a miserable school-house. The fact of a limited number of pupils may be a sufficient reason for the construction of a small school-house, but not for a poor one. The educational wants of a small district and of a small number of children are just as pressing as though the territory and the number were indefinitely increased, and a neglect to supply them is just as detrimental in the one case as in the other. If this excuse were a good one, the Inspector would be justified in withholding the public funds on the same ground.

But, again, it is argued that the smaller districts are often too poor to erect a respectable appearing and comfortable school-house. It may be that many of the districts are very poor, and in that case they are far too poor to subject their children to exposures and consequent disease, and so a good school-house becomes indispensable. Each district that partakes of the public money of the State is morally bound to provide all the appliances necessary for the proper expenditure of the money so obtained; and the poorer the district the greater is the necessity for all possible means for moral and physical advancement.

HYGIENIC CONDITION OF SCHOOL HOUSES.

The Michigan Medical Society recently appointed a committee to investigate the hygienic condition of the Public Schools of the State. An examination of those of Detroit has already been made. A physician, thoroughly competent to judge, visited fourteen school-rooms, analyzed their atmosphere, and determined their temperature and the amount of moisture contained in it. In none of the Schools was there anything which deserves the name of ventilation, and no real attempt at it except in one instance. The air was everywhere so bad that no

human being should be forced to breathe it for six hours a day. Many of the children complained of headache, and there was a difference of from thirteen to nineteen degrees between the temperature of the floor and the upper parts of the rooms. The scholars' feet were cold while their heads were overheated. A similar examination might find defects in model school houses in other localities than Detroit.

II. Lord Dufferin on Education.

1. EDUCATION IN ONTARIO.

At the moment when two Ministers of State are giving an impulse to the cause of Education in England we receive a remarkable illustration of the interest already felt in that cause in one of our Colonies. The educational system of Canada has long been most favourably known in this country from official Reports, but its extent and variety are really surprising. The Governor-General, during his recent visit to Toronto, visited the principal educational institutions of the city, and his speeches on those occasions, as reported in the monthly *Journal of Education* for the Province of Ontario, are equally honourable to the Province and to himself. They are far too numerous for us to reproduce, but they prove very clearly that the office of a Governor-General is no sinecure when a man is expected in one visit to make fifteen speeches on a single subject. It is true they need not be long; but they must all be fresh and interesting, and no little tact is required to maintain a demeanour of impartial patronage towards the varying religious and national interests of a growing colony. Lord Dufferin, however, appears to have been in all respects equal to the call made upon him, and to have left pleasant reminiscences among all who received him. Lady Dufferin did not forget the Girls' Schools, and the visit is described as a real encouragement to all classes of teachers and students. It is remembered in Canada how much was done for the cause of Education by the countenance of Lord Elgin, and how largely he contributed to the popularity of the Canadian system abroad; and the people of Canada seem to look for a similar service from Lord Dufferin. There are, indeed, few statesmen who would be better disposed to appreciate the value of Education, and he is peculiarly able to encourage some of the elegancies of learning which a growing community is apt to neglect. Perhaps, indeed, the consciousness of this danger may partly account for the earnestness with which Education has been promoted by some of the ablest public men in Canada. In a country where constant energy is demanded for the daily work of life the importance of intelligence cannot be over-estimated, while at the same time the utmost zeal and attention are required in order to insure its cultivation. Men cannot afford to neglect a single opportunity, and yet the exigencies of a laborious life tempt them to disregard everything but what is practical. Education, however, has been rendered in Canada, even more than in America, the foundation of the national life, and the means of it have by the Public School system been brought within the reach of every one; while side by side with this public system, the various religious denominations appear to enjoy complete liberty to promote their peculiar principles of training.

Lord Dufferin began by a visit to the Education Department for Ontario, to which the task belongs of establishing the Normal and Model Schools for the training of teachers, framing the regulations for the management of the Public and High Schools, and selecting the text-books and books for prizes and free libraries. It is described as their aim "to devise and develop a system of sound universal education on Christian principles, imbued with a spirit of affectionate loyalty for the Throne and attachment to the unity of the Empire," and they boast that in this task they have received the friendly co-operation of all religious persuasions, the Schools under the Department have increased to the number of 4,703, and the pupils in them to the number of 454,616; and the amount provided last year, almost entirely by voluntary local rates, for the support of the Schools the preceding year was about £465,360, showing an increase on the preceding year of £40,000. Lord Dufferin, in his reply to the address presented to him, observed that to one who, in Ireland, had been accustomed to live in the midst of religious contention, and where education is itself the battle-field upon which the conflicting denominations encounter each other with the greatest acrimony, it afforded the greatest pleasure to meet the representatives of many different religious communions, all co-operating heartily in the same work. The University of Toronto is located in a handsome Gothic building, designed by a colonial architect. He met there a body of Professors fully competent to uphold the interests of that which he described as "the backbone of a liberal education—the arts and the Greek and Roman classics," while he also observed that within the walls of the University a greater number of subjects is taught and a more practical direction is given to the education and to the studies of the students than in any University with which he had been previously acquainted. He found, moreover, athletic sports as popular in the Colonial University as they are in the Universities of England. Trinity College contains an institution for the training of young men in the special principles of the Church of England, and for maintaining a supply of ministers to extend her influence. Upper Canada College affords a successful attempt to reproduce the system of an English Public School, and it is amusing at the present time to find the Governor-General discussing in Toronto the advantages and dangers of the monitorial system. The City Public Schools show a daily average of 5,000 children, taught at an annual expense of £9,000, the whole of which, with the exception of £600, is provided by an assessment on the ratepayers. The instruction given in these Schools is described as free from all sectarian character, and to this feature in the system the School Board attributes the great success which has attended their efforts in the cause of public education. In Bishop Strachan's School he found, to his pleasure "as a member of the Episcopal Communion, a flourishing institution where the principles in which he believed were inculcated from earliest youth." He further visited the Roman Catholic institutions of St. Michael's College and St. Joseph's Home, where it was fortunately discovered that his family motto—"*Per vias rectas*"—is conspicuous on one of the antiphons of the Church. His connexion with the Church of England seems in no way to have lessened the warmth of his reception, and here also he took occasion to express the pleasure with which he observed the harmony and liberality of sentiment which all the religious denominations of Canada maintain towards each other, and the common feeling of loyalty by which they are bound to the Throne. The Irish members of these institutions displayed unreserved attachment to the Crown, and Lord Dufferin expressed his perfect conviction that "among no section of the inhabitants of the Dominion had Her Majesty more faithful, more useful, and more loyal subjects than among those who had the honour of claiming an Irish descent." A deputation from the Sabbath School Association of Canada and a visit to a Sunday-school in Toronto completed this comprehensive survey of the educational institutions of the city.

In this slight sketch we cannot do justice to the exuberance of oratorical, poetical, and musical fervour which accompanied the Governor-General in his progress through the Schools and Colleges of Toronto. But such a list of flourishing institutions for the promotion of education does great honour to the enterprise and intelligence of the colonists, and it is worthy of especial observation how little they are hampered by the difficulties which seem so insuperable among ourselves. The Religious and the Race Difficulties appear to have both been satisfactorily surmounted; Catholics and Protestants work well together, and the Irish population is thoroughly loyal. Lord Dufferin could not but observe that it seemed to him disgraceful, in the fact of such an example, that "in "the great contention which we are waging with ignorance, and "consequently with crime, the various religious denominations of "Europe should not yet have learnt to put aside their jealousies and "combine in so Catholic a cause." The truth probably is that in Canada they have no time to spare for such quarrels, and, having few idle hands, they cannot get to mischief. It is because, with the lessened keenness of our struggle for life, we have gained also a less keen sense of the urgent practical necessity of education that we waste our energy on denominational squabbles, and we may be sure that is the paramount necessity of mental cultivation becomes better recognized among us our so-called religious difficulties will gradually disappear.—*From the London Times.*

2. LORD DUFFERIN ON POLITE EDUCATION.

His Excellency the Governor General and Countess Dufferin visited the McGill Normal School in Montreal lately, and was presented with an address of welcome. Lord Dufferin replied as follows:—"I can assure you it gives me the greatest pleasure to have had an opportunity of paying you this visit, and of showing you by my presence here to-day not only what an interest I take in the general subject of education, but how much importance I attach to those particular functions which you will be shortly called upon to perform. In fact it would be almost impossible to exaggerate the responsibility which rests upon you, because, after all, it is upon you, upon the teachers who are spread abroad in every village and district from one end of the country to the other, that must depend the due education of the great mass of the people. I am happy to think from what I have seen in Toronto, and what I now see here, that every precaution has been taken and every means has been furnished which man's ingenuity can contrive to fit you for the successful performance of your important task. It is indeed a

matter of equal satisfaction to us all, that a number of young men and women whose intelligence is printed on every movement of their countenance should year after year be sent forth from each of their parent establishments, spreading abroad in all directions sound teaching and everything that is necessary to develop the intellectual vigour and activity of the country. I do not know that there is any practical suggestion which it would be incumbent upon me on the present occasion to make to you, and yet there is one observation which I am almost compelled to submit, and that is I would venture to remind you that in your future relations with your young pupils you will be careful to remember that your functions must not be confined merely to the development of their intelligence and the imparting of information, but that there is also another duty as important as either of these, and that is that you should endeavour to refine, discipline, and elevate their general behaviour, rendering them polite, well-bred, deferential, respectful to their parents, to their elders and their superiors. Perhaps in a new country, where on every side we are surrounded by the evidence of prosperity, where a spirit of independence is an essential element of success, where at a very early age young persons are called upon to fight their own battle and to undertake their own responsibilities, it is very natural that there should be developed an exuberant spirit of self confidence. Now what I would venture to ask you from time to time to impress upon your pupils is this, that although upon the one hand there is no quality more creditable than self-respect, yet on the other hand the very idea of self-respect excludes self-assertion, and I say it the more readily because I confess if there is any criticism which I have to pass upon the youth of this new country—I do not say of Canada especially, but of the continent of America—it is that I have been struck by the absence of the deference and respect for those who are older than themselves, to which we still cling in Europe. Now, to use a casual illustration: I have observed in travelling on board the steamboats on the St. Lawrence, children running about from one end of the vessel to the other, whom more than once I have been tempted to take up and give a good whipping. I have seen them thrust aside two gentlemen in conversation, trample on ladies' dresses, shoulder their way about, without a thought of the inconvenience they were occasioning, and what was more remarkable, these little thoughtless indiscretions did not seem to attract the attention of their parents. When I ventured to make an observation on this to the people with whom I have been travelling, I was always told that these little pleasing individuals came from the other side of the line. Well, I only hope that this may be so; at all events, without inquiring too strictly how that may be, I trust that the teachers of the schools of Canada will do their very best to inculcate into their pupils the duties of politeness, of refined behaviour, of respect for the old and of the reverence for their parents, that they will remember that a great deal may be done by kindly and wholesome advice in this particular, and that if they only take a little trouble they will contribute greatly to render Canada, not one of the best educated, most prosperous, most successful and richest, but one of the most polite, of the best bred, and well mannered countries of the American continent."

