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## SELECTION OF PUBLIC SCHOOL SITES.

Acting under the judicious counsel and advice of the Public School Inspectors, the selection of School sites has been generally much more satisfactory during the last few years than formerly. With a view to aid in the settlement of local differences of opinion on this subject, the School Law has been recently very much improved, and the facilities for arbitration on the subject, extended and rendered more satisfactory. We purpose, therefore, in this number of the *Journal* to give in a popular form an exposition of the law on the selection of sites, as it now stands:

There are three cases in which the question of school sites comes up for consideration in a school section: (1) on the establishment of a new section; (2) on the change of site in an old section; and (3) on the enlargement of an existing site.

Of the three cases relating to the choice of school sites which we have mentioned, the first and second only require the joint action of the trustees and ratepayers; the third is within the province of the trustees alone to determine.

The necessity for joint action is clearly obvious, even without an expression of opinion, when a new school section first goes into operation. It is, however, frequently difficult to determine whether the state of feeling in regard to a change of site in an old section, is sufficiently decided to warrant the trustees in calling a meeting to discuss the question. However, if they know that such a feeling exists, the law requires them, within

a reasonable time, to call a "special meeting" to "consider" the question. If, at this meeting, "a difference of opinion as to the site of the school" is found to exist "between the majority of the trustees and a majority of the ratepayers," the law requires that each party shall at once choose an arbitrator. It is, therefore, not competent for this special meeting to adjourn until either a majority of the trustees and the ratepayers agree as to a site, or (in case of a difference of opinion on the subject) they respectively appoint an arbitrator to select one for them.

In case the trustees refuse to call a "special meeting," as required by law, for "procuring" or "changing" a site, the inspector is authorized to do so; or, if "at such special meeting" a difference of opinion should arise in regard to a site between the trustees and ratepayers, and the chairman or a majority of the ratepayers by vote should unlawfully "adjourn the meeting, and thus neglect or refuse to appoint an arbitrator, the law declares that then "it shall be competent for the county inspector, with the arbitrator appointed, to meet and determine the matter; and the inspector, in case of such refusal and neglect, shall have a second or casting vote, provided" that he and the one arbitrator appointed "should not agree."

Should two arbitrators be appointed at the school meeting, as required by law, to select a site, and should either of them (having received notice) neglect or refuse to attend a meeting of the arbitrators on the subject, the law declares that "it shall be competent for the arbitrators present (that is the inspector and the other arbitrator) to make and publish an award upon the matter submitted to them, or to adjourn the meeting for any period not exceeding ten days, and give the absent arbitrator notice of such adjournment."

Further, the law says, that "in case of a difference as to the site," the arbitrators appointed "shall make and publish an award upon the matter or matters submitted to them." Unless, therefore, the choice of one out of two or more sites in dispute is the matter submitted to them, their choice of any site in the section is left free, and they should choose one best adapted to the wants of the section. It should be an acre in size, (but cannot be less than half an acre,) in a pleasant situation, and (without the consent of the *owner*) should not be within a hundred yards of *his* house, orchard, pleasure-ground or dwelling-house, although it may be close up to the orchard and dwelling-house of any other party.

It should be remembered that arbitrators are "entitled to the same remuneration *per diem* for the time employed" as are county councillors; and the law requires that "the parties concerned shall pay all the expenses of the arbitration," according to the award of the arbitrators.

When the arbitrators have agreed upon their award, they should reduce it to writing, sign and seal it. This is "making" the award. When thus made, it should be sent to the trustees for their information and that of the ratepayers. This is "publishing" it. It is competent, however, for the arbitrators to declare or publish the award orally, in presence of the parties concerned, viz., a public meeting of the trustees and ratepayers. Should the award thus published be afterwards, by consent, reduced to writing, (as above,) it should be identical in its terms with the oral declaration made, and should be merely a written record of it. Any material variation in the written record of the oral award would destroy its validity and certainty. (In regard to the general rules of law which govern arbitrations, which are too long to be given here, see the new and revised edition of the School Law Lectures, page 53.)

Even after an arbitrator or arbitrators have been appointed to select a site, it is competent for a majority of the trustees and of a public school meeting called for that purpose, to agree upon the choice of a site before an award is made. This agreement revokes the submission of the matter to arbitrators, who should at once be notified of the fact, so that no award may be "made." The new law also provides an easy way of meeting the difficulty, should an award be made which is not satisfactory. It enacts "that with the consent, or at the request of the parties to the reference, the arbitrators, or a majority of them, shall have authority, within three months from the date of their award, to reconsider such award, and make and publish a second award, which award (or the previous one, if not reconsidered by the arbitrators) shall be binding upon all parties concerned, at least one year from the date thereof."

Where no desire is felt by the trustees or ratepayers to change the site of a section, the trustees have full power to enlarge it at their discretion, and to erect a new school house on it, or to repair the old one, without consulting their constituents.

If the owner of a newly selected school site, or of land adjoining an old site (which the trustees have decided to enlarge) should refuse to sell it, or should ask an unreasonable price for it, the law requires the trustees and owner each to appoint an arbitrator to appraise the damages, to the owner, of such compulsory sale. Upon the tender of payment of these damages to the owner of the land by the trustees, they can take possession of the land for school purposes, and proceed to erect a school house on it, or to enclose it.

On the selection of a person's land for a new school site (without his knowledge or consent) within one hundred yards of his garden, orchard, pleasure ground, or dwelling house, the owner may either consent to the sale of the new site at a reasonable rate, or he may refuse to sell it, at his pleasure. But, in regard to the enlargement of the old school site, the law gives the owner of the adjacent land only a restricted privilege, should the trustees offer to buy the additional land. In case of refusal to sell it, the law requires the trustees and owner each to appoint an arbitrator to appraise the damages, and upon tender by the trustees (as above) of the amount of damages awarded, the trustees can take and use the land for the purposes of their trust.

The provisions of the law on the compulsory sale of school sites are twofold, although they have been frequently confounded together. The first part of the section on the subject refers (1st) to "the selection of land for a school site," and (2nd) to "the selection of land for 'enlarging school premises.'" In these two cases the trustees can demand an arbitration should the owner of the selected or enlarged site refuse to sell, or ask too large a price for the land. In the first class of cases (*i. e.*, the selection of a new site) the owner can lawfully refuse to sell, or to submit to arbitration, when the site selected is within 100 yards of his "orchard, garden, pleasure ground, or dwelling house;" but where the trustees merely wish to enlarge their existing school premises, the owner has only a restricted right. The new law of 1874 declares that the Act of 1871 "shall not be held to restrict trustees in the enlargement of an existing school site to the required dimensions." But it provides "that no such enlargement shall be made in the direction of the orchard, garden, or dwelling house, without the consent of the owner of the land required, unless the school site cannot be otherwise enlarged; nor shall it, without the consent of such owner, include any part of his garden, orchard, or the grounds attached to his dwelling house." The provision of the law does not in any case (as has been supposed) apply to persons whose house, orchard, &c., may happen to be within 100 yards of the proposed site, but who are not in any way concerned in the sale of land for the enlarged site.

In case a new school site is chosen in a school section, and the old one is no longer required, the trustees are authorized "to dispose, by sale or otherwise, of any school site or school property not required by them, and to convey the same under their corporate seal, and to apply the proceeds thereof for their lawful school purposes. And all sites and other property given or acquired, or which may be given or acquired, for common school purposes, shall vest absolutely in the trustee corporation for this purpose."

This case differs materially from one in which a change of boundaries necessitates a change of site. Under such circumstances the law declares that, "In case a school site, or school house, or other school property, be no longer required (*i. e.*, in either section) in consequence of the alteration or the union of school sections, the same shall be disposed of by sale or otherwise, in such manner as a majority of the ratepayers in the altered or united school sections decide at a public meeting called for that purpose. And the inhabitants transferred from one school section to another shall be entitled, for the public school purposes of the section to which they are attached, to such a proportion of the proceeds of the sale of such school house or other public school property, as the assessed value of their property bears to that of the other inhabitants of the school section from which they have been so separated; and the residue of such proceeds shall be applied to the erection of a new school house, or to other public school purposes of such altered or united sections."

Trustees are required by law to "Take possession and have the custody and safe keeping of all public school property which has been acquired or given for public school purposes in such section, and to acquire and hold as a corporation, by any title whatsoever, any land, movable property, moneys, or income for public school purposes, and to apply the same according to the terms on which the same were acquired or received."

The provision of the law which vests all school property in the trustee corporation for the purposes of sale, requires that trustees should, whenever practicable, obtain without delay a deed, a bond for a deed, a lease, or other legal instrument, granting quiet possession to them of the property in their section, in case they have not sufficient title to it. Objection is frequently made to the right of trustees to assess the section for the building of, or repairs to, the school house, where no full legal title to the school premises is vested in them. To remove this objection (although it is only a technical one) trustees should obtain the legal instrument referred to, and have it registered without delay. Every public school house and site are exempt from taxation, as provided in the Assessment Act.

The trustees should not fail to register their title to the school site. In case the owner of a site refuses to sell it to the trustees, and they are compelled to take possession of it under an award of arbitrators, they should, on affidavit of one of their number verifying the same, register the award in the Registry Office, if the owner should refuse to give them a title under the award.

Want of registration of title does not deprive the trustees of the right to assess and collect money for any of the school purposes of the section.

The Municipal Institutions Act authorizes township councils to pass by-laws "for obtaining such real property as may be required for the erection of public school houses thereon, and for other public school purposes, and for the disposal thereof when no longer required; and for providing for the establishment and support of public schools according to law."

## II. Papers on School House Architecture.

### 1. THE RIGHT KIND OF SCHOOL ARCHITECTURE.

Dr. R. C. Kedzie, of the state Agricultural College, deserves the grateful thanks of the public for his well-directed labours in behalf of reform in school-house architecture. In a recent communication to the *Lansing Republican*, he says:—

The first demand of architecture is that the building shall best secure the objects for which it is erected. This is the first and principal aim of true architecture. The form and appearance of the building, the amount and kind of ornamentation, are matters of secondary consideration. To reverse this order—to determine the form and appearance first, and then let the uses of the building accommodate themselves to the building as best they can—is to follow pride, not architecture. To erect a school building of imposing appearance to catch the public eye, regardless of the best interests of the scholar, is an imposition. In this State we have had enough of such architectural idols to which the health and life of our scholars

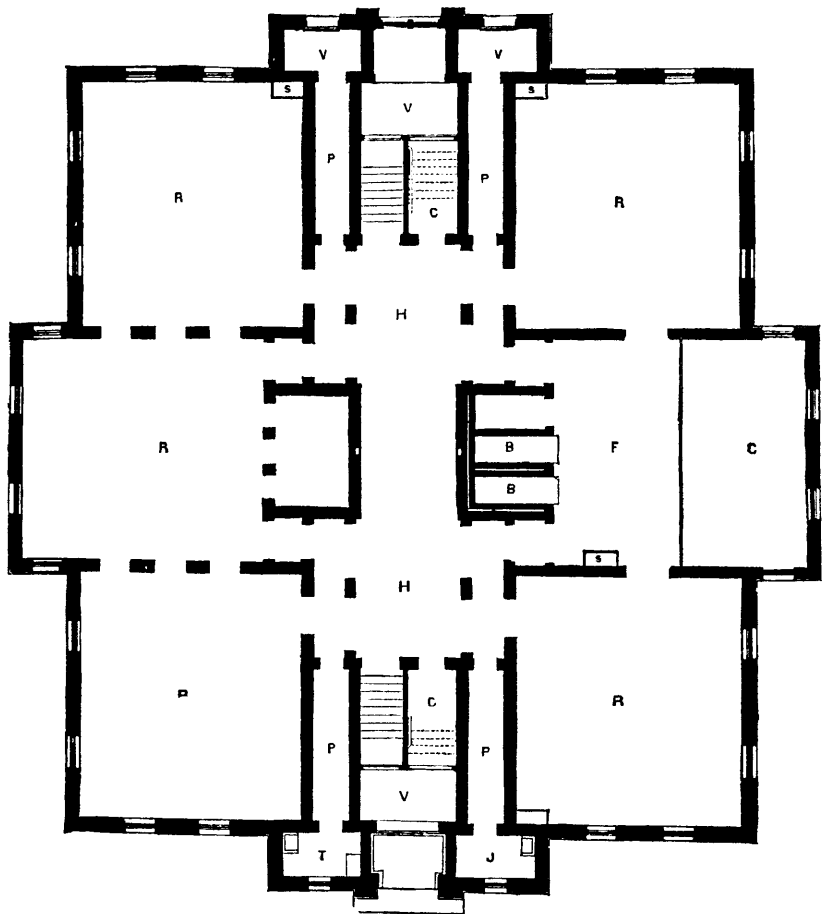
shall be offered in sacrifice. Let us banish such idolatry from our city. If our school board have determined to erect a school-house with few stories, and thus save our scholars from the disastrous effects of excessive stair-climbing, let us strengthen their hands in this good work. The only ground of complaint I have with the School Board is that they consent that any part of the school building shall be three stories.