3. LORD DUFFERIN ON YOUNG LADIES' EDUCATION.

Lord and Lady Dufferin visited the Ottawa Young Ladies' College on Monday, Dec. 16th, where he was met by a number of those most interested in managing the establishment. During his visit he entered freely into conversation with the Rev. Mr. Moore, of the Presbyterian Church, which the Ottawa *Free Press* reports. Among other things the following is reported :—

"Lord Dufferin—It is a mixed institution, of French and English.

"Rev. Mr. Moore—No ; we have no French.

"Lord Dufferin—I suppose it is something on the same principle as the schools conducted by the Nuns. How many have you on the roll at present ?

"Rev. Mr. Moore—About 200 on the rolls at present. We have fifty-two boarders.

"Lord Dufferin—I didn't know that it was such a young Institution.

"Rev. Mr. Moore—We teach Latin, French and German. We have no Italian.

"His Excellency—Do you teach Latin ?

"Rev. Mr. Moore—We do.

"His Excellency (after a pause)—*Do you teach cooking ?* (Laughter.)

"Rev. Mr. Moore—It is our intention to do so."

There is a moral in this last question, which it would be well for educationalists to take home and consider. His Lordship did not stop at the mere question, but added, in his reply to an address which was presented to him, that—"it gives me great pleasure, however, in looking over the programme, that the science of cooking has not been overlooked. In a new country like this there could be no doubt but that the subject of domestic economy was one of very great importance, particularly they should, the young ladies, study how to make their future husbands comfortable."

We believe there are few who will not echo the practical lesson here given by the Governor-General.—*Belleville Intelligencer.*

III. Papers on Educational Progress.

1. SUCCESSFUL SCHOOL TRUSTEE MEETINGS.

An energetic Inspector gives the following interesting account of School Meetings which he recently held :—"Since the annual School Meetings have been held I have convened meetings of the various Boards of Trustees in each Township in this County, for the purpose of receiving the annual reports, and correcting any mistakes that might be in them, so that my reports to your department might be reliable. Their meetings have been very successful and I trust that their efforts will prove beneficial. A number of topics for discussion were brought forward, and a great deal of interest manifested in them. The subjects discussed were the advantages of providing 'weekly reports' so as to bring parents and teachers into more direct communication with one another, of 'general registers' so that the general management of the Schools can be readily seen, of 'adequate School accommodation' including play grounds, fences &c., &c., so that our Public Schools shall be more attractive to the young, of 'suitable libraries' especially reference books, and of the employment of none but thoroughly competent 'Teachers,' who are the best and cheapest in the end.

"Several Boards of Trustees requested me to enquire if the 100% will be granted to Trustee Boards who wish to provide 'Worcester's Unabridged Dictionary,' The Pronouncing Gazetteer of the World,' and some work of reference on the structure of the English Language, say 'Fowler's Grammar unabridged,' or 'Angus' Handbook of the English Language.' I have recommended these books to be placed in every Public School in this County for the benefit of pupils and teachers. The subject of Township Boards of Trustees was also discussed at several of these meetings, and I believe that the public opinion of this County is going in favour of them."

2. COUNTY OF HURON AND TOWNSHIP BOARDS.

At the recent meeting of the Huron County Council at Goderich, the following resolutions were passed on the recommendation of the Education Committee of the Council :—

1st. That Township Boards of School Trustees be made compulsory, instead of permissive, as at present.

2nd. That in the event of Townships being divided into Wards, one Trustee be elected in each Ward, that the Chairman of such Board be elected by the whole Township, and that the nomination and the election be held at the same time and place as that of Councillors.

3rd. That the property qualifications required for a Trustee be the same as that at present required for Councillors.

4th. That the law be so formed that Township Councils interested in Union Sections, shall be compelled to raise an equivalent sum according to equalized assessment in each part of such Union Section, for all school purposes, including the erection of school-houses.

5th. That in Union School Sections, the management of such schools shall be controlled by the Trustee Board of that Township in which the school is situated.

6th. That the Warden and Clerk petition the Ontario Legislature at as early a day as possible, in accordance with the foregoing recommendations.

3. PREPARATORY CLASSES IN HIGH SCHOOLS CONDEMNED.

The Public School Board at Ottawa has petitioned the Government as follows :—

The Public Schools so denominated—as contra-distinguished from High Schools and Collegiate Institutes—are legally governed and administered by Boards of Trustees elected by the people in the same manner, and by the same machinery as the Municipal Councils, and are thereby amenable to the judgment of their constituents, the ratepayers who support the said schools, who, if dissatisfied with their management, can at stated periods relieve them of

their offices and elect in their places, persons in whom they have confidence. But the Board who control the High Schools and Collegiate Institutes are nominated and appointed by the Municipal Councils and forthwith become possessed of large powers which they may exercise without let or hindrance. They become in fact independent Boards and may and do demand from the Councils subsidies which must be granted to them although entirely out of proportion with the works they perform. Not satisfied with this arbitrary exercise of power some of them transcend the obvious intentions of the law by establishing in connexion with their Institutions, classes where the first rudiments of education are taught to the children of parents, who from an assumed social superiority prefer paying or promising to pay a portion of the cost of sustaining such classes, and in this way the Public Schools, however well officered, amply provided for and managed, as are those of this city, suffer disparagement and prejudice. The remedy for these palpable evils appears to your petitioners to be easy of attainment —in the cities at least, if not every where—and as they believe would be found in making the management of the High Schools immediately and directly dependent in common with the Public Schools upon the approval of the people at the polls. For this purpose a general Public School Board having the supervision and government of all classes of schools, from the collegiate institutes downwards, might be elected in the same way as the Public School Trustees are now called into and kept in existence, and there can hardly exist any doubt that the people would through such a Board, make full and sufficient provision for giving an absolutely free education to all classes alike.

4. THE GALT SCHOOLS.

The Very Rev. Dean Boomer, in replying to a complimentary address and presentation on his leaving Galt, thus referred to its schools: —I was with Galt in what may be called its school days, and when as regards education and its privileges it was only in its alphabet. I need scarcely say to those acquainted with its history, that this was the department in your public weal which ever attracted my sympathy and support. And I am truly thankful, my friends that I have been permitted to witness such an advancement in this respect, that with your noble Central School and still nobler Collegiate Institute, there are few towns in Canada which possess your educational advantages. I need not, my friends, detain you in this rather lengthened response, by any reference to your prosperity in a material point of view which has been equally great and which has been owing, I must say, to the industry, energy, and moral character of your people.

5. POPULAR EDUCATION IN EUROPE.

The educational systems of several of the countries of Europe have been discussed in the JOURNAL, and other articles will be given in future numbers. However, an Italian journal, *L' Eco d' Italia*, contains some interesting reports regarding the educational condition of different European nations.

In Saxony education is compulsory. All the inhabitants of the kingdom can read and write, and every child attends school.

In Switzerland all can read and write, and have a good primary education. Education is obligatory, and greater efforts, in proportion to the means at the disposal of the government, are here made to impart primary instruction than anywhere else in Europe.

In all the smaller States of North Germany education is compulsory, and all the children attend school.

In Denmark the same is true. All the Danes, with but few exceptions, can read and write and keep accounts. The children all attend school until the age of fourteen.

In Prussia almost all the children attend school regularly, except in some of the eastern districts. An officer who had charge of the military education of the Landwehr, in twelve years met with only three young soldiers who could neither read nor write. An enquiry having been instituted, it was found that these three were the children of sailors; and, having been born on the river, had never been settled in any place. Instruction is obligatory.

6. COMPULSORY EEUCATION IN EUROPE.

In Sweden the proportion of inhabitants who can neither read nor write is one in a thousand. Education is obligatory.

In Baden every child receives instruction; and in Wurtemburg there is not a peasant, nor a girl of the lowest class, nor a servant in an inn, who cannot read, write, and account correctly. Every child goes to school, instruction being obligatory.

In Holland public assistance is taken away from every indigent family that neglects to send its children to school. It is estimated that the number of illiterates is three per cent.

In Norway almost all the native population can read, write, and account passably well. Instruction is obligatory.

In Bavaria, among one hundred conscripts, only seven whose education was incomplete or entirely wanting were found. Here also instruction is obligatory.

France, with its twenty-three illiterate conscripts in a hundred, occupies the twelfth class. It is followed by Belgium, Italy, Austria, Greece, Portugal, Moldo-Wallachia, Russia, and Turkey, in the order named. In Italy, however, the conditions vary much according to the province.

7. HOW PRUSSIA DOES IT.

One of the most brilliant and memorable of parliamentary debates took place in the Prussian House of Lords, in the month of March, upon the new school law. So much interest was manifested that one of the oldest members declared that he could not remember ever to have seen so large an attendance of peers, some of whom had scarcely appeared in the house for twenty years.

The school law, as then presented for discussion, provided that the supervision of the schools, which had so long been considered a prerogative of the Church, should belong to the State alone; that the office of inspectors of schools, formerly held by the parish clergy *ex officio*, should hereafter be filled by appointees of the State. In other words, that it should become a civil and not an ecclesiastical office; and for this change an appropriation was called for to pay the new school inspectors. The debate upon the question was characterised by great ability and great forensic power on both sides. The clergy and conservatives pressed forward their ablest men.

Bismarck, the great leader of the reform, was the recipient of many sharp hits; but when he at last rose to reply, every one listened and every eye was turned upon him. With no attempt at oratory, with little if any gesticulation, he spoke, as is his custom, rapidly, nervously, sometimes hesitatingly; but his apparent nervousness is the result of an exuberance of electrical vitality, and his hesitation is that he may weigh the words that not only the Assembly, but Europe and the nationalities of the world may hear and ponder. With an energy of will that brooks no opposition, he held the opponents at bay for two days, and at the close of the debate the bill passed by one hundred and twenty-five ayes to seventy-six noes.

Germany thus stands at the head of progress in educational freedom among the countries governed by clerical influence. In this, as in other movements, Bismarck evinced a far-reaching, far-seeing sagacity and wisdom that grasps the possibilities and the foreshadowing of events during the present. Seeing, almost prophetically, the tendency of events, he solves the problems of the future without waiting for the future to evolve them. For him, to will is to do; to wish is to consummate and carry out what he desires. Thus far he has placed himself in the foremost rank of statesmen, warriors, and scholars, and with characteristic Teutonic calmness wraps his drapery around him not to sit down to quiet dreams, but to ponder, and to watch the next *role* he and the world are to play together in the world's progress.—*University Monthly.*

8. EDUCATION AND THE LATE FRENCH WAR.

In a recent lecture Rev. Henry Ward Beecher remarked that in the late European war ninety-eight per cent. of the Prussian soldiers could read and write, while only forty-eight per cent. of the French had the like knowledge. "Of course they (the French) went down." the lecturer adds. This hasty sort of reasoning has become very common lately, but it is hardly to be relied upon. Did the needle-gun, the excellence of the German officers, and the genius of Von Moltke have nothing to do with the defeat of the French? Suppose that the German army, with all its superiority of numbers, generalship, and equipment, had nevertheless been composed of private soldiers who could neither read nor write, does any one really suppose that in such case McMahon would not have marched to Sedan, or that Bazaine would not have shut himself up in Metz? Most military men will be of the opinion that the literary accomplishments of the Prussian rank and file were of less value than the condition of their shoes and the quality of their ammunition.

The attachment of Lord Hatherley to Sunday schools is well known; but it is not equally well known that his successor, Lord Selborne, has for many years engaged himself in the work of teaching. In Lord Hatherley's recent address upon Sunday schools at Leeds, he "strongly urged the gentry to bear a considerable pro-

portion of the work connected with them." With two such examples, a hope may not unreasonably be cherished that his Lordship's may be acted upon; and perhaps no better testimony to the value of Sunday school teaching could be given than that two such eminent lawyers as Lord Hatherley and Lord Selborne have been for years in the habit of personally devoting their time to it.

9. EDUCATION IN DENMARK.

The new Education Bill introduced into the Danish Chamber by M. Hall, the Minister of Worship and Instruction, though not in advance of public opinion in Denmark, is evidently of a very thorough-going character. Compulsory education at the expense of the State has existed in Denmark since the beginning of the century, but the compulsion put in exercise has not been found adequate for the purpose. According to the new bill, children of both sexes are to be under strict obligation to attend school until their fifteenth year is completed, after which it is assumed they will be ready for secondary instruction. Those children who go on to the latter will be taught in separate schools, especially created for the purpose. The demands by any six pupils above the age of fifteen—either boys or girls—for higher instruction than the elementary schools can provide will impose the duty of establishing in any commune a superior school for their use. The course of study, which now extends to six years and a half is raised to seven and a half. Compulsion is exercised by means of fines inflicted on neglectful parents, the amount of which is to be increased. The money to be obtained in this way is to be distributed among the families of the poor who shall have exhibited most zeal in the instruction of their children. The most effective supervision of the schools is provided for by the appointment of eight general inspectors entrusted with the duty of seeing to the strict observance of the rules and regulations laid down.

10. HIGHER EDUCATION FOR GIRLS.

We have seen the efforts made to bring into greater prominence the desirability of higher female education but less has been said of the arguments against attempts to achieve too much in this direction. The N. Y. *Albion* speaks of forcing processes which are a mistake in the majority of instances, and the inutility of expecting that boys and girls are to attain to a similar educational condition. We fancy that excessive toil at girls' schools is not so much in vogue as formerly. Still the point is well taken. The *Albion* says, after noting certain instances of distinguished French scholarships:

With the examples before them of what their sex can do, it is not improbable that the next generation may even contest supremacy with men on these grounds, as Elizabeth Carter did with classical scholars in her day, and Caroline Hershchell with astronomers of the present age. This possibility their opponents do not deny. They simply assert that this result is gained at too great a cost, and that the essential character of womanhood is too much changed by these strenuous efforts to enable woman to fulfil her duties in life properly. Few out of those who attain distinction at their school would be able to keep up their studies in their after life, and they only at the price of great exertions. Married life must be nominal; no family can be attended to, the cares of maternity are absorbing, and the conducting a household takes many hours a day. Men could not succeed if so weighted down; neither can women, with less physical power. That education is the best that leads to the improvement of the actual condition of him or her who receives it, and any instruction which is not fitted to the nature of the pupil is thrown away. Of what avail is it for a girl whose life will be passed in domestic cares to study Greek or Latin? Her school hours can only teach her the rudiments of this knowledge; the filling in, the continued pursuit of the literature of those nations, can only be done with leisure and means. An education takes money, as well as time.

The question now arises, whether our schools here answer the purpose for which they are designed? Is the result as good as should be expected? We are afraid most impartial persons, whether friends of high education for women, or opponents, will say that these institutions which go beyond the range of the public schools do not answer. Our female seminaries, colleges, and high schools tend too much to cramming. No one has sufficient ability to pursue all the studies laid down for feeble girls, and the very assiduity with which these young pupils apply themselves to their books prevents them from equalling their brothers. Boys are enabled to study hard by having sufficient play and exercise. Their lessons are notoriously not so well prepared as those of the other sex; their attainments, judged by the book standard, are less at the age of nineteen than those of the young ladies. But with the latter it then ends. The teaching of six or seven years is compressed for girls in three; and they pass their examinations well. It is then only that the great divergence begins. At twenty or twenty-two the daughter is married; her books must be dismissed then. Her health has been seriously impaired. Her brother, who at nineteen knew less than she, at twenty-two surpasses her; at twenty-eight there is no comparison. Boys' schools do not allow such cramming as those of girls do; healthy exercise, and the postponement of urgent work for four or five years longer than their sisters can, does the rest. The girls have too many studies. The practice of the piano alone absorbs a large portion of the day, bringing considerable physical exhaustion with it; what are commonly known as accomplishments, such as drawing and painting, take up much more, and the remainder of the day is occupied in grappling with all manner of things. Most of these seminaries give for a graduating course, among other things, instruction in four languages, but it would be entirely safe in saying that neither of them become useful. The pupil is never able to converse or translate easily in either of them, in a year has lost even what little skill she did have, and in ten years retains scarcely a single word of either. In the case of the boy, however, he has leisure enough for the first few years to keep up his knowledge, and his whole subsequent life enables him occasionally to find this instruction of value, even though he may not have increased it, or it may have diminished. If young women could attend school until twenty-one, and then have three years of post graduate leisure, there can be no doubt that the productive result would be far greater. The hot-house plant now withers and dies.

IV. Papers on Practical Science.

1. NECESSITY FOR EDUCATION IN PRACTICAL SCIENCE.

At a meeting of the Machinists and Blacksmiths' Convention, held in Albany, in September, a resolution was adopted, deploring the general deficiency of mechanics and a knowledge of the theory and higher branches of their trades, and recommending that some means be taken for affording opportunities for elevation in this respect.

The machinist would be none the worse if he had more of an acquaintance with Euclid, and less with lager beer; or the blacksmith, if he knew how to drive home and clench an argument in metaphysics as skilfully as a horse-shoe nail; or the dentist, if he could extract hidden Greek roots with the same facility as grumbling molars. A man who wants to run an engine ought to be educated for his business, just as much as a lawyer for his profession. We are a patient and long-suffering people, or we would never permit ourselves to be blown up by hundreds by ignorant engineers, who know nothing more of the monsters which they control than enough to feed them with wood and water, and oil up their creaking joints; or suffer ourselves to be sent to our graves by striplings in short jackets, who give us arsenic for paregoric, and strychnine for the elixir of life.

The time is coming, and we trust is not far distant, when all positions of responsibility will be filled by men of education, and can be filled by none others; when ignoramuses will be obliged either to fit themselves for their proposed labours, or seek other employments.—*N. Y. State Educational Journal.*

2. PRACTICAL SCIENCE—REGRETS OF HORACE GREELEY.

In expressing his regrets that he had not been taught any of the elements of practical science in his youth, Mr. Greeley in an address in Pennsylvannia, said:—"I have travelled all over this earth, from the Adriatic Sea on the east to the Pacific Ocean on the west, and every day I have deplored the want of knowledge of chemistry and geology as I walk dumb and blind amid the wonderful works of God's creation across the plains, which spoke with God's eloquence, which my limited education prevented me from enjoying. I had no other time for schooling than in the winters of the first ten years of my youth. I never saw during that time a book on chemistry or geology—never knew that such books existed—and I feel now that my life would have been more useful and more enjoyable if I had time and the chance to study them."

3. THE RELATION TO ELEMENTARY, OF SCIENTIFIC TEACHING.

The two fundamental principles on which the science of teaching rests are: first, the mind is developed by a right exertion of its own power; second, the kind of action excited and knowledge obtained is determined by the occasions presented.

The modes of mental action are these: first, the activity of the *intellect;* second, that of the *sensibility;* third, that of the *will.*

The intellect has three ways of activity:

1st. It has a *perceiving* power.

2nd. It has a *representative* power.

3rd. It has a *reflective* power.

By the first the intellect acquires a knowledge of facts concerning individual things; by the second this knowledge is preserved; by the third it is elaborated and extended to classes and to general truths.

The relation which elementary holds to scientific teaching is that one occasions the other. Therefore, the elementary teacher must keep constantly in mind that he is to excite the minds of his pupils to activity by presenting right occasions for it; and that the pupils must observe *all the phenomena* necessary to a knowledge of individual objects of thought. Then the learner will have occasions for a knowledge of classes and of the laws in accordance with which all things have been made to conform to a plan.

From a study of things the mind must be led by the teacher to a study of itself. It must be trained so that it can perform skilfully all the practical work of this life, and in such a manner that a preparation will be made for the life to come. Such teaching requires the most thoroughly trained teachers in our primary schools. We need teachers who can look up through all the grades of teaching above them and know the relations the elementary ideas they are now exciting hold to that scientific knowledge that depends upon them. They must know, also, how to lead the mind back of the *material world,* and of the laws which determine its modes of existence, and of *the mind* that can be conscious of them, to the mind of Him who is the *source of all Truth.—J. W. Dickenson, in N. Y. State Education Journal.*

4. UNDERGROUND TELEGRAPH WIRES.

Prof. Benjamin Silliman, of New Haven, in a letter respecting laying telegraph wires underground in cities, points out some of the difficulties which interfered with early efforts in this direction. It appears that gutta-percha covering will not answer for the insulation where it is exposed to the action of moist earth and vegetable processes. An element to be carefully considered in carrying out a general plan for underground telegraphs in cities is the facility that must be given for relaying in case of accident or of excavations in the streets for constructive purposes. If, however, the wire is once properly laid under ground in insulating material proof against natural agencies of destruction, the "electrical leakage" is very small; so much smaller than is possible with wires in air as to be a great saving to the telegraph company. Prof. Silliman thinks that a large measure of uncertainty and inconvenience in the operation of the telegraph will be permanently removed by the underground plan in cities, which he deems entirely practical.

V. Papers on Practical Education.

1. HOME GEOGRAPHY.

A child should begin the study of geography long before he goes to school. As soon as he begins to talk, he may begin to lay foundations for this branch of science. He should be taught the points of the compass, East, West, North, and South. He should be able to tell on which side of the room the fire is—the front door—the table—the stairway,—and in which direction are the spring or well, the garden, the barn, the orchard, &c., and his young eyes should be trained to see just how the land lies and looks, close around his home. This is primary geography, pleasant and practical.