What is the testimony of the oldest and most thoughtful teachers of our State in regard to the influence of excessive stair-climbing? That it is evil, and only evil, and that continually. Hear them: "Stair-climbing very frequently gives rise to female complaints, or aggravates the condition already existing. Many girls ask to be excused from writing and drawing (on the third floor) from this cause." "Stair-climbing is very injurious to many girls, especially as the period of puberty approaches, and following this period. *It has been a great damage to the schools.*" "If my opinion is of any consequence, I would say that if the West would imitate the East in lofty buildings, they must provide elevators, and keep them in constant use." "I approve, most emphatically, of all you said in regard to stair climbing. My views have agreed with yours for the past twenty years." "I am very glad to give my testimony against lofty structures for school purposes." "I am glad of the opportunity of entering an emphatic protest against lofty school buildings." The testimony of teachers whose opinion is of any value is uniform on this subject. To disregard such testimony, and let the question of symmetry determine the form of our school buildings, is not wise. The dress-maker has had an eye to symmetry, and the result has been tight lacing. Our girls have symmetrical forms, and die of consumption. The boot-maker has studied symmetry, and the result is elegantly tight boots and plenty of corns. Let us have higher ideas for school architecture. Let the first and great thought be the *health, comfort, and safety of our scholars*; and then secure such architectural effects as shall not be destructive of these objects.

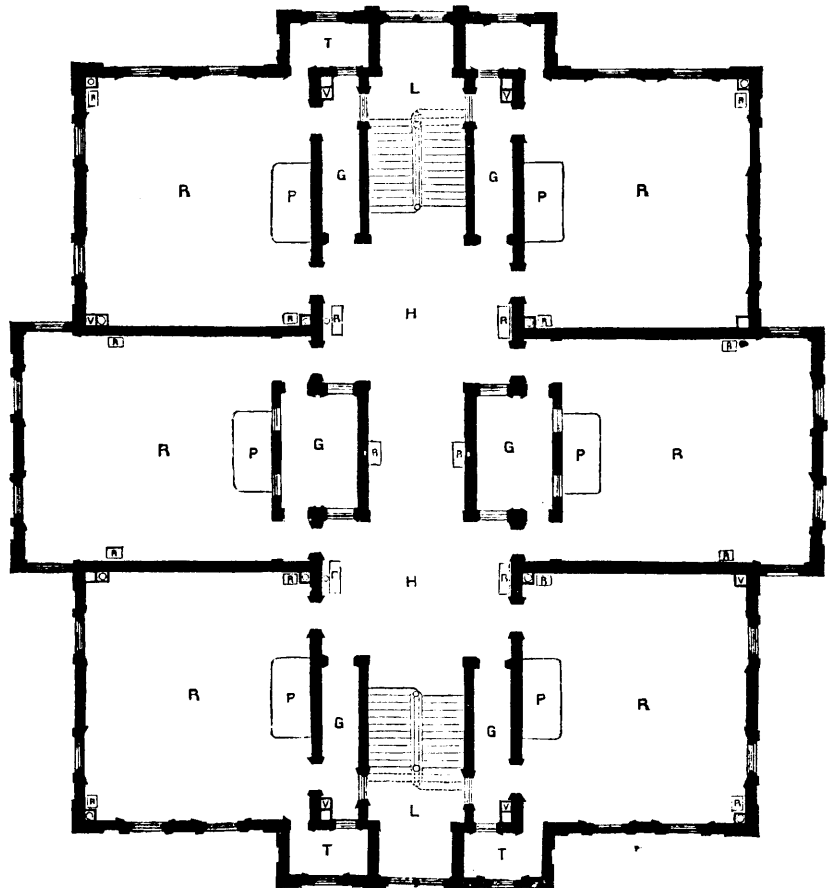
Grant that the carrying out of these ideas would "introduce a new style of architecture," it must be remembered that the modern school-house is comparatively a new field in architecture. It is not to be moulded after the type of classic temples, with their lofty columns and majestic proportions; for these, so far as use was concerned, were all one-story. What would we say about the taste of a man who would build a three-story dwelling and live in the third story? Yet the school-room is the living-room of the scholar during school-hours.

2. NEGLECT OF VENTILATION IN SCHOOLS.

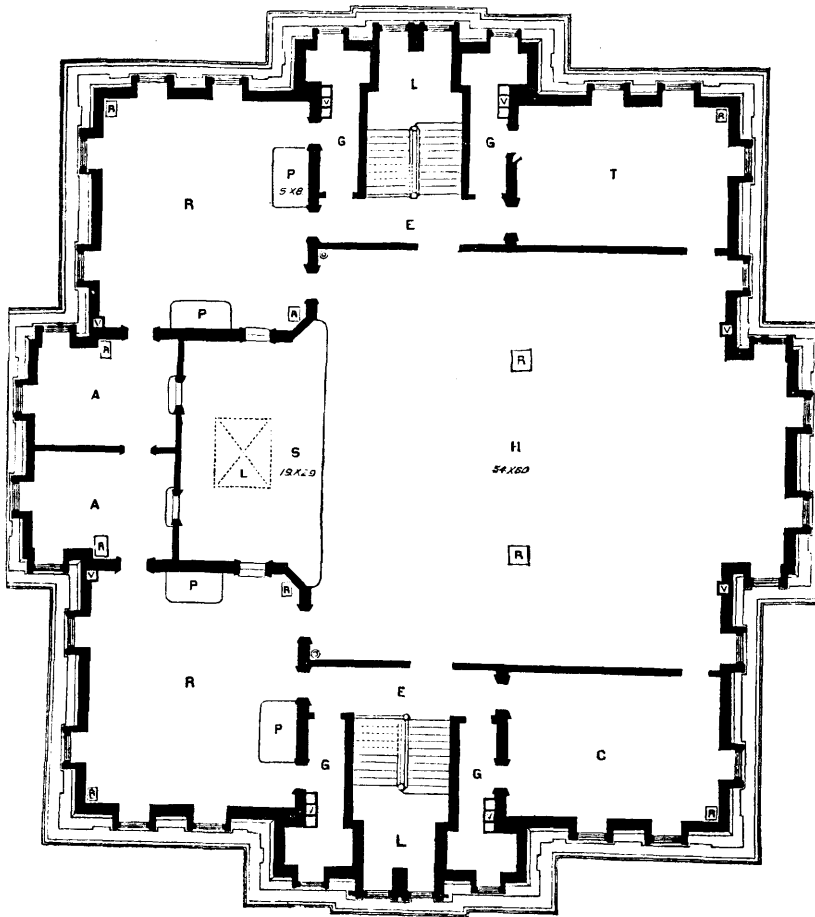
Comparatively few school rooms are constructed with proper arrangements for adequate self-ventilation. For the most part they are simple box-like structures with no provision for the escape of the vitiated, unwholesome air, constantly accumulating in them, or for the ingress of pure air from without, except what is afforded by the doors and windows. The proper and sufficient use of these as means of ventilation, is left to the care of the teacher. It thus becomes really a part of a teacher's qualifi-



Plan of the Interior of a double School-house, No. 1. (See next page).



Plan of the Interior of a double School-house, No. 2.

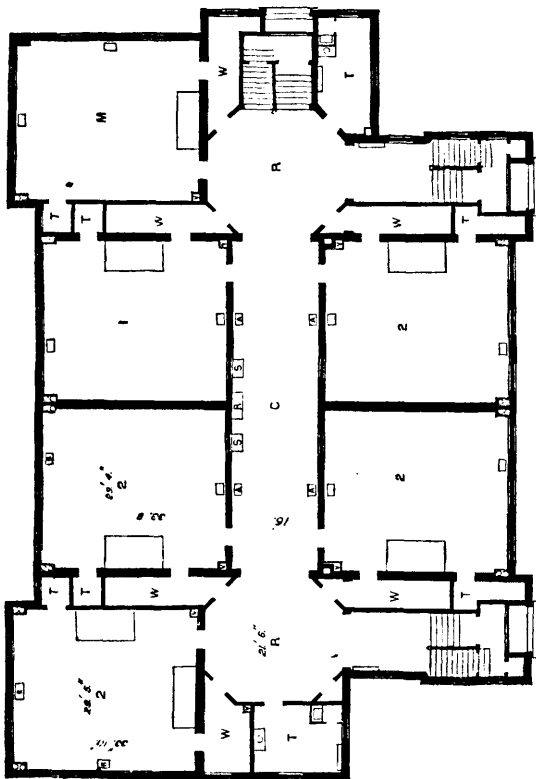


Plan of the Interior of a double School-house, No. 3.

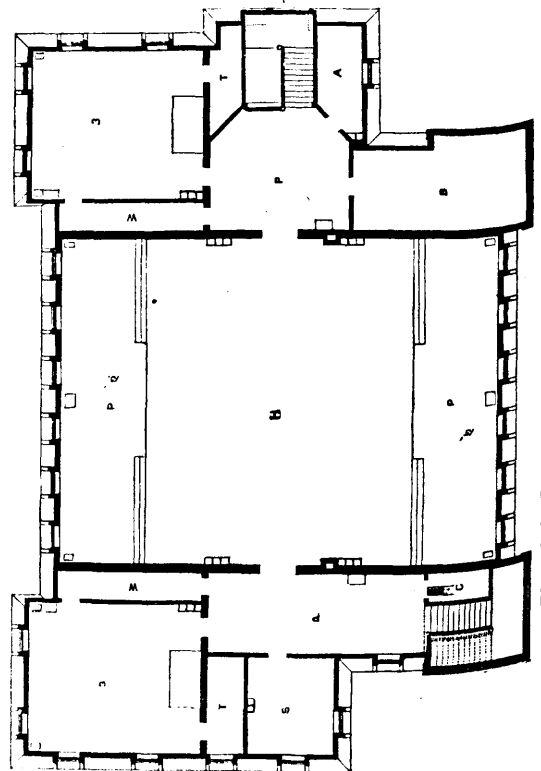
cations to understand the requirements of his school, with respect to this prime condition of its success, to realize deeply the importance of attending to this fundamental consideration relative to the life and health of his pupils. Such is the liability to neglect duty in this respect, that we are led to suggest the introduction of ventilation as a part of the daily programme of exercises. At proper intervals, specified as distinctly as for the various recitations, let there be provided a renewal of the air of the room. Some general exercise—all the better if it be a physical one, as a vigorous calisthenic drill—may be arranged for the same time. If some such plan were adopted, we are sure that the evils arising from want of the requisite architectural means of ventilation in our school rooms, would be very materially abated.—*The School.*

3. PLANS OF SCHOOL INTERIORS.

We insert in this number of the *Journal* five plans of School-house interiors, which are intended to aid School Trustees in arranging the interiors of their schools. We have designedly omitted the names of the different rooms so as to leave the Trustees free to apply them to such uses as they may see fit. The advantage of a double school over a single one is obvious, especially as Trustees are required to employ one teacher for every fifty pupils. This would necessitate two or more school-rooms and other appliances. Educationists are nearly unanimous in recommending, for convenience and health, single story School-houses instead of those of two and three stories.