By this means the child becomes an enquirer and a learner. He begins to see the real nature of things. Such instruction is solider and more eagerly sought and readily remembered, than any book lessons, however prettily pictured. He understands these familiar, tangible objects, and recollects what he is told. These home sights and home objects have a meaning to his mind, such as never can be conveyed by the abstract theories of the books. Nothing should be taught from books, unless it is absolutely impossible to use any better means. Children's eyes are too much confined to shadows on the dull paper pages, while the realities, all glittering with beauty, are inviting study on every side—on the clouds, the sky, the fields, the woods, the water, all around and every where.

Instead of waiting to task your child in the text-book of the school, you must talk him along and walk him along in the pleasant paths of practical truths about home, and the vicinity of home, until he has positive knowledge of the roads, the fields, the farms, the houses, the streams, the hills, the woods, and all the distances in the circle of the neighbourhood. This is the geography to teach. These are the beginnings that will widen out as a child grows older, until his knowledge of the state, the country, and the world, shall be thorough and well adjusted.

If geography is, technically, a description of the earth, then let the child define the common things that first meet his eye, and make real geography out of them. How far pleasanter to describe what he sees in Nature around, than to commit and recite the dull, hard descriptions of the books!—*Schoolday Visitor.*

2. SLATES TO BE ABOLISHED.

A general war is being waged against the use of slates in the schools of Germany. There is scarcely any sound more offensive to the human ear than the grating of the pencil on the slate, and when this is multiplied by numbers in the school, the effect is said to be extremely injurious to the nerves of many children, and leave evil influences for life. In addition to this, the use of slates is attended with many other disadvantages. Children acquire a heavy hand by their use, and accustom themselves to a vicious holding of the pen. Physicians say that the sight is injured by it. The slate is heavy and easily broken, and is a noisy implement in the school-room, besides being quite inconvenient to carry with books. In short, the slate ought to be abolished entirely, is the verdict. But it is a necessary evil, without a substitute. Many ingenious minds have been seeking for years for a satisfactory remedy, and at last a practical teacher thinks he has found it. A Mr. Wagner comes forth with a sort of pasteboard that presents all the convenience of the slate, with the advantages of writing on paper. Pen and ink are used, as on ordinary paper, but the writing can easily be effaced, and the same board or card used an indefinite number of times. The Saxon Board of Instruction have granted Mr. Wagner a patent for his invention.

3. BISHOP MAGEE ON "CRAMMING."

In distributing the prizes at King's School, Peterborough, on Wednesday, the Bishop of Peterborough referred to the danger in public schools of teaching too many subjects, and so turning out sharp clever prigs, whose minds were like kaleidoscopes, filled at the ends with small bits of coloured glass of all shapes and colours, but of little use. Competitive examinations for the public service defeated, in a great measure, the objects of their promoters, which was to place the rich and poor on an equality, because success was made to depend very largely on successful cramming, which meant a high-priced crammer. Competitive examination was a hobby which the British public had ridden very hard, and if the pace were continued much longer both the public and the hobby would come to grief together.

VI. Miscellaneous.

1. ANNIE AND WILLIE'S PRAYER.

[The following poem written by Mrs. Sophia P. Snow, is exquisitely touching and beautiful. It cannot fail to reach the hearts of all who peruse it, besides being peculiarly appropriate to the holidays.]

Twas the eve before Christmas: "Good night" had been said,
And Annie and Willie had crept into bed;
There were tears on their pillows, and tears in their eyes,
And each little bosom was heavy with sighs—
For to-night their stern father's command had been given,
That they should retire precisely at seven,
Instead of eight: for they troubled him more
With questions unheard of than ever before:
He had told them he thought this delusion a sin,
No such being as "Santa Claus" ever had been,
And he hoped, that after this, he should never more hear
How he scrambled down chimneys with presents each year.
And this was the reason that two little heads
So restlessly tossed on their soft, downy beds.
Eight, nine, and the clock on the steeple tolled ten;
Not a word had been spoken by either till then,
When Willie's sad face from the blanket did peep,
And whispered, "Dear Annie, is you fast asleep?"
"Why no, brother Willie," a sweet voice replies,
"I've tried it in vain, but I can't shut my eyes,
For, somehow, it makes me so sorry because,
Dear papa has said there is] no 'Santa Claus;'
Now we know there is, and it can't be denied,
For he came every year before mamma died:

But then, I've been thinking that she used to pray,
And God would hear everything mamma would say,
And perhaps she asked him to send Santa Claus here,
With the sacks full of presents he brought every year."
"Well, why tan't we pray dest as mamma did then,
And ask Him to send him with presents aden?"
"I've been thinking so too." And without a word more.
Four little bare feet bounded out on the floor,
And four little knees the soft carpet pressed,
And two tiny hands were clasped close to each breast,
"Now, Willie, you know we must firmly believe
That the presents we ask for we're sure to receive;
You must wait just as still till I say the 'Amen.'
And by that you will know that your turn has come then,"
"Dear Jesus, look down on my brother and me,
And grant us the favour we're asking of Thee;
I want a wax dolly, a tea-set and ring,
And an ebony work-box that shuts with a spring;
Bless papa, dear Jesus, and cause him to see
That Santa Claus loves us far better than he,
Don't let him get fretful and angry again
At dear brother Willie and Annie, Amen!"
"Please, Desus, 'et Santa Taus tum down to-night,
And bring us some presents before it is 'ight,
I want he should dive me a nice 'ittle sed,
With bright shiny runners and all painted yed:
A box full of tany, a book and a toy,
Amen, and den Desus, I'll be a dood boy!"
Their prayers being ended, they raised up their heads,
And with hearts light and cheerful again sought their beds;
They were soon lost in slumber, both peaceful and deep,
And with fairies in Dreamland were roaming in sleep,
Fight, nine, and the little French clock had struck ten,
Ere the father had thought of his children again,
He seems now to hear Annie's half-suppressed sighs,
And to see the big tears stand in Willie's blue eyes.
"I was harsh with my darlings," he mentally said.
"And should not have sent them so early to bed;
But then I was troubled, my feelings found vent,
For bank-stock to-day has gone down ten per cent.
But of course they've forgot their troubles ere this
And that I denied them the thrice-asked for kiss;
But just to make sure, I'll steal up to their door.
For I never spoke harsh to my darlings before."
So saying he softly ascended the stairs,
And arrived at the door to hear both of their prayers.
His Annie's "bless papa" draws forth the big tears,
And Willie's grave promise falls sweet on his ear.
"Strange, strange I'd forgotten," said he with a sigh.
"How I longed, when a child, to have Christmas draw nigh."
"I'll atone for my harshness," he inwardly said,
"By answering their prayers ere I sleep in my bed."
Then he turned to the stairs and softly went down,
Threw off velvet slippers and silk dressing-grown—
Donned hat, coat and boots, and was out in the street,
A millionaire facing the cold drifting sleet.
Nor stopped he until he had bought everything,
From the box full of candy to the tiny gold ring:
Indeed, he kept adding so much to his store,
That the various prayers all numbered a score.
Then homeward he turned with his holiday load,
And with Aunt Mary's aid in the nursery 'twas stored:
Miss Dolly was seated beneath a pine tree,
By the side of a table spread out for the tea,
A work-box well filled in the centre was laid,
And on it a ring, for which Annie had prayed.
A soldier in uniform stood by a sled.
"With bright shining runners and all painted red."
There were balls, dogs and horses, books pleasing to see,
And birds of all colours were perched in the tree;
While Santa Claus, laughing stood up in the top,
As if getting ready more presents to drop.
And as the fond father the picture surveyed,
He thought for his trouble he had amply been paid,
And he said to himself as he brushed off a tear,
"I'm happier to-night than I've been for a year,
I've enjoyed more true pleasure than ever before,
What care I if bank stock falls ten per cent more,
Hereafter I'll make it a rule, I believe,
To have Santa Claus visit us each Christmas Eve.
So thinking, he gently extinguished the light,
And tripping down stairs he retired for the night.
As soon as the beams of the bright morning sun
Put the darkness to flight, and the stars one by one.
Four little blue eyes out of sleep opened wide,
And at the same moment the presents espied,
Then out of their beds they sprang with a bound,
And the very gifts prayed for were all of them found.
They laughed and they cried in their innocent glee.
And shouted for "papa" to come quick and see
What presents old Santa Claus brought in the night.
(Just the things that they wanted,) and left before light.
"And now," added Annie, in a voice soft and low,
"You'll believe there's a Santa Claus, papa, I know:"
While dear little Willie climbed up on his knee,
Determined no secret between them should be:
And told in soft whispers, how Annie had said,
That their dear, blessed mamma so long ago dead,
Used to kneel down and pray by the side of her chair,
And that God up in Heaven had answered her prayer!
"Then we dot up and prayed dust as well as we tould,
And Dod answered our prayers, now wasn't he dood?"
"I should say that He was, if he sent you all these,
And knew just what presents my children to please.
(Well, well, let him think so, the dear little elf,
'Twould be cruel to tell him I did it myself.")
Blind father! who caused your stern heart to relent?
And the hasty word spoken so soon to repent?
'Twas the Being who bade you steal softly up stairs,
And made you his agent to answer their prayers.

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2. PRESENT CONDITION OF THE INDIANS.

Concerning the present condition of the Indians, the author of the "Sketch of Brant" writes:—

Formerly all Indians lived in wigwams and subsisted by hunting and fishing. Hundreds, nay thousands, still pagans, are no better off at the present time. But it is a matter of gratitude to Almighty God that through the labours of zealous and excellent missionaries, the religion of Jesus has done much to reform the moral, social, and domestic habits of these once degraded races. The women, who formerly were slaves to the men, have no longer the drudgery and hard work to perform, but are living in comfortable cottages, neatly clothed, and enjoying that peace which the religion of Jesus alone can give. The sober and industrious men are making considerable progress in farming; many of them grow wheat, oats, peas, Indian corn, &c. &c., have small orchards, and cut considerable hay. But as the Indian possesses no *Title Deed* for his lands, he has only a life interest in them—a circumstance materially tending to check that spirit of enterprise which stimulates the white farmer in working and laying up for his family.

Excepting the protection of law, which every alien who resides in Her Majesty's Dominion claims, Indians do not possess any civil or political rights as British subjects. As many of them possess strong native talents, powers of foresight, quick and accurate observation, conjoined in many instances with extraordinary personal influence and persuasive faculties, why they should not participate in all the blessings of British North American subjects, and with their white neighbours enjoy permanent security of their landed possessions, is a query for our rulers and great men to solve.