Plan of the Interior of a double School-house, No. 4.



Plan of the Interior of a double School-house, No. 5.

## 4. HOW I KEEP MY SCHOOL-ROOM CLEAN.

When a school girl, I particularly disliked the days on which I was obliged to help sweep the school-room. I came from the encounter with grimy hands, dusty hair and garments, and if my memory serves me correctly, my temper at such times was not the most angelic. When I became a teacher, I resolved to have as few regular sweeping days as possible. I think I have found out how to keep clean without very much trouble, and my school-room is swept but once a week.

Friday is my cleaning day. When school is out at noon, I say to my little band, "Now, all that want to help me to work, raise hands," and I have plenty to choose from. I select two for sweeping, and two more for a reserve when the others tire; two more shake the carpets; two scrub the vestibule closet and out-houses, and two sweep and put the cellar in order. I put on one of the girl's sun-bonnets, and a big apron and superintend the whole of it. Then we throw open the windows, dust, lay down carpets, wipe finger-marks from the white paint, and wash the zinc. I generally have the whole place fit for Queen Victoria in half an hour. Many hands make the work easy. Then we rake up the leaves, and sweep the yards, and when all is nicely done, we run down to the creek and wash, shake off the dust, have a good laugh, and fall to work over our dinners with rare appetites.

On Friday afternoon, I appoint workers for the following week, to do "general house." They are called "house monitors." Their business is—to pass the water four times a day, go around with the hand-basin twice a day to wet all the slate-rags, sweep the vestibule when necessary, and once a day to wash the zinc and the front door-step. Two carry water and are called "water monitors," and in cold weather I have a "fire monitor." His business is—to bring coal from the cellar, rake the fire, and empty and sift coal. This office is no sinecure, and the work is not the most fascinating in the world. Yet there is quite a rivalry to secure it, as well as the other situations, and I have often my monitors engaged for weeks ahead. They work expeditiously and lose but very little time. They study at home so as not to miss any lessons. I sometimes give little rewards, pencils, picture cards, &c., but all seem to take pleasure in keeping the school-room neat. I have a good scraper at the door, and every morning I put out the door-mat for the accommodation of dusty feet.

Every scholar is responsible for dirt or bits under or near his desk and is obliged to have everything in perfect order before going out at noon or recess. No one is allowed to have eatables in his desk, and the law regarding sassafras and birch, baby-wood and chesnuts, is as inexorable as that of the Medes and Persians!

I have a few careless folks. There are one or two boys that all the soap made, and all the water in the river could not keep clean. They bid daily defiance to combs, towels and the soap dish. If, after line upon line and precept upon precept, they persist in coming with unkempt hair, dirty hands and clothes, I send them home to get freshened up. But my boys are generally neat and capital workers. They don't lean on the broom handle and gossip and giggle as the little feminines do! To be sure I have surprised more than one Highland fling on the cellar floor, when I thought the errand for coal had been lengthy. I have also had small toads brought up in the scuttle. I have seen heavy bayonet thrusts and charges with the broom handles. I have seen the most marvellous double-shuffles executed on the door mat; but all these things do not depreciate their general usefulness and I wouldn't give a copper for a boy who hasn't fun, and whistle and dance in him.

No matter what work I wish done, they are always willing and pleased to help do it. I hardly know the reason. Probably because I always ask them pleasantly—possibly, because they see that I am not afraid of work myself. The place in which I spend eight hours out of twenty-four must be clean and attractive. I cannot do my school work well, or with enthusiasm, amid ugly, dirty unsightly surroundings. I have an aversion to ragged, soiled books, and broken slates—have a place for everything, and there it is kept. Why, we even brush out the flies at night! You think that verging on "old maidism." Well, say it again; I like it! Trustee A. says I will be wanting fly screens, next summer, and Trustee B. says my cellar is clean enough for a milk cellar, and even the big, good-looking, blonde gentleman, with the official title of County Inspector, before whom I stand in fear and trembling, vouchsafed me a crumb of praise on his last official visit.

So, with my girls as neat as pinks, and my boys striving (with many inward groanings) to be methodically inclined, I sit with clean hands and conscience, under my own vine and fig tree; and so puffed up with pride am I at my success, that I think I should not be molested, or made afraid, if the whole School Department at Harrisburg, with Dr. Wickersham at head, were to come down some fine day and inspect the premises.—Miss A. Lee, in *Pennsylvania School Journal*.

## 5. NECESSITY FOR PLAYGROUNDS.

The question of playgrounds has once more curiously emerged in the discussions of the London Board. Healthy play is surely as necessary to the national vitality and to the progress of the people as "the three R's." There is moral discipline, to say nothing of physical training, in the playground. We may make a fatal error if we limit our ideas of elementary education to books and copy-books and slates.

## III. Papers on Practical Education.

## 1. A TEACHER'S GATHERINGS.

From Dr. Arnold's Life and Letters.

In reading *Dr. Arnold's Life* some years since, I noted down, amongst other points of interest, several that seemed to me to bear specially on Sunday-school work. It has occurred to me to select a few of those points, and, using the passage in which they occur as a text, write a series of short papers, which, I venture to hope, some of my fellow-teachers may find useful.

Dr. Arnold was a teacher of boys, and his wonderful influence with them is well known; and to us who also are teachers of boys, and whose aim it is to influence them for good, it surely is a profitable study to observe the line of conduct which this successful teacher adopted, and the principles by which he was guided, believing that, if we use the same means, the same result will follow.

It will be seen that the style adopted in these papers is, for the most part, suggestive; not by any means exhaustive. Many of the topics briefly touched upon are capable of, and some have received on various occasions, full and elaborate treatment. The references refer throughout to the ninth edition of *Dr. Arnold's Life*.

## I.—SYMPATHY BETWEEN TEACHERS AND SCHOLARS.

"To be in sympathy with the mind you propose to influence is at once indispensable, and will enable you in a great degree to succeed in influencing it." (Vol. II. p. 150.) His knowledge of the characteristics of boyhood was very great. 'Often and often,' says one of his pupils, 'have I said to myself, if it is one of ourselves who had just spoken, he could not have known and understood our thoughts and ideas.' (Vol. I. p. 140.)

To be in sympathy with those you would influence is the first condition of success. But some may think that sympathy is out of the question in a case where there is so little in common as must generally be between teacher and scholar. In respect of age, social position, intellectual religious attainments, disposition, taste, and habits of life, very great is the disparity usually found to exist. And yet sympathy is indispensable if any good is to be done. The fact is, sympathy is quite independent of all these inequalities, and can well exist in spite of them. The essence of true sympathy consists in bridging over the gulf which these create—in annihilating social and moral distances—in showing how much there is in common between a man and his fellow-man, and coming near him, and thinking with him, and feeling with him, and suffering with him.

If we would influence the children of our class the very first thing we must strive to cultivate is a genuine sympathy in them, and in all that concerns them. We must bring ourselves down to their level; we must think their thoughts, use their words, see with their eyes, and regard all things from their point of view—in fact live and move in their world.

But, it may be asked, in what practical way can we set about this? I reply, first, we should draw upon our memories to reproduce to us something of our own early years, and see how we thought and felt and acted when we were at the point of the journey our children now are at. Human nature is much the same always, and probably what interested and attracted us at that age, will interest and attract them now; what we disliked and took offence at will probably have a like effect on them. And the great majority of teachers are not so far removed from the time of life we speak of as to make this retrospective method so difficult.

Another way of learning sympathy—the best of all ways—is by means of a kind and gentle manner, a loving heart and zeal in the work, drawing the sympathy of the children to you. There is no way like this.

"A further method is to "understand" the children. I do not now mean understanding generally their thought and ideas, but understanding each child—knowing the individual lives, the peculiarities, weaknesses, wants of each. A moment's reflection will show the value of this. The more we know of them, and interest ourselves in them, the more shall we gain their interest; hence will result a regular and full class, and also an attentive class. The better the teacher is known the greater scope will there be for that

*impression* which the child unconsciously receives from him, the value of which, if the teacher be a true man is incalculable.

Once again, if we get to know about the lives of our scholars individually, we shall constantly be able in our teaching to point a special lesson, or send an arrow direct home; at all events, to make our teaching more definite and practical, and thus avoid that vague general style that shoots about at random, without point or purpose. In short is it not in this direct, personal, individual dealing with each child that the grand means of the Sunday-school system consists, whereby the teacher, with his little flock around him, has in many respects mightier opportunities for good than even the minister possesses, whose work consists for the most part in ministering to the mass?

But it will naturally be asked, How is it possible to gain this intimate acquaintance with each child, when the teacher merely sees them, for a short hour or so once a-week, all together, and in the midst of a large school? I reply, it is not possible. I would not for a moment speak lightly of the good that might be done by teachers who can do no more than simply teach on the Sunday. By no means. They may do very much, and we cannot afford to dispense with their help; but it is well that it should be distinctly laid down that if a teacher would do his work thoroughly, if he would fully avail himself of the opportunities for good the work affords, if he would seek at all to realize the ideal that the leaders of the Sunday-school movement form, some work external to the school is absolutely necessary. This is not the place to enter upon the subject of Visiting; suffice it to say that it is by far the most important part of what may be called the indirect work of the teacher. For gaining the sympathy and interest of the children, for securing a full and attentive class, for getting a thorough and individual knowledge of the children, for extending the blessings of the Sunday-school far beyond the limits of the school itself, the practice of visiting at the homes of the scholars is of value untold. Besides this, the earnest teacher will find many opportunities of reaching the hearts of his children and gaining their sympathy; an occasional walk, a game of cricket, an invitation to the teacher's home, and exchange of letters during holidays, are a few of the means that we sometimes see employed by zealous teachers, who feel that to confine their efforts to the actual Sunday teaching would be to leave a large portion of the work undone.

The opinion seems to be held by some that it is not wise for a teacher to be on terms of two great intimacy with his scholars—that there is a danger, if he join them in their sports, for example, contending on equal terms with them, or have much personal intercourse with them, that he will lose their respect or lower his position in their eyes. But there can be but little doubt that this is an utterly false notion. The esteem and affection which can only be sustained by the object of it keeping at a dignified distance—which is unable to bear the test of close and personal scrutiny—cannot be worth much. See what Dr. Arnold's views on this matter were. "I should say, have your pupils a good deal with you, and be as familiar with them as you possibly can. I did this continually more and more before I left Laleham, going to bathe with them, leaping and all other gymnastic exercises within my capacity, and sometimes sailing or rowing with them. They, I believe, always liked it, and I enjoyed myself like a boy, and found myself constantly the better for it." (Vol. I., p. 29.) Undoubtedly the more the children know of us, and the greater the variety of circumstances under which they see us, the greater need is, there for circumspection on our part, for they observe us closely and many teachers lose much influence by not regarding this.

## 2. HOW TO MAKE SCHOOL PLEASANT.

There are many methods of making school pleasant and school duties interesting. The first thing to be done is to make the interior of the school-room attractive. Bare walls and staring windows are repulsive and forbidding in appearance. No pains should be spared in adorning them. Many, and in fact most of our country school-houses are unfurnished; that is, they contain no maps, globes, or other school apparatus; hence it falls upon teachers either to teach with such surroundings, or furnish better themselves. The true teacher never hesitates. He realizes that time and money spent in the interests of his school are time well spent, and money well invested. Any school-room, no matter how bare or unattractive, can be made pleasant with but little expense. Wall maps can be made by the teacher. Pictures cost but little. Curtains made of calico are inexpensive. The blackboards can be kept in good condition; agents seldom refuse to paint these. Mottoes add much to the looks of a school-room, and exert a powerful influence upon the minds of children. They may be made with stencil letters. An alphabet of these costs but little. Strips of paper which will answer to print on

can be procured at any milliner's shop. The following are good mottoes:—"Knowledge is Power;" "Work and Win;" "Never Give Up;" "Books are but Helps;" "Not how Much, but how Well;" "Improve the Time;" "Learning is Better than Wealth;" "Youth is the Time to Learn."

During the summer, the school-room can be trimmed very nicely with oak leaves and evergreens. Wreaths may be made on wire, mottoes on pasteboard, and the walls festooned with trimming. Nothing is prettier than such ornaments, but in the winter season the material is not so easily obtained. The work of adornment should not interfere with the work of instruction. Teaching should be the primary object; all other things should be secondary.

After the room has been made pleasant, then the exercises conducted in the room should be made interesting. Aside from the class recitations, there are many general exercises which tend to interest pupils. It is a good plan to appoint school-officers, who shall have certain duties to perform; for instance, have a school secretary, whose business shall be to keep a record of important transactions. Call the book in which he keeps this record the School Journal. Have number and names of visitors, names of those who whisper, etc., recorded. Have monitors of neatness, whose business shall be to see that the floor is kept clean and neat, and that the school-room is kept in order. Other officers may be appointed to pass water, writing-books, etc. Teachers should make it a practice of reading interesting articles to their scholars. Children like to hear stories either told or read, and the wise teacher often thus amuses his pupils. Children will gladly remain a short time after the regular school hours, if by so doing they can listen to a good story. A school periodical is an excellent thing to read from, and may be made very easily in the form of a scrap-book. The children should be invited to hand in contributions, either selected or original. Some pupil may be appointed as editor, or the teacher can act as such. There are many other general exercises with which most teachers are familiar, such as drawing, object lessons, musical exercises, etc., all of which have a tendency to please and instruct pupils. Any method which serves to enkindle enthusiasm and interest in school duties, should be gladly welcomed by teachers, and it is to be hoped that ere long such methods will be more generally introduced into our schools.—*Eliza H. Morton, in Maine Journal of Education.*

## 3. VALUE OF THE MORNING HOURS.

Tom Jones was a little fellow, and not so quick to learn as some boys, but nobody in the class could beat him in his lessons. He rarely missed in geography, never in spelling, and his arithmetic was always correctly done; as for his reading, no other boy improved like him. The boys were fairly angry with him sometimes, he outdid them so. "Why, Tom, where do you learn your lessons? You don't study in school more than the other boys."

"I rise early in the morning and study two hours before breakfast," answered Tom.

Ah, that is it. "The morning hour has gold in its mouth."

There is a little garden near us, which is the prettiest and most plentiful little spot in all the neighbourhood. The earliest radishes, peas, strawberries, tomatoes grow there. It supplies the family with vegetables besides some for the market. If anybody wants flowers that garden is sure for the sweetest roses, pinks, and "all sorts without number." The soil we used to think was poor and rocky, besides being exposed to the north wind; and the owner is a busy business man all day, yet he never hires.

"How do you make so much out of your little garden?"

"I give my mornings to it," answered the owner; "and I don't know which is the most benefited by my work, my garden or I."

Ah, "the morning hour has gold in its mouth."

## 4. POWER AND USE OF MUSIC IN SCHOOLS.

What an auxiliary music is to the teacher, brightening up dull faces, inspiring cheerfulness that becomes an impetus to labour, softening and soothing nervous irritation, often so difficult to contend against, which has been excited by the crowded school, impatient under the restraint and monotony of position and occupation! Think, too, of each child frequently going home at night, like the honey-laden bee, with a gay little song to charm the work-wearied father's heart; a lullaby which, sung over the baby's cradle, shall soothe the mother's spirit while it closes baby's eyes; holy hymns that shall make the very roof-tree a better shelter for hearts beneath it. Thus the influence of the public school goes out blessing and blest; and we gather sheaves of joy to hold close to humble hearts, thankful that we may be permitted to aid in making the world happier and better, as well as wiser; that we, too,



in the silent, unseen influences, are serving our country and our God, and at the same time learning the useful lesson of how to labour and to wait.

##### 5. ELEMENTARY SCIENCE IN OUR SCHOOLS.

There is not an inventor or mechanic who does not suffer for want of a good elementary training in mathematics and the sciences ; and yet, notwithstanding this notorious fact, it seems impossible to introduce such a reform in our school education as will successfully remedy the evil. The chief difficulty in the way of reform is in the supply of teachers. Our training schools have raised up teachers whose minds run in the same groove, and who have no mental switch by which they can turn off on to a new track. The custom of learning everything by rote and reciting like a parrot, has become so imbedded in our system of education, that it seems almost impossible to find any explosive sufficiently active to blow it up, and no jack-screw or hydraulic ram is powerful enough to move our Boards of Education from their firm foundations. But as the continued dropping of water may wear away a stone, we propose to keep adding here a little and there a little, until some impression has been made and some good has been accomplished. We do not propose to wait until the pupil, by droning over dry facts and abstract principals, has acquired a disgust for every branch of knowledge, but think it wiser to pursue the natural method, and begin when the mind is anxiously inquiring into the cause of things, and the boy takes his watch apart to see what makes it go. The old-fashioned way was to give the boy a sound flogging, to take the watch away, and make him learn by rote the principal of compensating balance wheels. "My dear boy," says the teacher, "the duration of an oscillation depends on the radius of the wheel, the mass of its rim and the strength of the spring ;" which of course, is very intelligible to the lad, and would enable him at once to construct a new watch.

Common sense would dictate the propriety of showing up the parts of a watch, and by degrees expounding the principals upon which the construction is based. Theory and practice is what we want, and not either of them alone. Technical instruction alone will not result in the advancement of science, but that, together with a thorough training in the phenomena of nature, will lead to progress.—*California Teacher.*

##### 6. PRACTICAL LIFE EDUCATION.

The effect of the Vienna Exhibition upon the minds of many of the leading men in England has been to convince them that technical education is a national want. They find that in many ways the continental artisan is outstripping his English competitor, not because he is more skilful, but for the reason that he has been better instructed. In mere book learning he may not have much advantage, but his superiority is seen in having been made acquainted with science as applied to arts and manufactures. Owing to a combination of causes England was able to obtain a great start in the prevailing industrial life. She was first with railways, steamships, and textile machinery, and was able to far out-distance any competitors. But now other peoples are fast creeping up behind her, and even threatening to excel in many important particulars. The Society for the promotion of Scientific Industry has been formed with the view of enabling the artisan classes to improve themselves, by placing before them the best information concerning those matters that more especially concern them, and offering prizes for industrial improvements whether in machinery or in processes, or in the use of new raw materials. Agents are to be sent out to report upon industrial developments in other countries, and exhibitions are to be held, not as mere shows and for superficial observation, but for the purpose of critical examination. The great problem of the day is how to make every man's labour more productive than before. This can only be done through a thorough acquaintance with labour-saving machinery, which requires the exercise of a higher kind of intelligence than mere handicraft. The agricultural operations of the period and the use of the machinery necessary to them, rest upon a very different plane than formerly. In a recent letter to the *Times*, Mr. Caird, the agriculturist, stated that, notwithstanding an unusual scarcity of farming labour, the harvest of last year was got in without any unusual difficulty, the deficiency of hands having been made up by the increased use of machinery. And it is anticipated in England, that by greater attention to grazing and labour-saving machinery the threatened wholesale emigration will not inflict so great a blow as some doctrinaires have anticipated. However that may be, we see that every new mill, every iron work, every locomotive of the present day shows improvements on those which were made twenty years ago. But if the modern system of doing every-

thing by mechanism spares human muscles, it makes a larger demand than before on human brains. Taking charge of a locomotive is a more complicated business than driving a cart, and an Armstrong gun requires a good deal more looking after than an old 24-pounder of Nelson's time. Therefore, as the labourer develops into the skilled artisan, he requires technical training, instead of the simple old rule of thumb. The late Government of Mr. Sandfield Macdonald appreciated the necessity of technical education in Canada, by means of which our young men might have opportunities of a practical kind, so liberally enjoyed by the youth of continental Europe. Yet it is none the less certain, that if Canada is to be "First" she must not neglect those intellectual aids to progress which are forcing themselves upon the attention of the mother country. Mere verbal instruction is not sufficient, and education which stops short at the "third book," or is even carried up into the mysteries of Greek roots is not all that is needed. In a practical country, education should have a practical tendency, or, at any rate those that wish to enhance their knowledge in the direction of every day life affairs, should have as much facility for doing so as those that wish to ascend into classical regions. The information which such instruction would convey would prove of the highest benefit, and who shall say that while digging in the mine of knowledge some bright object might not be struck which would reflect untold benefits upon the country. If the long list of learned men in England is run over, which of them is seen to have conferred one small fraction of benefit upon the people that an Arkwright did? Of all the political partizans, which has been able to do as much as Stephenson? What warrior can compare the results of his labours to those of Professor Morse, or even in a humble way to those of Elias Howe? The inventors of the reaping machine, of the thresher, of the winnowers, and all the multifarious developments of agricultural machinery have been greater benefactors to mankind than the Pundits of many nations, because they have touched that which concerns the every day life of us all, and have made it easier and more certain.—*London Free Press.*

##### 7. SUNDAY-SCHOOL SUPERINTENDENTS.

Distressing : a fussy superintendent.

Dear Super-intendent, don't be super-cilious or super-sensitive.

Don't buy scholars from other schools. It's a very mean business.

"But what if they don't re-elect me as superintendent at the next election?" Resign before, or be resigned afterward.

The "model superintendent" has been packed away in the Patent Office as being rare, un-reproducible, and impracticable—so superior an article that he would be useless.

Remember that even though you are a superintendent you are not infallible.

It is not the bell, but the man who strikes it, who commands respect.

One of the best assistant-superintendents we know of is FRESH AIR.

Know when to stop talking, and your school will never wish you to stop.

We plead for more profound and tender piety in superintendents. You may have a large school without it. You may have a good picnic without it. You may have order without it. You may even have well-learned lessons without it. But the truest, highest, most Christian-like success you cannot have unless you have more of Christ in your heart.—*Dr. Eggleston.*

Of a superintendent we know it was once quite wittily, if not truthfully, said, if he should only keep still himself for one Sunday, his scholars would be so surprised that they would not be able to make any noise for a month.—*Erwin House.*

One thing superintendents should cultivate—and it is a difficult one, too—that is, to be willing to decrease. We have only one record in the Bible of a man who could say. "He must increase, but I must decrease." Hard as it is, we must learn gracefully and with good spirit to step aside and give place to another better qualified, when such a one is found.—*Henry P. Haven, in Dr. Vincent's Sunday-School Journal.*

He was a wise and understanding teacher who confessed this bit of experience : "I began teaching by thinking I was conferring a great honour upon somebody. I ended by feeling that a great honour had been conferred upon me. For in teaching others I myself learned a still better way, and found out my great ignorance of many things. My real success as a teacher dated from the time I found out that my class was of more importance to me than I was to my class."