As soon as the white man approaches the Indian reserves, the value of land greatly increases, and in many instances land speculators have not suffered the poor Indian to rest, until by some artifice or other, they have prevailed on them to quit their settlements and seek fresh homes in the far-off West. Many arguments have been advanced with the plausibility of philanthropic intentions, that by such removals they were rendering the Indian service; but the fallacy of such reasoning is evident.

If while under the counsel of those who sincerely desire their advancement and improvement, they still feel the influence of those whose aim is to injure and demoralize, what will their condition be benefited when driven far beyond the power of Christian example and restraint?

The Indians within our Provinces are well aware of the advantages of civilization, and desire to improve in arts and knowledge, so that they may participate in our privileges. It is a matter of congratulation that in many of the settlements efforts are now made to encourage and bring forward by the system of competition, those who apply themselves to agriculture and the arts, and also that many Indian youths, who have discovered superior talents, are now receiving advantages of a higher degree, fitting them as teachers amongst their brethren.—*From the New Dominion Monthly for December.*

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3. THE NEW JAPANESE CALENDAR.

The Japanese calendar and mode of reckoning time, which have been observed in the Empire during, as it is supposed, two thousand five hundred and thirty-three years, was changed, and the foreign Christian method substituted in its stead, on the first of January, 1873. New Year's day will in future be the first day of the first month of the Japanese year. The day is to be divided into twenty-

four hours, instead of twelve, as before, and the one which corresponds to Sunday is to be observed as a holiday. Strange to say, the Japanese chroniclers and astronomers have just discovered that the 25th day of December should have always been observed as a grand holiday by the Japanese, and that the ceremonial has been neglected for some reason which they are unable to explain. Christmas Day is to be henceforth held sacred to Trinnia, the first Emperor of Japan. These extraordinary facts are really encouraging to the progress of the Christian cause in Asia. Do they come, even at this late moment, from the dogmas of Confucius or the preaching of St. Francis Xavier and other missionaries?

VII. Biographical Sketches.

1. MRS. MARY SOMERVILLE.

A distinguished Scotchwoman has passed away. Mary Somerville was educated at Musselborough school, near Edinburgh, and, like many men and women of genius, did not give her early preceptors any impression of marked ability. Her first husband—a navy officer, and a man of some scientific attainments—discovered in her a great talent for mathematics, and took great pleasure in instructing her in the exact sciences. "The hard grained muses of the cube and square," presided over their honey-moon, and each grew tender over equations throughout the months that followed. Her first work, a summary of the "Mecanique Celeste" of Lapace, was intended for the Library of Useful Knowledge, and was undertaken at the suggestion of Lord Brougham, but proving too voluminous it was issued in a distinct form in 1831. To this succeeded "The connection of the Physical Sciences" in 1834; and in 1848, "Physical Geography." She was, in 1835, elected an honorary member of the Royal Astronomical Society and early received a grant of £300 a year from the Civil List. Her scientific works are characterised by depth and distinguished spirit.

2. THE NECROLOGY OF 1872

The death-roll of the year just closed includes the names of many persons who acquired distinction in their respective pursuits. Journalism lost Horace Greeley, founder of *The Tribune*, who was mourned by the whole American people: James Gordon Bennett of *The New York Herald*, Mr. Spalding of *The New York World*, Edward A. Pollard, formerly of *The Richmond Examiner*; Thomas B. Holcombe, formerly editor of *The Indianopolis Sentinel*; the Rev. Amasa Converse, editor of *The Christian Observer*; Adolphe Gueroult of the French press, Joseph B. Lyman and William F. Beers of *The Tribune* staff, and D O'C. Townley.

Literature lost Charles Lever, the genial moralist; Theophile Gautier, the French art critic, moralist and poet; D'Aubigné, the historian of the Reformation: Prof. Maurice, Frederick Gerstæcker, Prof. Hadley of Yale, Sir John Bowring, the reformer, writer, and versatile linguist; Robert Prutz, A. W. Fonblanque, Sara Payson Parton (Fanny Fern); Norman McLeod, Moritz Hartmann, Scotch churchman and author; Horace Maynard, the English novelist, and Franz Grilliparzer, who enriched German dramatic literature.

Many great names have been lost to science—among them Prof. Lee, eminent in medicine; Major-Gen. Chesney, the pioneer of the overland route to India; Professor Morse, the great electrician, Feuerbach, the German speculative philosopher; Babinet, the French savant; Dr. Francis Lieber, the publicist; Prof. Upham of Bowdoin College; Mary Somerville, the English astronomer; M. Ponchet, the French physiologist; Dr. W. Baird of London, and Prof. Goldstacker, the philologist.

The pulpit has lost Dr. Francis Vinton of Trinity Church; the Rev. Dr. Henry Ostrander of the Reformed Church, Saugerties, N. Y; Peter Cartwright, the Methodist backwoods preacher; the Roman Catholic prelates Cardinal Amat, Archbishop Spaulding, Bishop McGill of Richmond, and the Very Rev. Thomas Mulrey, Vicar-General of the Diocese of Virginia.

Among the great soldiers who died were Major-Gens. Meade and Halleck of the regular army; Marshall Forey, of the French army; Lieut.-Gens. Ewell and Patten Anderson and Gen. Wright, of the Confederate army; Field Marshal Sir George Pollock, Constable of London Tower.

The death-roll of artists includes Kensett, the lanscape painter; Sully, Ames, T. Buchanan Read, both painter and poet; and Robert S. Duncanson and George Catlin, all Americans; and Westmacott, the Engish sculptor.

The stage lost the veterans Forrest and Sedley Smith; also, Miss O'Neill, who was popular in England 50 years ago, Eliza Logan, McKean Buchanan, Bogumil Dawson and Emil Devrient.

Few eminent musicians died; the art, however, lost Hastings, the writer of church music; Lowell Mason of New England fame, and Henry Chorley, the critic of the London *Athenæum*.

Among Americans in political life who died were ex-Secretary Seward, ex-Minister Ingersoll, ex-Postmaster-General Randall, Humphrey Marshall of Kentucky, ex-Gov. Bragg of North Carolina, Norman Eddy, Secretary of State for Indiana; ex-United States Senators Wall of New Jersey, Grimes of Iowa, Walker of Wisconsin, Van Winkle of West Virginia, Garrett Davis of Virginia.

Among the foreigners distinguished in political life who died were Juarez, President of Mexico; Earl Mayo, Governor-General of India, assassinated by a religious fanatic; J. R. Thorbecke, Dutch statesman; Mazzini, the great Italian revolutionist; Duke de Persigny, the ardent adherent of Napoleon III.; Conti, another devoted friend of the ex-Emperor; Sir Henry Bulwer, brother of the novelist; Lord Lonsdale, once Postmaster-General of England; and the Duke of Bedford.

Royalty and royal houses lost King Charles XV. of Sweden, Archduke Albrecht of Austria, the Duke de Guise, Don Angel Iturbide, son of the first Emperor of Mexico; Prince Frederick Albert of Germany, King Kamahameha of the Sandwich Islands, Archduchess Sophia of Austria.

VIII. Educational Intelligence.

——One hundred and fifty-four women were candidates at the last examination of the University of Cambridge, against 127 last year. The proportion of failures has decreased.

——Yale pays its professors $3,000, Harvard, $2,600; Dartmouth and Wooster University, $2,000; Marietta, $1,800; Oberlin and Wabash, $1,500; Western Reserve, $1,300. A slender stipend, at the largest, for work that in many cases is beyond price.

——Hamilton College receives from the Samuel F. Pratt, of Buffalo, N.Y., $30,000 for the endownent of a new professorship.

——The University of Zurich seems to be contributing its mite to solve the problem of university education for females. Out of some 400 students now in attendance, it is stated that 80 are ladies—most of them students of medicine.

——Gottenberg, Sweden, is to be the seat of a medical college which will afford a three years' course of study to ladies over seventeen years old. After receiving diplomas, they can practice in any part of Sweden as physicians.

——Madison University has four natives of Burmah among its students.

——Rev. Dr. Eliphalet N. Potter was formally inagurated president of Union College at the last commencement, and the alumni pledged themselves to raise $100,000 for the college.

——Harvard University lost about $200,000 by the great fire in Boston, which will, without doubt, be soon made up by her friends, who have already subscribed more than $150,000 towards this amount.

——The faculty of Harvard College are making a determined effort to put an end to "hazing" and "rushing."

——The library of the Rochester Theology Seminary has received a gift of $25,000 from John M. Brace, Esq., which makes about $125,000 added to the productive funds of the Seminary within the last few months.

——Harvard College has recently announced that women cannot be admitted to the classes in that institution. The report says:—"would take much time and labour to arrive at an unprejudiced understanding of the practical operation of the co-education of the sexes in the colleges where it now exists."

——The corner stone of an Agricultural College to cost $180,000, has just been laid in California. Dr. Stebbins, in his address on the occasion, said: "The University is open to the young women of the State on the same terms as to the young men."

——We are pained to record the recent death, in his 74th year, of Francis Lieber, LL.D., Professor of Constitutional History and Political Science in Columbia College Law School.

——The catalogue of Yale College for the present year, shows 76 instructors and 904 students.

——Hon. C. G. Northrop on European Schools.—At the State Teachers' Institute, recently held at Suffield, Conn., Secretary Northrop made an address, giving an interesting account of the progress of education in Europe. The prospect of popular schools in Germany and Italy he presented as promising. He considered that we surpassed Europeans in school architecture—no city in Europe, he said, equalling Hartford in this respect—and in arithmetic, in which our methods of computations are more quick and accurate. Yet they may be regarded as in advance of us in the following particulars: 1. More thorough supervision of schools; 2. Plan of gradation; 3. Culture of the expressive faculties—Americans have a few set words and phrases which are made to do duty on all occasions, without reference to propriety or congruity; 4. Independence of text-books. They teach the subject rather than the book—the matter rather than the letter, and their teaching is more conversational; 5. More thorough teaching of history; 6. Mode of teaching modern languages; 7. Drawing. Napoleon had said, "Let it be taught in all the schools." The Swiss are in advance of all other countries in this art. To this their general prosperity was owing. Hemmed in among the mountains, they own their own houses and are more prosperous than many other countries with better advantages. England pays five times as much for pauperism as for education, while Switzerland pays seven times as much for education as for crime. Drawing has chiefly made this difference. Mr. Northrop urgently counselled all the teachers to teach every one of his and her scholars drawing, even if they had to neglect other studies. Mr. Northrop closed his address by quoting a motto of Dienter, to whom Prussia is so much indebted for her present position in the matter of education: "I solemnly promised God that I would look upon every Prussian child as a being who could justly complain of me before Him if I did not use the utmost means to give him the best education in my power."—*Hartford Post.*

——There are something like five millions six hundred and sixty thousand persons under age in the United States who can neither read nor write. These figures would indicate that a certain amount of compulsory education would not be amiss.