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

ABSTRACT OF MONTHLY METEOROLOGICAL RESULTS, compiled from the Returns of the daily observations at ten High School Stations, for JANUARY 1874.

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

Table with columns: STATION, BAROMETER AT TEMPERATURE OF 32° FAHRENHEIT, TEMPERATURE OF THE AIR, MONTHLY MEANS, DAILY RANGE, HIGHEST, LOWEST, WINDS, VELOCITY OF WIND, AMOUNT OF CLOUDINESS, RAIN, SNOW, AURORAS, TENSION OF VAPOUR.

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

Where the clouds have contrary motions, the higher current is entered here. Velocity is estimated, 0 denoting calm or light air; 10 denoting very heavy hurricane. REMARKS: BELLEVILLE—Fogs, 22nd, 23rd. Snow, 9th, 10th, 13th, 14th, 24th, 27th, 28th, 31st. Rain, 3rd, 6th, 7th, 8th, 22nd, 23rd. GODERICH.—Hail on 7th. Wind storms, 14th, 15th. Fog, 22nd. Snow, 4th, 6th, 16th, 19th, 22nd-25th, 27th-30th. Rain, 2nd, 4th, 7th, 18th-22nd, 27th. STRATFORD.—Wind storms, 4th, 15th, 24th, 30th. Fogs, 2nd, 3rd, 19th, 21st. Snow, 4th, 6th-11th, 13th-15th, 19th, 23rd-25th, 27th-30. Rain, 4th, 7th, 18th, 19th, 21st-23rd, 27th. Excess of mean monthly temperature over average of January 13 years, 14° 69.

## V. Papers on Education in Various Countries.

### 1. DEFECTS IN AMERICAN SCHOOLS.

In the *International Review*, Rev. Dr. McCosh submits an able paper upon Upper Schools here and elsewhere. He ranks the Elementary Schools of the United States as high as those of any other country. After these our system becomes but narrow and deficient compared with that of Prussia. There the boy (every boy, education being obligatory) enters school at six, and at ten makes choice of the *Gymnasien*, or *Real Schule*, in one of which a classical and in the other a scientific training is given. Besides these are the upper and lower *Bürger Schulen*, meant for artisans. In Europe, Austria ranks next to Prussia in the thoroughness of its educational system, Holland coming not far behind. The Scottish system was bequeathed by John Knox; it consists of a parochial free school in each parish, a grammar school in every chartered town, with competent teachers of English, science, the classics, mercantile branches, French, German and drawing. England and Ireland are behind every other enlightened country in educational privileges for the mass of the population, the Endowed Schools, feeders to the great universities, being filled with the sons of the nobility or the wealthier under classes.

Dr. McCosh considers the great want of this country to be high schools; their place being ill-supplied, in his judgment, by the private academies or boarding schools, the latter of which require an outlay of from \$400 to \$500 per annum. He urges wealthier benefactors who propose to endow a college now or at their death, to found instead High Schools, where the training can be similar to that of Prussia; schools to be accessible to the whole population, where young men and young women under eighteen can receive instruction in every useful branch. He also proposes that the large amount of land yet remaining in the gift of the Government be appropriated in this way rather than to Agricultural Schools. Thus far, Dr. McCosh.

Now, while a bad school that is free is certainly preferable to a good paying school to the boy entirely without money, it is not to be chosen by the large class of parents with moderate means, who feel that an education is all that they can hope to give their sons, and therefore chose the best attainable. The question remains, whether the High Schools which we already have, and those which Dr. McCosh proposes, serve the purpose of this class better than the private academies. The defect in every system of graduated schools, is that they must partake more or less of the nature of a mill, through which the scholars are ground, without any more regard to their individual character or capacity than if they were so many grains of wheat. In the private academies there is at least a chance of consulting the boy's bent or talent. Unfortunately the teachers of this generation stand at the crossing of two ways, and not being able to make up their minds to take their charges along either, try to drag them in both. Their own youth having been given to the classics, and science having been the study of maturer years, it seems easy for them to master both; hence the poor little wretches who are brought to them with empty brains are urged (even by so wise a man as Dr. McCosh) to fill them with both the old and new training combined. We offer no opinion in the dispute between the classics and modern science; we only suggest that for the average scholar there must either be a choice between them, or a compromise by a wretched smattering of both.

In no place is this defect in the popular theory of training so apparent as in our higher Public Schools. Instead of making the aim of education the strengthening and sharpening of the intellect for future use, the sole effort is to cram into the feverish, undeveloped brain a mass of uncomprehended facts. In the Public and High Schools of Philadelphia, which Mr. Mundella, M. P., pronounced perfect in system, the children are given from ten to thirteen different text books. An ambitious girl if but of average quickness in memorizing (the only faculty developed), is obliged to study until late in the night to prepare an ordinary day's lesson. This, is alleged, is but an easy task for the best scholars, but it is hardly fair to make an exceptional case the guage for the school. The condition of our own routine is no better. The teachers have no more time than for the hearing of recitations; all explanations and help must come from the parents. We are strongly tempted to differ with Dr. McCosh, and to hope that as long as the system of cramming and rote teaching is sustained in our High Schools, no effort by the Government or individuals will enable them to supersede private schools where more rational theories have a chance of trial.—*N. Y. Tribune.*

### 2. EDUCATION OF WOMEN IN ENGLAND.

The London *Daily News* states that the report of the Cambridge Syndicate on the education of women presents more interesting and satisfactory features than usual. The examinations, as compared with those of 1872, show a larger number of candidates and a higher average of work. About two hundred ladies came forward for examination, and although the number of failures in the elementary subjects was exceptionally large, a very good average of success was attained in the higher branches, some of which lie rather beyond the reach of what has hitherto been considered a sound female education. In mathematics, which last year produced no successful candidates, all have this year been successful. There was but little Latin and less Greek among the young ladies, but their French, German, and English obtained excellent reports. The examiners in the English history and composition of the young ladies say that along with a certain amount of proficiency there is exhibited a tendency to rest satisfied with very incomplete information and very loose modes of expression. The examiners have not taken the trouble to record any of the curiosities of the examination, but they speak of "very prevailing inaccuracy," of flippancy, and even of slang. On the other hand, it was distinctly stated that the best essays were better than those of male students writing on the same subject in similar circumstances, and that the worse faults of the women were eclipsed by the worse faults of the men.

### 3. EDUCATION IN AUSTRALIA.

Nearly half a million of money has been voted by the Legislative Assembly in Australia, for the purpose of carrying out the requirements of the new Educational Act in the colony for the present year. This large sum is an increase over the appropriation for the past year under the old educational system of over £250,000. The Legislative Assembly, when called upon to deal with this vote, is said to have exhibited a determination to allow no ill-timed considerations of economy to interfere with a fair trial of the new system, and the liberality evinced by the House surpassed even the expectations of the Government.

### 4. RELICS OF AN OLD ROMAN SCHOOL.

A traveller writing to the *N. Y. Church and State*, thus refers to the excavations of an old Roman School:—A peculiar interest of a pathetic sort, and caused by reminders of what has not left many relics, attaches to a long edifice composed of several apartments, with a row of columns in front, that lies under the hill on the Western side. This was the school of the Imperial slaves, whom we must not imagine to be what the word suggests to us, but who are from all lands, for a while chiefly Greeks, and carefully trained and educated. The walls of these chambers are covered with inscriptions made upon the plaster with the stylus, a steel-pointed instrument which was then used for writing. It was one of these scribbles that revealed the nature of the edifice when excavated, for it reads: "Corinthus is going away from the school." The number of them is very great, and among them are rude drawings such as school boys still delight to make, wherever they can find a white wall, or on their slates. Very curious is a scratched sketch of an ass making a will, underneath which is printed in straggling letters: "*Asselle labora sicut ego laboravi, et proderit tibi.*" This may have a long story behind it. Some of these are very touching, in that they show the friendship formed by these little fellows in their gilded bondage, as we see to have been the case where two names are written together and surrounded by a traced framework. Others are touching in that they show how far from home the youths were, and how they thought of their distant dear ones, from whom the fortunes of war, or the slave-dealer's greed, had severed them. Near to one corner I saw written "Hadrymettus from Chersonesus made this." When studying at his weary task and thinking of his life of bondage, this poor child's mind had wandered back to the breezy hills of the Crimea, and its unforgotten liberty, and as he wrote these words, it all came back to him again. My companion and I tarried long in these rooms, deciphering all that we could of these mementoes of children who lived and played and wept here nearly two thousand years ago, and more than one sentence and drawing that I have now forgotten, touched us as ruins of old are not apt to do.

And I thought on leaving, what a commentary is this on human fame! The names of the learned who taught here are forgotten; those of many a great and noble one who lived in the palace above have sunk into oblivion; we scarce know more than the names of some of the proud Emperors, and not one word or line of all their mighty writing is preserved. Yet here in these long buried chambers, we

have the scribblings on the walls of these poor little fellows, who were the playthings of the monarchs, and we can read there stories of their pleasures and their cares, how they studied, how they loved each other, and how they thought of their distant homes.—G. Z. G.

## 5. IRISH CATHOLICS AND EDUCATION IN CANADA.

The following letter has been addressed by Rev. Father Stafford, of Lindsay, to Mr. Shiel, Government Emigrant Agent to Ireland :  
LINDSAY, Ontario, January 8th, 1874.

MY DEAR MR. SHIEL.—I read with pleasure the report of your speech at the meeting of the Irish Agricultural Labourer's Union in Cork, on the 14th December last, in which you dwelt on the superior advantages of our school system and the civil and religious liberty that prevails so happily in this country. There may possibly be difference of opinion as to the practical existence of civil and religious liberty in certain parts of the United States. Theoretically and on paper, of course, it is perfect; but as to the other question—that of freedom of education, no one pretends that anything of the kind is to be found there. No provision is made in any law in the United States for the existence of a single Catholic school. Under pretence of excluding everything, sectarian or denominational from their schools, everything Catholic is excluded. A man with one eye can see what kind of a school it is in which nothing Catholic is to be found. If it is not purely Pagan, it is, and must be purely Protestant. Practically the schools in the States are Protestant and Protestantizing, and the Catholic landowner, and householder, and tax-payer has to support those schools equally with his Protestant neighbour. After having done this, after having contributed equally with his Protestant neighbour to the support of the schools of the richer majority, he then has the liberty of providing a Catholic education for his own children. How would the people of Ireland like that? Very much I presume, as they liked the privilege formerly enjoyed of supporting two classes of clergymen. In Canada nothing of this kind is to be found. Both in theory and in practice we have the education of our own children in our hands. We are, in this respect, on a footing of perfect equality with our Protestant fellow-citizens. The Protestants of Canada are more numerous and more wealthy than we are, and to their credit and honour be it told and published, they would scorn to impose their schools on us; they have too much respect for true liberty of conscience; and further, they would scorn to take our money to educate their children; they have too keen a sense of the principles of justice, honesty, and British fair play.

On the question then, of education, there is no room for doubt or argument. While we enjoy our present rights we can well afford to let others talk of "civil and religious liberty," knowing, as we do, that "civil and religious liberty" is a myth, and can have no foundation—it is a farce, a humbug, a delusion, a fraud and a snare—in any country in which true freedom of education does not exist. What is now being done violently in Prussia and other persecuting countries under one tyrant has been done all along by a tyrant majority in the United States. I thank you for the report you sent me of His Grace the Archbishop of Toronto's speech, in which these facts are proclaimed. Please continue to place this question on the sure foundation of the truth. In the end it will tell.