——The number of graduates from the New York State Normal Schools for the entire year 1872 is three hundred and twenty, while that of the previous year was one hundred and ninety-six. The aggregate attendance of normal students for the past year was about three thousand.

——The Board of Education in New York City reports a daily attendance upon the public schools for the last year of about 200,000 pupils. For such of these pupils as choose to pursue an advanced course of study the College of the City of New York and the Normal College furnish it free to boys and girls respectively. Last year there were in the City College and preparing to enter 527 students, and in the Normal College about 1000, showing that considerably less than one in a hundred of the pupils in the public schools ever attempt to go beyond the grammar school, while probably not more than one in six of those who make the attempt complete the full collegiate course.

——Germany publishes more educational works, aside from school text-books, than any other country, her publications of this class during the year 1871 numbering 1059.

——Mr. Mori, the Japanese minister, gives some details of the new educational system of Japan, which, he says, embraces the organization of eight colleges, 256 high schools, and over 52,000 public schools, at which the attendance is to be compulsory for all children above six years of age.

——Schools for printers are in existence in all parts of Germany. Apprentices and artisans attend them largely, and are taught the theory and practice of printing and kindred arts, as well as a general knowledge of foreign languages, and an accurate knowledge of the types of all languages they are likely to meet in their calling. One of the largest and best organized is in Stuttgart.

——Punctuation was first used in literature in 1520. To our certain knowledge it has been dropped from manuscripts within the last few years.

Queen's College, Kingston.—The *Mail* says:—The Queen's College Board of Trustees seem to be quite conscious of the necessity they are under of introducing greater educational facilities, from time to time, to maintain the high position that that institution has occupied for between twenty and thirty years. Keenly alive to the rarity of good reading in the church, and noting the grievous results of bad delivery, they have recently made arrangements with Professor A. Melville Bell for the delivery of a course of lectures on Elocution. It is hoped that all the students will avail themselves of the excellent opportunity of improvement in this respect, particularly those who are destined for the ministry. If public speaking and reading were more generally regarded as a difficult art, and one absolutely necessary to be acquired, we should hear fewer stanzas of Hebrew poetry spoilt and fewer passages of Jewish narrative bungled than at present, "a consummation most devoutly to be wished." Professor Watson, the successor to Professor Murray, has recently entered on the duties pertaining to the Chair of Logic. His inaugural address was on "The Relation of Science to Philosophy." This gentleman's career at the Glasgow University was an exceptionally creditable one; and from the high opinion entertained in Scotland of his ability, great expectations are formed of him as teacher of Philosophy. It is a distinctive mark of this country that a good education is attainable by all; and we cannot but rejoice when we hear of the success and progress of such an institution as Queen's College. In a pecuniary sense it has been a success, the large sum of $115,000 having been subscribed to the endowment fund; but in a far wider and important sense has success attended it. Some of our best and wisest men, who are exercising an inestimable influence for good in this country, were graduates of Queen's College; and none can estimate the benefits likely to accrue to us as a people from the ever progressive spirit of this and kindred institutions in our midst.—*B. A. Presbyterian.*

IX. Correspondence.

BUILDING OF SCHOOL-HOUSES:

GENEROUS POLICY IN OPS.

To the Editor of the Journal of Education.

Lindsay, Dec. 28, 1872.

Dear Sir,—There is a practice in the Township of Ops which the *Journal of Education* might bring under the attention of its readers in reference to the building of School-houses. The Township Council grants a bonus to each school section, provided it builds a first-class School-house. The amount of the bonus is proportionated to the amount levied by the section. I have not the exact figures, but I think it is about one-third. When the section raises six hundred the Council grants three hundred dollars.

Under the influence of this wise liberality on the part of the Township Council, Ops now prides itself on having the best Common School-houses in the Dominion.

I have the honour to be your obdt. servt.,

M. Stafford,
Catholic Priest.

X. Notices of Books.

*SHORT CRITICAL NOTICES OF BOOKS.

Record of Science and Industry for 1871. By Spence F. Baird. pp. 634.

The design of this work is to furnish a brief, yet sufficiently full, mention of the more important discoveries in the various departments of science in the year 1871, and among the principal are those made in Mathematics and Astronomy, Meteorology, Electricity, Light, Heat and Sound, Chemistry, Mineralogy and Geology,

* New York: Harper and Brothers. Toronto: Copp, Clark and Co.

Geography, Natural History and Zoology, Botany and Horticulture, Agriculture, Household Economy, Mechanics and Engineering, Technology, Medicine, &c. In the preparation of this interesting and instructive work, Mr. Baird (of the Smithsonian Institution, Washington U. S.) has been assisted by many eminent men of science, and he has produced a volume, the design of which has been to furnish abstracts only, divesting the different subjects as far as practicable of mere technicalities, and omitting what was not properly relevant. In addition to the subject matter of the book, Mr. B. has added a chapter on the summary of scientific progress of the year 1871, a short biographical notice of many of the scientific men who died during that year, also an Index to the References and a Classified Index.

Force. By Jacob Abbott. pp 305 :—This volume is the fourth of a series of books, entitled "Science for the Young." The object of the Series, as stated by Mr. Abbott, is not mainly to amuse the readers with the interest of incident and adventure, but to give some substantial and thorough instruction in respect to the fundamental principles of the sciences treated of in the several volumes. The book is furnished with woodcuts, which serve to illustrate the subject matter. Mr. Abbott has succeeded in making the various topics on which he has written, both interesting and instructive. The other members of the series are "Heat," "Light," "Water" and "Land," which are dealt with in the same readable and interesting way. The idea of bringing scientific knowledge to young minds, in the way Mr. Abbott has done, is indeed an admirable one. We wish him every success.

St. Paul in Rome. By J. R. Macduff, D. D.—This volume is a collection of sermons preached by Dr. Macduff in the "Eternal City" in the spring of 1871. They are thoughts on the Teachings, Fellowships and Dying Testimony of the great Apostle of the Gentiles in the city of the Cæsars. In the introductory chapter, Dr. Macduff speaks of the various places in Rome, connected with the personal history of St. Paul, which were visited by him. His purpose in the sermons, as stated by himself, is to convey a few impressions gathered recently on the spot regarding localities, associated with the great Apostle. The sermons, which are eight in number, were preached on eight successive sabbaths, in fulfilment of a duty devolved upon the author by the church at home. The following are among the subjects embraced in the collection :—St. Paul's announcement of his purpose of going to Rome, as set forth in Romans i. 15-16 ; St. Paul's letter to the Romans ; St. Paul's fellowhips in Rome ; The Bible in Rome ; St. Paul's converts in Rome ; St. Paul's prayer in Rome for Onesiphorus ; St. Paul's dying testimony in Rome ; His Martyrdom. This work cannot fail to be of great use to the student of the Bible, on account of the many interesting and instructive facts which it relates of the great Apostle to the Gentiles in the "Imperial City of the seven Hills," a subject which must ever be fraught with great interest, on account of the man of whom the narrative speaks.

The Ocean. By Elisée Reclus. pp 534 :—This valuable scientific work is from the pen of Elisée Reclus and is the second series of a descriptive history of the life of the globe. M. Reclus is the author of a similar work entitled "The Earth." The subject has been very thoroughly gone into by the author, and we have no doubt but that the information it contains will be very useful to lovers of science. The volume is illustrated with 250 cuts and 27 maps which are most beautifully printed in colours. The maps we perceive were printed in England. The book is divided into three parts, 1st. The ocean, 2nd. The Atmosphere and Meteorology, 3rd. Life.

The Revision of the English Version of the New Testament. By Philip Schaff D. D. Divinity Professor in the Union Theological Seminary, New York. pp 178 :—This book consists of three valuable Treatises respectively by Dr. Lightfoot, Canon of St. Pauls, Archbishop Trench and Dr. Ellicott, Bishop of Gloucester and Bristol, on the Revision of the Bible, with an introduction by Dr. Schaff. The introduction contains many interesting facts relative to the revision of the Bible, among which are the names of the British Revision Committee, Rules of the British Committee, American Co-operation, List of American revisers, Constitution, Character of the English Version. The improvements suggested. Dr. Schaff himself is a member of the American revision Committee.

History of Journalism in the United States from 1690 *to* 1872. By Frederic Hudson. pp 789. In this volume Mr. Hudson has presented to the reading public a most valuable book on an interesting subject of which he seems to be entirely master, and into which he has fully entered. He has divided the period from 1690-1872 into six eras, each of which becomes more entertaining than the previous one, as he gradually approaches the history of journals in our own day. The volume is brought to a close by a fitting tribute to one of the greatest of American Journalists, Horace Greeley, for whom Mr. Hudson seems to have entertained a great respect.

Sermons. By the Rev. T. DeWitt Talmage. pp 405, 416 :—We have before us the sermons of the Rev. T. DeWitt Talmage, delivered in the Tabernacle, Brooklyn N. Y. They are divided into two series, the second of which contains a biographical sketch of Mr. Talmage, who is perhaps one of the most striking preachers in the United States at the present time. His sermons have received much attention both from the public and the press. He possesses great power of description, and his pictures are graphic and startling. Spurgeon, in speaking of Mr. Talmage's sermons says "they lay hold of my inmost soul" the sermons are phonetically reported and revised, and any one reading them may depend on having the exact words of Mr. Talmage, and we recommend them to the perusal of the Christian public, as examples of earnest faithful preaching of a special kind.

XI. Mathematical Department.

MATHEMATICAL NOTES.

1st. "City of Toronto Debentures. &c."—It is to be regretted that Mr. Scudamore did not so explain wherein his method of solution differs from Mr. McLellan's, as to show to the general reader that his is the correct one. The difference is this :—At the end of the first year the City pays the holder of the debenture $6. Mr. Scudamore immediately credits the City with the amount, and continues to charge interest on the *balance*. Mr. McLellan continues to charge ten per cent. on the *whole amount*, and allows the City but *six* per cent. on its $6, at the end of the six years giving credit for the amount thus produced. This is repeated at the end of each of the first five years. If one charges ten per cent. on a transaction, he should allow the same on every payment made. Were Mr. McLellan to do this, he would obtain the same result as Mr. Scudamore. The problem is simply: Find the present worth of a six term annuity of $6, payable at the end of each year, and a sum of $100 payable at the end of six years, money being worth 10 per cent.

2nd. "A. lends B. $1,000, &c."—Mr. White's solution is not for simple interest, as required, but for compound interest. Mr. White says he has no satisfactory solution. The formula is $(1.16-R)\,R^{10}=\cdot16$ (Annuities at compound interest). Horner's method may be used, or the following :—Find an approximate solution from the above, and substitute it in the right hand side of $R=1\cdot16-\log -1\left\{4.19382-10\log\tfrac{1}{2}R\right\}$.

Similarly substitute the value of R thus found. Repeat until the desired approximation is obtained. Only one log. and an anti-log. has to be found at each substitution. I take $\frac{1}{2}$ R to throw the log. into the middle of the table. $R=1\cdot09606-$.

J. C. Glashan.

MATHEMATICAL NOTES.

Mr. Editor,—In opening the June *Journal*, I see some criticisms on my problems by Mr. Glashan, and I want to explain. I proposed them first to myself and made formulas as necessity suggested. The wording, and my numerical solution of the easy little Diophantine, "The Carpenter's Square," show it was meant for mechanics ; and if after the lapse of two months, he found a formula better than my "awkward" one, the credit is his. The "old college one," he says, Mr. Kidd mentions, originated thus : When the latter lived in Fergus, I published a new problem in the *News Record*, and called it "The Belfast College" problem, because I came from Belfast, and had read and admired a treatise on the Diophantine Analysis, by J. R. Young, Professor in the College. A solution resembling my own was given. The "Indian Reserve," also a new one, appeared in September, 1870, and Mr. Glashan, in July, 1872, solved it by a formula which, he says, he found in Todhunter, although, he says, "Authorities are no authorities in mathematics." Mr. Scudamore gave it a neat and noiseless solution. Mr. Doyle's suggestions on "Friendly Competition," and his questions, are worth reflection. His fourth question, $x^3+y^3=z^3$, I tried years ago, but never could find rational values. Will some one publish a solution ?

Mr. Glashan's expression of Newton's "Binomial Theorem," and his extraction of roots of polynomials, by the usual way, evinces much patience. Still, science is not measured by the square foot. It is only by trying men, detached from books, and on a variety of strange questions, with a limited time to work, that their relative merits can be known.

Yours, &c. &c.

John Ireland, *Teacher*,
Metz, P. O.

December 1st, 1872.

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

1. Abstract of Monthly Meteorological Results, compiled from the Returns of the daily observations at ten High School Stations, for November, 1872.

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*—J. M. Buchan, Esq., M.A; *Simcoe*—Dion C. Sullivan, Esq., LL.B.; *Windsor*—J. Johnston, Esq., B.A.

STATION.	North Latitude. *a*	West Longitude. *a*	Elevation. *a* Above the Lake.	Elevation. *a* Above the Sea.	Barometer at temperature of 32° Fahrenheit. Monthly Means. 7 A.M.	1 P.M.	9 P.M.	Mean.	Highest. Highest.	Date.	Lowest. Reading.	Date.	Range. Monthly.	Greatest in 24 hours.	Date.	Temperature of the Air. Monthly Means. 7 A.M.	1 P.M.	9 P.M.	Mean.	Mean Maximum.	Mean Minimum.	Mean Range.	Daily Range. Greatest.	Date.	Least.	Date.	Highest. Reading.	Date.	Low'st Reading.	Date.	Monthly Range.	Warmest Day. Date.	Mean Temp.	Coldest Day. Date.	Mean Temp.	Tension of Vapour Monthly Means. A.M.	1 P.M.	9 P.M.	Mean.
	°	°	Ft.		Inches.											°	°	°	°	°	°	°	°		°		°		°		°		°		°				
*i*Pembroke	45·50	77·10	....	423	29·222	29·181	29·211	29·2048	29·572	9 p.m.	28·686	1 p.m.	·886	·358	7—	28·8	35·7	31·	31·8	43·8	23·6	20·2	33·1	5	10·1	6	66·3	5	8·0	30	58·0	6	45·73	30	12·97	·158	·211	·176	·182
*f*Cornwall	45·0	74·50	137	175	29·7372	29·6944	29·7059	29·7125	30·254	7 a.m.	29·171	9 p.m.	1·083	·555	6— 7	31·27	36·62	32·33	33·41	38·45	26·51	11·94	28·5	21	6·0	19	51·6	6	6·5	21	45·1	6	46·79	30	12·80	·158	·179	·161	·166
*d*Barrie	44·25	79·45	59	779	28·3513	28·7966	28·8605	28·8361	29·202	9 p.m.	4 28·306	9 p.m.	·896	·542	25—26	30·38	35·75	30·11	32·08	39·08	22·52	16·56	26·0	18	7·7	9	54·5	4	2·5	30	52·0	11	45·3	30	17·17	·158	·170	·157	·162
*k*Peterboro'	44·20	78·25	....	670	29·1863	29·1677	29·1827	29·1789	29·552	9 p.m.	4 28·683	9 a.m.	·869	·495	6— 7	28·76	37·59	30·92	32·42	39·70	22·01	17·69	30·2	4	7·4	22	61·3	4	1·8	30	59·5	4	45·73	29	15·0	·152	·194	·161	·169
*e*Belleville	44·10	77·52	72	307	29·6283	29·5954	29·6164	29·6133	29·974	7 a.m.	5 29·129	9 p.m.	·845	·507	6— 7	31·01	37·38	33·45	33·95	39·51	26·49	13·02	23·1	1	5·9	16	51·8	1	5·8	30	46·0	6	46·76	30	13·70	·158	·166	·175	·166
*g*Goderich	43·45	81·42	....	715	29·1812	29·1543	29·1829	29·1725	29·487	1 p.m.	4 28·663	1 p.m.	·824	·572	6— 7	31·91	34·82	31·97	32·90	38·48	25·48	13·	19·8	10	7·0	19	51·3	11	8.8	29	42.5	11	47·30	29	16.97	·151	·158	·153	·154
*h*Stratford	43·25	80·58	....	1182	28·6595	28·6327	28·6598	28·6507	28·971	7 a.m.	4 28·183	1 p.m.	·788	·543	6— 7	28·	32·73	28·35	29·69	35·05	23·42	11·63	17·3	21	5·9	22	49·5	11	6.7	30	42·8	11	44·77	29	12·70	·141	·148	·138	·142
*h*Hamilton	43·12	79·50	90	824	29·574	29·546	29·571	29·5638	29·897	9 p.m.	4 29·089	1 p.m.	·808	·576	6— 7	31·24	37·83	32·48	33·85	42·35	27·91	14·44	20·7	25	7·7	19	57·2	11	9·6	30	47·6	11	50·66	29	16·2	·159	·169	·165	·164
*l*Simcoe	42·51	80·14	150	716	29·0103	28·9814	28·9970	28·9962	29·282	7 a.m.	28 28·588	9 p.m.	....	....	....	31·22	36·71	31·56	33·16	40·65	24·87	15·78	28·8	11	5·9	22	56·8	11	6·0	29	50 8	11	51·06	30	16·76	·157	·145	·156	·153
*m*Windsor	42·20	83·00	....	620	29·3641	29·3281	29·3614	29·3512	29·624	7 a.m.	4 28·897	1 p.m.	·727	·539	6— 7	29·50	36·	29·75	31·75	39·10	28·83	15·23	19·9	29	6·9	19	54·4	11	1·8	29	52·6	11	48·23	29	13·27	·175	·138	·147	·153

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

STATION.	Humidity of Air. Monthly Means. 7 A.M.	1 P.M.	9 P.M.	Mean.	Winds. Number of Observations. Surface Current. North.	North-East.	East.	South-East.	South.	South-West.	West.	North-West.	Calm.	Total.	Motion of Clouds. *a* North.	North-East.	East.	South-East.	South.	South-West.	West.	North-West.	Impercept.	Clear.	Total.	Estimated *b* Velocity of Wind. Monthly Means. 7 A.M.	1 P.M.	9 P.M.	Mean.	Amount of Cloudiness. Monthly Means. 7 A.M.	1 P.M.	9 P.M.	Mean.	Rain. No. of Rainy Days.	Duration in hours.	Depth in inches.	Snow. No. of Snowy Days.	Duration in hours.	Depth in inches.	Total Depth of Rain and Melted Snow.	Auroras. Class I.	Class II.	Class III.	Class IV.	Sky unfavorable, obs. doubtful.	Sky unfavorable, obs. impossible.	Sky favorable, none seen.	When Observed
Pembroke	95	95	95	95	...	6	4	16	3	19	2	28	...	78	...	1	3	6	1	2	1	2	...	...	16	2·	2·4	2·4	2·27	8·8	9·	9·	9·	3	.....	.....	7	.....	.....	1·1151	...	...	...	3	....	19	4	2nd, 16th, 23rd.
Cornwall	85	80	83	83	...	...	4	10	2	32	19	5	6	78	...	...	1	...	...	5	7	6	55	4	78	0·8	1·6	1·1	1.17	8·9	9·1	8·2	8·7	6	51.20	1·5146	8	67·30	10·5	2·5646	...	...	...	...	....	21	5	
Barrie	88	77	89	85	7	7	8	4	3	9	14	12	14	78	1	1	...	...	1	...	5	2	58	10	78	1·4	2·	1·6	1·67	9·	8·6	6·	8·	5	.....	0·8710	9	.....	8·5	1·7210	...	...	1	...	....	16	9	26th.
Peterborough	90	82	88	2	3	5	1	1	24	9	13	20	...	78	...	...	...	...	6	13	16	9	28	6	78	1·4	2·1	1·1	1·51	7·07	7·84	5·57	6·83	9	43·45	0·4851	9	61·25	2·254	0·7105	...	...	1	5	4	10	6	26th, III.; 7th, 12th, 16th, 27th, 29th, IV.
Belleville	84	76	86	82	2	4	7	8	27	8	16	2	4	78	2	..	2	...	1	1	8	..	48	16	78	1·2	1·4	1·1	1·23	6·9	7·4	6·	6·75	5	20·	0·630	8	26·	017·7	2·400	...	...	...	1	16	9	
Goderich	80	73	79	78	1	...	1	6	6	29	15	11	9	78	1	...	1	...	2	12	21	8	31	2	78	2·5	2·3	3·	2·6	9·1	8·6	7·6	8·42	8	.....	0·6111	6	.....	5·0	1·1111	...	...	2	3	17	4	6th, 26th.
Stratford	88	75	84	82	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2·2	3·3	2·4	2·63	7·8	8·2	4·8	6·9	4	18·	0·5730	12	71·	017·5	2·3230	...	...	2	...	....	11	17	1st, 26th.
Hamilton	85	69	83	79	...	1	4	...	...	26	36	3	6	78	...	...	...	...	...	20	23	2	25	8	78	2·27	3·15	2·23	2·55	8·12	7·92	4·	6·68	11	.....	0·5997	11	.....	1·782	0·7779	...	...	..	4	1	11	14	6th, 20th, 25th, 26th.
Simcoe	86	61	82	76	...	...	...	4	20	12	41	1	78	4	17	5	30	...	...	...	...	4	18	78	2·3	2·	1·9	2·07	8·5	7·3	5·1	7·	5	38·	0·6864	5	13·	0·5	1·1864	...	...	2	1	....	11	12	1st, 26th, III.; 6th, IV.
Windsor	78	61	81	73	1	..	2	4	10	23	21	2	15	78	...	...	...	1	2	4	7	2	46	16	78	1·5	2·1	1·8	1·8	7·8	7·8	6·2	7.1	3	.....	0·4612	6	.....	013·5	1·8112	...	...	..	1	....	17	8	26th.

a Where the clouds have contrary motions, the higher current is entered here.
b Velocity is estimated, 0 denoting calm or light air; 10 denoting very heavy hurricane
c 10 denotes that the sky is covered with clouds; 0 denotes that the sky is quite clear of clouds.