Yours truly,  
M. STAFFORD, P.P.

## 6. THE NEW BRUNSWICK SCHOOL LAW.

The following correspondence between Lord Dufferin and the Imperial authorities, relative to the New Brunswick School Law, has been published. It will be seen that Lord Kimberley, after taking the advice of the Law Officers of the Crown, declares that these school acts are within the powers of the local legislature, and may not therefore be disallowed.

OTTAWA, Canada, May, 27th 1873.

*The Earl of Dufferin to the Earl of Kimberley :*

MY LORD.—I have the honour to enclose copy of resolution carried in the House of Commons, on the 14th of May, by a majority of 35 against the Government, urging the disallowance by the Governor-General of certain Acts passed by the New Brunswick Legislature, with a view of legalizing a series of assessments made under the Common School Act of 1871, and in amendment of that Act.

2. I also beg to enclose copies of the Acts referred to, and I further forward for your Lordship's information the substance of the announcement made to the House of Commons, on my behalf, by

Sir John Macdonald, in reference to the above mentioned resolution.

3. From these documents your Lordship will perceive that the majority of the House of Commons being strongly opposed to the severity with which the secular system of education established under the Common School Act of 1871, is being applied in New Brunswick, and of which the Roman Catholic population vehemently complain, have endeavoured to paralyze the Act by an indirect attack upon the subsidiary machinery necessary to its operation, and that they have sought to obtain this end through a resolution of the House of Commons, in favour of the disallowance by the Crown of certain Assessment Acts, passed by the Local Legislature for the material maintenance of the common schools.

4. I have already been instructed by your lordship in your despatches noted in the margin, that in the opinion of the law officers of the Crown, the New Brunswick School Act of 1871, was within the competence of the Provincial Legislature, and I am further advised by the Hon. the Minister of Justice that the present Acts are equally within its competence.

5. Under these circumstances Sir John Macdonald has announced to the House of Commons that I am not at present prepared to comply with the terms of the resolution which had been passed in favour of the disallowance of these Acts; but that it is my intention to submit the circumstances of the case for the consideration of Her Majesty's Government, and to await your further instructions.

6. In taking this step, I have followed the course which has been recommended to me by my responsible advisers.

7. I have further to inform your Lordship that Parliament has voted, at the instance of my Government, a considerable sum of money for the purpose of defraying the legal expenses of those who propose raising the question of the legality of the provisions of the New Brunswick School Act before the judicial committee of Her Majesty's Privy Council.

8. I have also the honour to subjoin a copy of a remonstrance which has been addressed to me by a delegation from the Government of New Brunswick, consisting of the Chief of the Executive Council and some of his colleagues, against the interference of the Dominion Parliament with the constitutional action of the Provincial Legislature.

I have, &c.,  
(Signed,) DUFFERIN.

Downing Street, 30th June, 1873.

*The Earl of Kimberley to the Earl of Dufferin :—*

MY LORD.—I referred to the law officers of the Crown your Lordship's despatch, with the enclosures, of the 27th May last, No. 137, in which you requested instructions as to the course which you should take with regard to the resolution of the Canadian House of Commons, urging the disallowance of certain Acts passed by the New Brunswick Legislature with the view of legalizing a series of assessments made under the Common Schools Acts of 1871, and in amendment of that Act.

2. I am advised, 1st, that these Acts of the New Brunswick Legislature are, like the Acts of 1871, within the powers of that Legislature. 2nd. That the Canadian House of Commons cannot constitutionally interfere with their operation by passing a resolution such as that of 14th of May last. If such a resolution were allowed to have effect, it would amount to a virtual repeal of the section of the British North America Act of 1867, which gives the exclusive right of legislation in these matters to the Provincial Legislatures. 3rd. That this is a matter in which you must act on your own individual discretion, and in which you cannot be guided by the advice of your responsible ministers of the Dominion. And 4th. That these Acts of the New Brunswick Legislature being merely acts for better carrying out the Act of 1871, and for getting rid of technical objections to the assessments thereunder, it would be in accordance with the Imperial Act, and with the general spirit of the Constitution of the Dominion, as established by that Act, for you to allow these Acts to remain in force.

I have &c.,  
(Signed) KIMBERLEY.

## 7. A CANADIAN MILITARY COLLEGE.

The Minister of Militia has given notice in the House of Commons, that he will move the House into Committee of the Whole to consider resolutions, having for their object the establishment of a Military College, for the training of Canadian officers. The scheme, as indicated in the resolutions, is to establish in one of the garrison towns of Canada, a military college for the education of young men in those branches of military and general scientific knowledge,

which are necessary for qualifying them as officers. The college is to be under the charge of a military officer, having special qualifications for this office, as commandant, assisted by two professors, and such other assistants as may be found necessary and authorized by Parliament, and who shall be appointed by the Governor, and hold their offices during pleasure. The institution to be governed according to regulations, to be made by the Governor-in-Council from time to time, and the collegiate term of instruction is to be four years. In the selection of pupils, applicants must be between the ages of 16 and 21, and a Board of Examiners will be established in each of the military districts of the Dominion, for the examination of those desirous of becoming students; the number to be admitted each year being regulated and limited by law. Provision is also made for the admission of militia officers holding first-class certificates, for a limited time. A certain fixed sum, to provide uniform, etc., on admission, and a limited annual allowance will be granted to each cadet, and cadets, or officers entering the college for a course of instruction, shall be subject while remaining there for that purpose, to the Queen's orders and regulations and the Military Act, and the rules and articles of war, and to such other orders and regulations as Her Majesty's troops are subjected to. This college is intended to be to Canada what Sandhurst is to England, and West Point to the United States, with this difference, however, that while the two latter countries have standing armies, which absorb the graduates from their colleges as fast as they can pass them through, we have no field at present for utilizing passed cadets, except such as the militia affords. A student, after spending four years in a military college, will be apt to regard that time as little better than wasted, if he finds there is no opening for his services in the profession he has acquired, and he will either have to adopt another line of life on leaving college, or seek admission into the army of some other country. Will the Military College Bill be followed by such an extension of our defensive system, as will be apt to make it worth a young man's while to devote four of the best years of his life to the study of the military profession?—*London Advertiser.*

#### 8. FEEDERS TO THE PROPOSED MILITARY COLLEGE.

In 1864, when the military feeling of the country had been roused by the Fenian invasion, the project of a Military College (like that of Sandhurst or West Point) was entertained by the Government of the day. In the Grammar School Act, which was introduced into the Legislature by the Hon. Wm. Macdougall, and passed in that year, a provision was inserted so as to make the Grammar Schools of the country feeders to such an institution. The intention was to prescribe a course of elementary instruction, not in drill, but in history, mathematics, and drawing, so as to fit candidates for admission to the proposed Military College. The provision of the law, which may yet be made available should the projected College be established, is as follows. It forms Section 99 of the newly Consolidated High School Act:—"It shall be lawful for the Lieutenant-Governor to prescribe a course of elementary military instruction for High School or Collegiate Institute pupils, and to appropriate out of any money granted for the purpose a sum not exceeding fifty dollars per annum to any school the head-master of which shall have passed a prescribed examination in the subjects of the military course, and in which school a class of not less than five pupils has been taught for a period of at least six months; (a) Such classes and instruction are to be subject to such inspection and oversight as the Lieutenant-Governor may direct."

#### 9. ONTARIO INSTITUTION FOR DEAF AND DUMB.

The third annual report of the above Institution at Belleville has been laid on our table, for which we have to thank Dr. Palmer, the Principal. As we recently noticed this institution at some length in connection with the Government Inspector's report, we only propose to do so briefly on the present occasion. We may say, however, that the report is very full and complete, and to those personally interested in the institution must be highly appreciated. The number of pupils passing through the institution during the year ending 30th September, 1873, was 206. Of these 13 males and 15 females were from the county of Frontenac; 18 males and 15 females from the united counties of Leeds and Grenville; 26 males

and 18 females from Lennox and Addington. The Principal reports that in the Educational Department the general progress of the pupils has been highly satisfactory. The Ontario Government have made liberal provision for the education of these unfortunate creatures, and any person who knows of any such through the country should urge their guardians to place them under Dr. Palmer's charge, where they will be well taken care of, besides receiving a first-class education.

#### 10. CONVENTION OF INSTRUCTORS OF DEAF AND DUMB.

We learn from the *American Annals of the Deaf and Dumb* (kindly sent to the Education Department by Dr. Palmer, Principal of the Institution at Belleville,) that a Convention of Instructors and others interested in the Deaf and Dumb, will be held at Belleville on the 15th July next. In calling attention to the fact, Dr. Peet, Principal of the New York Deaf and Dumb Institution, urges visitors to stop at Toronto *en route* for at least a day. "Here," he says, "they will have the opportunity of visiting the noble University of Ontario, the government buildings, and especially the halls of the State Department of Education. In the latter there is a museum and a depository which put to the blush anything of a like nature which we have in this country. The educational museum should be studied by all educators, and especially by educators of the deaf and dumb. The principle of visible illustration in teaching is here carried out to a degree of completeness in every department of science, and even of literature, which must take every one who has not been looking for it by surprise.

"At the depository, text-books and other appliances for education are exposed for sale at the lowest rates. The delegates may rest assured of a most cordial welcome from J. George Hodgins, LL.D., deputy-superintendent of education, who will be found at the museum"

THE University of California proposes to maintain a botanical garden, in which such rare plants as will grow in that climate may be cultivated. The nurserymen of the State have generally offered to contribute some of their choicest specimens.

AMONG the requirements of Michigan University now enforced are, in Latin, the whole of the *Æneid*, and in Greek the first three books of Smith's *History of Greece*, exclusive of the chapters on literature and art. The University has now 1,105 students.

MR. CARDWELL, at the recent Druids' dinner at Oxford, reminded his hearers that, so far from Greek being indigenous at Oxford, it was not known there at all till the Reformation, and that Erasmus records that when it was proposed to teach Greek to the students, they organized themselves against its introduction, and called themselves "Trojans."

THERE are over fourteen and a half millions of children of the school age in the United States. We spend annually for schools over \$95,000,000, which is equal to one-third of 1 per cent. of the property, real and personal, of the whole country, as returned by the last census; and we employ 221,000 teachers. The National Government has already set aside for educational purposes, 140,000,000 acres of the public lands.

THE largest gift to the Massachusetts Agricultural College during the past year was one of \$1,000 from ex-Governor Claflin, for the endowment of the "Grinnell Agricultural Prizes." The students are said to have been greatly interested in the study of botany, and in making preparation for planting the Massachusetts garden, which is to contain all the indigenous and naturalized plants of that State.

THE Harvard Board of Overseers has just submitted its report, which, among other things, approves the practice of making ethics a required study for freshmen, and suggests that more endeavors be made to give advanced instruction in ethics to higher classes. A fear is entertained that the advance of the College in literature, rhetoric, and aesthetics is not keeping pace with its great advance in other respects. The report approves the scientific study of music, which is for the first time this year recognized as a branch in the general liberal culture of the University deserving to be reported upon by the Committee. There are two courses in music under the charge of Mr. John K. Paine: the first in harmony and counterpoint; the second in imitative counterpoint and musical forms. Referring to physical culture, the report condemns the practice of intercollegiate regattas where professional trainers are employed, deeming it not well that impressionable young men should be placed so greatly under the influence of—to quote its own words—"such men, as for the most part, constitute the professional trainers."

## VI. Correspondence with the Journal.

### 1. TEACHING GERMAN IN OUR SCHOOLS.

*To the Editor of the Journal of Education.*

DEAR SIR,—The event of a few things which have transpired in this neighbourhood relating to School matters, has induced me to place in the columns of your *Journal* a short item of the facts that have occurred, together with my opinion upon them. It appears that some years ago a deputation from this locality and the neighbouring Townships went in person to the Chief Superintendent of Education, Dr. Ryerson, in order to obtain from him the privilege of having German taught in those schools where the great mass of the pupils were Germans. This privilege the Dr. readily granted, adding the provision, however, that they were not to discard the English, but teach it equally with the other. Now this they have abused, so far as the sequel of this letter shall tell. I may state at the beginning that it is not my intention here to discuss the advantages or disadvantages of any language, but in order to do justice to the respective parts which effect education, I will start out with the premise that all the languages as spoken by the different elements that form Ontario are in every respect equal. If so, then should not each one have just right to claim a like privilege and support. We know that this Province is principally made up of the four elements, Irish, Scotch, English and Germans, who will in course of time become amalgamated, so that they will be as one. Now, which of those four predominates I will not venture to say, but I can safely state that either the Irish or Scotch form a greater percentage of the population of Ontario than the Germans do. If, therefore, this latter element petition for the privilege of having German taught in their schools, a thing which is certainly just and honourable in itself, have the Irish and Scotch not equal right to request that the respective languages be taught in the Public Schools, when the great mass of the pupils are of Irish or Scotch descent? And it is a fact well-known to all that there are many Townships in the Province that are almost exclusively composed of either of these two latter elements. Yet though they love their mother language, and discourse in it by the fireside and in the street, they never dream of introducing it into the Public Schools as the Germans have, to the detriment of the English. I willingly concede that where there is a section entirely German, it is but just that they should be granted the privilege of having their language taught in their school, though still it is a favour which the Irish and Scotch have equal right to claim. But there is one thing just in it, that should they suffer from it they are themselves both the accusers and the accused, and are duped by their own ignorance. But to bring the matter to an issue, it is herein where the abuse lies. In many sections, as it is very natural to expect, the ratepayers are composed of Irish, Scotch and Germans, the latter, however, having just majority enough to retain two German Trustees in office. These, as a matter of course, employ a German teacher, who in eleven cases out of twelve is not capable of teaching even the rudiments of the English language. For how can it be expected that a teacher, who cannot himself pronounce the English language correctly, or who does not know the value of a word, can impart to his pupils a proper pronunciation, or convey to their minds the real worth of a word. Yet so far are they clouded with ignorance and prejudice that they will discard the best English educated teacher in order to obtain a German one who knows neither the English nor German language, and very often holds but a permit that may entitle him to draw the Government money. The consequence is that the system, if allowed to continue, will so far prove an injury to the English speaking population. And it will in time be useless for their children to attend at all. In fact, at present in many sections the question is being mooted of separation from the Germans, in order that children may not grow up ignorant, and lose that facility of acquiring knowledge which the educational system of Canada amply holds forth in every other respect. It is a pity if a Bismarck is permitted to disturb the peace of Prussia, that young Bismarck should also arise here and create disturbances in our Canadian homes. Hoping, therefore, that you will consider the question well, as it is one of vital importance to this neighbourhood and many others, and trusting that you will pardon me for having trespassed so long in the columns of your *Journal*,

I remain as a lover of peace, harmony and education,  
Feb. 1874. A RATEPAYER OF CULROSS.

### 2. PRAYER IN SCHOOL.

*To the Editor of the Journal of Education.*

SIR.—The article published in the *Journal* for February, under the above title, has induced me to express the following views of that subject in opposition to those of Mr. Ireland. The idea meant

to be conveyed in the first part of said article appears to me to be so abstruse, that I leave it to be discussed by those who can better comprehend it. The writer's objection to prayer at *stated times* appears to me to be unfounded, for we are taught in scripture, both by precept and example, to do so; nor do I see it more difficult to pray at the hours in question, than at the commencement and close of each day, or to regularly ask a blessing at meal times. Surely if we are in that frame of mind inculcated by the divine command, to "pray without ceasing," we will not find it difficult to ask from our hearts the blessing on our doings and the forgiveness of our sins, which are expressed in those prayers suggested by the Council of Public Instruction.

With respect to the writer's expression "Business Prayers," which I think savors more of blasphemy than of wit, I would say that the necessity for prayer and our Saviour's command to watch and pray, should make it an important part of our business as Christians, and that if we regard it as business in any other light, it ceases to be prayer at all; and we do so contrary to the intention of those who practice or those who proposed the commencing and closing our school exercises with prayer.

Your correspondent says that, "to tell a man what to say and when to say that what to God, needs only to be mentioned to become ridiculous." Now this is as applicable to public Sabbath service and to regular family worship, as to the recommended opening and closing exercises in our schools, for if on such occasions we use a liturgy we are told thereby what to say, which is equally the case if we follow the words dictated by one leading extemporaneously in prayer, for we are then supposed to pray as he dictates, without even knowing previously what we are about to pray for, and, moreover, we must hold these services at stated times, over which in most cases we have no control. In either case we are told "what to say," and "when to say that what."

It is to be regretted that he does not take a more extensive view of the passages quoted from the Lord's Prayer, when he says that "'Give us this day our daily bread' would be absurd after we have got it." Now if we have to regard these words with logical exactness, we may understand the word 'day' to mean that period of 24 hours commencing with the present, but should we not remember that Christ has said "I am the Bread of Life," and "I am the Bread which came down from heaven," and surely if we are born of God, we will daily desire to feed on Him in our hearts by faith with thanksgiving.

No "old grudge" should prevent us using the passage "forgive us our trespasses as we forgive them that trespass against us," for Christ tells us to forgive even till "seventy times seven," and even if the fear of God did not constrain us, surely the love of Christ should compel us to obey.

In conclusion I would say that the latter part of the article, as a discourse upon the practicability of opening and closing our school exercises with prayer, strikes wide of the mark, and dangerously near a criticism on the dictation of our Lord. I would further remark that without a forgiving spirit, and a heart touched with the love of Christ, we cannot mould as we should the characters of the children daily looking to us for example, and unconsciously imbibing our very nature, nor can we hope for success in our mission and calling as teachers, without regular fervent prayer.

W. H. C.

Hanover, March 20th, 1874.

[We entirely dissent from Mr. Ireland's views in this matter.—  
Ed. J. of E.]

## VII. Papers on Agriculture and Natural History.

### 1. PROGRESSIVE AGRICULTURE.

No doubt every farmer desires to be known as an intelligent and progressive tiller of the soil; but in order to merit that appellation there must be intelligent planning and judicious management. A manufacturer who does not keep up with the times is left high and dry, while some useful competitor catches the flood that leads on to fortune. The only way to bring about successful results is to endeavour to develop increased production by increased fertility, and that increased production and increased fertility are to be brought about by the enterprising farmer exercising a liberal expenditure of labour and capital. The farmer, as compared with the thriving merchant or manufacturer, is in a most unenviable position, and his capital, scattered over his fruitful fields, is by his successor carefully reaped, and thus other men enter into the sweets and rewards of labour and capital. The present and future tendency of agriculture is, and must be still more, one of progression and increased development. The advance in the price of labour, the multiplied use of expensive machinery, the indispensable use of high priced fertilizers, the increased consumption of feeding cakes, the high price of



cattle, the necessity for large increase of capital, the increased competition in the supplies of corn, live stock and preserved meats, make the science and practice of agriculture a difficult, but also more than ever a progressive one. It is not possible to retreat. To be a successful farmer it requires a far seeing, hard-headed, cautious, yet resolute and courageous policy,

2. THE STUDY OF NATURE.

A school in the country, especially in a farming district, ought to aim to give the pupil a good knowledge of the natural objects which come under the eye of every one of common observation. To do this it is necessary to have a teacher who is competent to interest, a teacher who knows and is capable of imparting instruction and of creating an interest and a spirit of inquiry in the minds of his pupils. We hope the time is coming when the children of our schools will know the names and the properties of the plants, the trees, the minerals, and the animals that come within the range of their daily observation. Every farmer's boy ought to have the advantage of this kind of instruction. It adds vastly to the happiness of life and does much to impart the power of intelligent observation in which most people are wonderfully deficient.—*Massachusetts Ploughman.*

3. KINDNESS TO ANIMALS.

From the time the colt is born he should be taught to regard man, whom he is afterwards to serve, as his protector and friend. A human hand should first lift him gently to his feet, and direct his little mouth to the source of maternal nourishment. With the human touch he should thus early be made to associate caresses and a supply for all his wants. Instead of yells and oaths, the kicks and blows, he should hear only gentle, loving tones from the attendant's mouth, and pattings from his kindly palm. He should be taught to expect and watch for man's entrance to the stall or paddock where he is kept, as a dog waits for the coming of the master, as the season of joy and happiness. His little deer-like limbs should be handled, and he be taught to yield them properly, and without fear, to the master's touch. In short, everything that loving ingenuity can devise should be done to impress upon his mind thus early in life that man is his natural protector and friend, between whom and him an intimate companionship has been ordained by beneficent Nature, which ensures that he shall be protected and cherished while he serves. The horse has a heart-claim upon us. The young colt is, in some sense, a member of the family—one of the owner's household second in rank and dignity only to the children. So the Arab regards him. The beautiful young thing, with its shining coat and gazelle eyes and sprightly antics; so full of bounding but docile life, is literally his children's playmate. He shares their food, and often their sleeping mat; and a blow dealt him is as promptly resented as if it had been dealt the only son, for whose service in peace and safety in the hour of battle, the young thing is being raised.—*From Mr. Murray's Book on "The Perfect Horse."*

4. OUR FEATHERED FRIENDS.

The insect tribe are the bane of Canadian fruit culture; they spoil our cherries, sting our pears and apples, and render them worthless, blight our plum trees before they can produce mature fruit, perforate our grapes, destroy the beauty of our roses, devour our green vegetables, and otherwise entail no end of mischief. All this is due to man's own improvidence, in the constant and wanton destruction of the birds, which are the natural enemies of the insects, and the indefatigable friends of the farmer and fruit culturist. During many years past there has been a steady decrease in the number of our native birds in all parts of the country where man has formed his settlements, and a consequent increase in the number of insects. This subject is dealt with in an interesting manner in a prize essay just published by Mr. Frank H. Palmer of Boston. The pamphlet contains a list of the birds which feed on insects. Of the insects hurtful to garden vegetables he makes thirty different species; of the enemies of the grape about fifty; of those injurious to the apple and apple tree seventy-five. Shade trees have a hundred kinds of insect enemies, and wheat and other grains fifty. We therefore require a very considerable army of birds to protect our various crops from the ravages of these pests, and there seems to be every reason for the enforcement of these laws which we have enacted for their protection, but which are seldom if ever administered. The essayist remarks that, next to the law, the most important measure for the protection of the birds is the putting up of accommodations for them, and thus inducing them to settle. Every one who has half an acre of land should have two or three pairs of birds nesting thereon. Swallows, blue-birds, sparrows, wrens, and other birds eagerly avail themselves of the most simple

and inexpensive accommodations, which are just as satisfactory and comfortable to them as the most elegant and costly ornamental houses. No one need be prevented, from the fear of expense, from furnishing dwelling places, rent free, to these useful and interesting tenants. With a few simple tools and a box or two, which may be had of any grocer, a bird-house may be made of almost any size or shape desired. Should you wish it highly ornamental, nothing is better then to cover it with rustic work, which may be done with the aid of a wild grapevine, cut in pieces of the right length and nailed on. Such a bird-house costs little or nothing, save the time required to make it; and this slight expense will be amply repaid by the satisfaction of doing a good deed. There are other contrivances which may be prepared and put up in five minutes, and will serve as well as anything else. The writer says:—"At the opening of the present season we put up four tin cans, such as are used for canning tomatoes, having first filed a small hole in the lower end to prevent the collection of water. Three of the four were immediately occupied by bluebirds. One pair laid five eggs, four of which hatched, and the young grew to maturity. The other two pairs each had two broods, four eggs to each brood, and all hatched; but three of the young died before growing up. Seventeen young bluebirds and their parents, six in number—twenty-three insect-eating birds were thus induced to make their home in our orchard, the parent birds for about five months, and the young say about three months. Certainly, at a very low estimate, each bird would average twenty insects a day; for the food of these birds consists entirely of insects. At this rate the old birds would have destroyed during their stay here eighteen thousand insects, and the young thirty thousand six hundred—which gives a total of forty-eight thousand six hundred insects destroyed from our own and our neighbours' trees; and it did not take half an hour to prepare and put up these simple accommodations." Purple martins and other members of the swallow tribe will readily occupy boxes put up for their use. A pair of bluebirds found a happy home in an old beaver hat which had blown up and lodged in an apple tree. A good bird-house may be made of a medium-sized flower pot, with the hole somewhat enlarged and the top covered with a board. Will not every one who has a dozen rods land make a bird-house of some kind, and thus help to restore the proper proportions of the feathered and insect races?—*London Free Press.*

VIII. Mathematical Department.

Toronto, 4th April, 1874.