REMARKS.

Pembroke.—Hail, 14th. Wind storm, 29th. Snow, 14th, 16th, 18th, 23rd, 24th, 29th, 30th. Rain, 1st, 6th, 11th.

Cornwall.—Lunar halo, 11th. Wind storm, 25th, 27th, 30th. Fog, 4th. Snow, 16th, 19th, 20th, 23rd, 27th, 28th, 29th, 30th. Rain, 1st, 2nd, 6th, 12th, 13th, 14th. First sleighing, 20th.

Barrie.—Wind storm, 25th, 27th. Snow, 15th, 16th, 20th, 22nd, 25th, 27th, 28th, 29th, 30th. Rain, 1st, 5th, 8th, 11th, 24th.

Peterborough.—Shooting stars, 27th, at 8 p.m.—19 seen in about one minute—direction from 70° or 80° to H., chiefly towards E. H. and N. H., in lines of no great length. Wind storm, 25th, also 21st and 28th, not very heavy. Snow, 15th, 18th, 19th, 22nd, 23rd, 26th, 27th, 28th, 30th. Rain, 1st, 3rd, 5th, 6th, 7th, 8th, 11th, 13th, 14th. Indian summer on the 25th and 26th. Fine, hazy and somewhat windy. No sleighing. Small quantities of rain and snow.

Belleville.—Fog, 26th. Snow, 16th, 18th, 19th, 22nd, 23rd, 28th, 29th, 30th. Rain, 6th, 7th, 11th, 12th, 14th.

Goderich.—Wind storm, 7th, 13th, 14th, 25th, 27th, 29th, 30th. Snow,

15th. 16th, 17th, 21st, 28th, 29th. Rain, 1st, 5th, 7th, 8th, 11th, 13th, 23rd, 24th.

STRATFORD.—Mill pond frozen, 16th. First sleighing, 20th. Wind storm, 7th, 13th, 25th, 27th, 29th, 30th. Fog, 4th. Snow, 7th, 8th, 15th, 16th, 18th—22nd, 28th—30th. Rain, 5th, 7th, 11th, 14th.

HAMILTON.—Wind storms, 15th, 25th, 27th, 30th. Fog, 5th, 22nd, 24th, Snow, 15th, 17th—20th, 22nd, 23rd, 27th, 28th, 29th, 30th. Rain, 1st, 2nd, 5th—8th, 11th—14th, 24th.

SIMCOE.—Wind storm, 27th. Snow, 15th, 16th, 19th, 27th, 28th. Rain, 1st, 4th, 5th, 7th, 12th. Gloomy month, very few sunny days. Horse disease prevalent, and in many cases fatal. Crops much below the average; hay scarce and dear.

WINDSOR.—Lunar halo, 8th, 10th, 11th, 12th. 13th, 15th. Meteor 25th, in N., towards H.; another through auriga towards H. A number of meteors in N. part of heavens 27th. They moved in parallel lines, and in pretty close succession, some above the pole and some below; all moved towards the N. H. Wind storm, 7th, 25th, 27th. Snow, 7th, 15th, 19th, 22nd, 28th, 29th. Rain, 2nd, 5th, 11th.

XIII. Departmental Notices.

TRUSTEES' INCOMPLETE RETURNS.

Some Inspectors complain of the very great incompleteness of many of the school reports received from Trustees of rural sections, and ask what they should do with them? By reference to the reports themselves, Trustees will see that the Inspectors are directed to return to them all incomplete or incorrect reports. The law declares that a School Section shall forfeit its share of the School Fund, should its Trustees fail to furnish the Inspector with a full and satisfactory report yearly and half yearly. It will, therefore, save the Inspectors a good deal of time and trouble, and the Department some delay, if the Inspectors will promptly return to the Trustees all imperfect reports, so as to have each column correctly filled up. Should an Inspector's Reports to this Department be incomplete, they will have to be returned to him so that the desired information may be obtained.

PRIZE PLANS FOR SCHOOL-HOUSES AND SITES.

Thirty persons have competed for the prizes which the Chief Superintendent announced in August that he would give for the best interior plans of School-houses, of various dimensions, and for the best block plans, on acre and half acre School sites.

Of these thirty plans, four were of superior merit, in various features, nine were of varying excellence, while seventeen either did not come up to the standard required, or had other palpable defects in them.

Although, strictly speaking, only prizes to the value of $95 should have been awarded for these plans, yet it was felt that, as so many of them displayed some feature of excellence, an acknowledgment of that excellence should be made. Additional extra prizes were, therefore, awarded by the Chief Superintendent, to the value of $115, or more than the original amount proposed as prizes.

It is gratifying to note the taste and skill evinced by the various plans which have been sent into the Department, and which the offer of these prizes has been the means of discovering and drawing out among the Inspectors, Teachers, and Masters. It only shows that in our own country we have the taste and talent necessary to aid in the good work of providing for our School Sections neat and comfortable School-houses. There is no reason, therefore, why this skill should not be made available for this purpose. In order to aid in doing so, it is proposed to combine in a few of the prize plans the excellence of all, and have them engraved for insertion in this *Journal*, during the coming year, should the Legislature see fit to make the usual grant for its publication.

We heartily congratulate all parties concerned in this practical "step in advance," designed as it is to promote a most important interest of our Schools.

The following is a list of the plans sent in, with the prizes which have been awarded:—

PRIZE PLANS OF SCHOOL-HOUSES AND SITES.

Motto of Sender.	Total
No. 1.—"Education is the bulwark of liberty." First prize for interior, $25; second prize for block plan, $15	$40
— 2.—"Le jour viendra." One prize for interior, and extra for block	$25
— 3.—"Docendo Discimus," No. 1. One prize for interior, and extra for block	25
— 4.—"Docendo Discimus," No. 2. One prize for interior, and extra for block	20
— 5.—"Alpha." One prize for interior, and extra for block	15
— 6.—"Episcopon." One prize for interior, and extra for block	15
— 7.—"Iota." One prize for interior, and extra for block	15
— 8.—"True Economy." One prize for interior, and extra for block	15
— 9.—"All is not gold that glitters." Extra prize	10
— 10.—"Multum in Parvo," No. 1. do.	10
— 11.—"Felix." do.	10
— 12.—"Per Vias Rectas." do.	5
— 13.—"Rural and Maple Leaf," No. 1. do.	5
— 14.—"Interest." do.	5
— 15.—"E. L. F." do.	5
— 16.—"Ami de mouvement." do.	5
— 17.—"Hopeful." do.	5
	$230

PLANS NOT ACCEPTED.

— 18.—"Ku Klux."
— 19.—"Onward."
— 20.—"Maple Leaf," No. 2.
— 21.—"Multum in Parvo," No. 2.
— 22.—"McK."
— 23.—"Coup d'essai."
— 24.—"Excelsior."
— 25.—"I try."
— 27.—"Sigma."
— 28.—"Pro bono publico,"
— 29.—"Spero sed metuo."
— 30.—"Red Ink."
— 31.—"New Dominion."

The motto envelopes having been opened after the prizes were awarded, the names of the winners of the prizes, in the order in which they are arranged above, were found to be the following:—

No. 1.—Otto Klotz, Esq., Ex-Local Superintendent, Preston: "Education is the Bulwark of Liberty." Two prizes	$ 40
— 2.—Henry De La Matter, Esq., Head Master, High School, Owen Sound: "Le jour viendra." Two prizes	25
— 3.—Mr. S. S. Cann, Teacher, Port Hope: "Docendo Discimus," (No. 1.) Two prizes	25
— 4.—Robert Little, Esq., Inspector, Co. Halton: "Docendo Discimus," (No. 2.) Two prizes	20
— 5.—Mr. Jas. Dickie, Hamilton: "Alpha." Two prizes,	15
— 6.—Jas. H. Ball, Esq., M.A., Inspector, Co. Welland: "Episcopon"	15
— 7.—Mr. George F. Payne, Teacher, 10 E. Zorra: "Iota"	15
— 8.—Mr. John Irwin, Teacher, No. 3 Belleville: "True Economy"	15
— 9.—Mr. Francis C. Powell, Teacher, Port Elgin: "All is not gold that glitters"	10
— 10.—John B. Somerset, Esq., Inspector, Co. Lincoln, and J. H. Comfort, Esq., Inspector, St. Catharines: "Multum in Parvo"	10
— 11.—Mr. Wm. O'Connor, Teacher, Seaforth: "Felix"	10
— 12.—R. Harcourt, Esq., Inspector, Co. Haldimand: "Per Vias Rectas"	5
— 13.—Mr. W. Laing, Hamilton: "Rural Maple Leaf"	5
— 14.—Mr. Hugh Robertson, Teacher, Toronto "Interest"	5
— 15.—Mr. D. McIntyre, Teacher, No. 10 Lancaster, "E. L. F."	5

— 16.—Mr. Robt. S. Gould, Teacher, Canning, "Ami de Mouvement".. 5
— 17.—G. D. Platt, Esq., Inspector, P. E. County, "Hopeful."..... 5

Total. $230

These prizes will shortly be payable, and due notice given to each successful competitor.

CERTIFICATES GRANTED BY THE COUNCIL OF PUBLIC INSTRUCTION.

The Council of Public Instruction have granted First Class Certificates to the following teachers, on the recommendation of the Central Committee of Examiners.

GRADE A. Mr. Arthur Brown.
Miss Anna Living.
Mr. George A. Somerville.

GRADE B. Mr. Robert Cooley.

There were in all fifteen candidates at the recent examinations, which lasted six days, and were conducted simultaneously in all the cities and county-towns where competitors presented themselves; only those being eligible who had previously obtained Second Class Certificates. The same papers (fifteen in number) were furnished to all the candidates, and the answers having been written in the presence of the local examiners were transmitted to Toronto. The examination embraced the following subjects:—Education, School Law, Arithmetic and Mensuration, English Grammar and Etymology, Chemistry, Physics, Natural Philosophy, History, Book-keeping, Algebra, English Literature and Composition, Botany and Agriculture, Euclid, Geography, Zoology and Physiology. Of the four successful candidates all received their training at the Provincial Normal School, with the exception of Mr. Brown.

XIV. Advertisements.

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