To the Editor of the Journal of Education.

SIR,—Mr. Glashan, Public School Inspector for the County of Middlesex, has favoured me with two solutions of the 10th problem of the First Class Algebra paper of last July. As it seemed to me that it might be of service to teachers to have an opportunity of observing the methods which Mr. Glashan employs, I asked permission to publish his solutions. This he has granted; and I therefore send you his solutions, requesting that you will give them a place in the *Journal of Education*. Mr. Glashan states, that either of his solutions "should easily be understood by a properly trained Second-Class Candidate;" and, to prevent any difficulty being felt, he has given the steps in full. The first four steps are common to both proofs.

From the Cambridge Examination papers, "First Three Days," 1849, Mr. Glashan quotes the following, which is a particular case of the more general problem in our First-class paper of last July: "Find a whole number which is greater than three times the integral part of its square root by unity. Show that there are two solutions of the problem, and only two."

I have the honour to be, Sir,  
Your obedient Servant,  
GEORGE PAXTON YOUNG.

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

- 1° Let x be "the integral part of its square-root,"
- 2° ∴ the No. is nx+1
- 3° and it is included amongst
- 4° x<sup>2</sup>, x<sup>2</sup>+1, x<sup>2</sup>+2, x<sup>2</sup>+3, . . . . . (x+1)<sup>2</sup> - 1
- 5° But x<sup>2</sup> may be thrown out at once, for
- 6° x - <sup>1</sup>/<sub>x</sub> is a fraction
- 7° and n is an integer,
- 8° ∴ x - <sup>1</sup>/<sub>x</sub> cannot = n



$$\begin{aligned}
 9^\circ & \therefore x^2 - 1 \text{ cannot} = nx \\
 10^\circ & \therefore x_2 \text{ cannot} = nx + 1 \\
 11^\circ & \therefore x^2 + 1 \stackrel{=}{=} nx + 1 \text{ and } (x+1)^2 \neq nx + 1 \quad (14^\circ) \\
 12^\circ & \therefore x^2 \stackrel{<}{=} nx \quad \therefore x^2 + 2x \stackrel{<}{=} nx \quad (15^\circ) \\
 13^\circ & \therefore x \stackrel{=}{=} n \quad \therefore x \neq n - 2 \quad (16^\circ) \\
 17^\circ & \therefore x = n \text{ or } n - 1
 \end{aligned}$$

$$\begin{aligned}
 5^\circ & \text{ which last term is } x^2 + 2x \\
 6^\circ & \text{ Putting } y \text{ for any integer from } 0 \text{ to } 2x \\
 7^\circ & \text{ the required number will be } x^2 + y \\
 8^\circ & \therefore x^2 + y = nx + 1 \quad \therefore y - 1 = nx - x^2 \quad (9^\circ) \\
 10^\circ & \therefore \frac{y-1}{x} = n - x \text{ which latter is zero or an integer } (11^\circ) \\
 12^\circ & \therefore \frac{y-1}{x} = 0 \text{ or } 1 \text{ since } \frac{y}{x} \text{ cannot be } \neq 2 \text{ by } 6^\circ, \quad (13^\circ) \\
 14^\circ & \therefore n - x = 0 \text{ or } 1 \quad \therefore x = n \text{ or } n - 1. \quad (15^\circ)
 \end{aligned}$$

#### ARITHMETICAL RULES FOR THE DETERMINATION OF STOCK REMNANTS IN CASE OF FIRE.

BY REV. GEO. MAYNARD AND W. B. ORR, ESQ.

REV. GEO. MAYNARD, Toronto.—A merchant purchases at different times goods to the value of \$ $P$ , and at  $r$  per cent, in advance realizes by Sales \$ $S$ . Required  $B$ , the value of stock remnant.

Rule 1. If 100 is a multiple of  $r$ , say  $mr$ , from the original purchase, take  $m$  times the quotient of Sales by  $m+1$ , or  $B = P - \frac{MS}{M+1}$ .

Example. If  $P = 15,000$ ;  $S = 13,650$ ;  $r = 16\frac{2}{3}$ ; then  $100 = 6 \times 16\frac{2}{3}$ , and  $m+1 = 7$ .  $13650 \div 6 \div 7 = 11700$ .  $15000 - 11700 = 33000$ . Answer.

Rule 2. If 100 is no multiple of  $r$ , the percentage, from the original purchase, take 100 times the quotient of Sales by 100 and the percentage, or  $B = P - \frac{100S}{100+r}$ .

Example. Let  $P = 10000$ ;  $S = 7490$ ;  $r = 7$ ; then  $7490 \div 107 = 70$ ; and  $10000 - 7000 = 3000$ . Answer.

Wm. B. ORR, Principal, Mercantile Academy, and City Auditor, Toronto.—Another rule. When the advance is an aliquot part of 100. To the denominator of the fraction indicating the aliquot part, add a unit, and subtract from the total Sales the amount expressed by the fractions, whose denominator has been thus increased, to determine the prime cost of the goods sold. This amount subtracted from the total amount of goods purchased, will give the prime cost of the goods in hand at the time of the fire.

Example. At  $12\frac{1}{2}$  per cent. advance, AB purchases at various times goods amounting to \$50,000, and his sales amount to \$54,000, including advance; then  $\frac{1}{8+1} = \frac{1}{9}$  of  $54000 = 6000$ , which subtracted from  $54000 = 48000$ , the prime cost of the goods sold, which deduct from the amount purchased,  $50000 = 2000$ , the amount of goods on hand at the time of fire.

Rule 2. When the per cent. advance is not an aliquot part of \$100; then say, as 100 plus the per cent. advance, is to \$100; so is the amount of goods sold, to the prime cost.

Our readers may form, at will, their appreciation of the foregoing rules. When the amount of goods purchased, and sold at any advance per cent. can be ascertained; the general rule for finding the value of goods on hand, or stock remnant is,

From the amount of goods purchased, take the prime cost of the goods sold; the remainder is the value of the stock remnant. To find the prime cost; divide the amount of sales by 1 plus rate per unit. Example. Goods purchased = \$4000; goods sold at 17 per cent. advance = \$3510; then  $3510 \div 1.17 = 3000$ ; or, As  $117 : 3510 :: 100 : 3000$  prime cost.

All the rules given by Messrs. Maynard and Orr, are but deductions from this; they possess no advantage in either simplicity or application.

MATH. EDITOR.

CORRECTION.

In Mr. Cameron's communication in the Nov. no., for  $\sqrt{14rt} + \sqrt{1+rt}$ , read  $\sqrt[4]{1+rt}$ , and in value for  $x$ , place  $\frac{1-R^{10}}{+10}$  inside the parentheses, after &c.

## IX. Biographical Sketches.

### 1. THE HON. H. H. KILLALY.

The Hon. Mr. Killaly was an early settler in Canada, and came here as a civil engineer, in which capacity he held an appointment in the construction of the Welland Canal. He settled in London, Ont., and was elected as representative of that town to the first Parliament of the Union of the Provinces, which took place in 1840. He held the position of Chairman of the Dominion Board of Works, from 1841 to 1846, and of Assistant Commissioner of Public Works, from 1851 to 1859. He was also a member of the Board of Railway Commissioners during the latter period. After residing in London for several years the hon. gentleman took up his abode in Toronto.

### 2. CAPTAIN JOHN YOUNG.

Deceased was born in Niagara Township, and resided there from the time of his birth. Quite a romance is connected with the history of Mr. Young's mother. She never knew her name, having been stolen by the Indians while an infant. She was subsequently and while quite a little girl, purchased or ransomed by one John Lawrence, in 1812, who adopted her.—*St. Catharines Journal*.

### 3. MR. JOHN WARREN.

Mr. Warren was born at Fort Erie in the year 1794. When quite a young man he entered the service of the late Thomas Dixon, of the Village of Queenston, in the County of Lincoln, as clerk, and remained in the employment of that gentleman until the declaration of war in 1812 between the United States and Great Britain. His bravery and loyalty were early recognized by the Government, and he received his appointment as lieutenant, raised a Company of men as volunteers, and during the war distinguished himself in more than one hard fought battle. At the battle of Chippewa, one of his brother officers fell by his side, the late Robert Kirkpatrick, of Chippewa, having been shot through the lungs by an American bullet; and when our troops were obliged to retreat, Mr. Warren, like a true man and friend, shouldered Mr. Kirkpatrick and carried him from the field, amidst a shower of bullets. Mr. Kirkpatrick, although supposed to be mortally wounded, survived and lived many years after, to thank his preserver. But Mr. Warren was not long destined to enjoy his laurels, in another encounter with his foes he was captured and made prisoner, and carried off to Greenbush in the State of New York, and there kept until peace was proclaimed, when he was released and permitted to return home. In 1818 he entered into partnership with his brother-in-law, the late Sheriff Hamilton, of London, and commenced one of the largest commercial businesses at that time in Western Canada. Then St. Thomas was a howling wilderness. The partnership lasted many years. Mr. Warren was the son of a U. E. Loyalist and one of the noble band whose names will be forever engraven on the hearts of all loyal citizens of Canada.—*St. Catharines Journal*.

### 4. RICHARD HISCOTTE, ESQ.,

of Niagara, a veteran of the Peninsular war in Spain, and at the Americo-Canadian war of 1812, has gone to the grave in all the glory of age and honesty. He was one of the soldiers of Sir John Moore, in whose memory the Rev. Mr. Wolfe wrote the touching verses after Corunna, commencing thus:

"We buried him darkly at dead of night,  
The sods with our bayonets turning,  
By the struggling moonbeams misty light,  
And our lanterns dimly burning."

Deceased was a native of Wiltshire, England, born in 1789. He enlisted at the age of sixteen in the 79th regiment of foot in which he served during the Peninsular war, coming to Canada with his regiment in 1814. Having while a non-commissioned officer purchased some property near Niagara, he returned to Canada on his term of enlistment expiring in 1830, locating in Niagara where he resided up to the time of his death. He became a successful farmer; but, true to his loyal soldierly habits, he always took the greatest interest in the militia of Canada.

### 5. DEATH OF ADIEL SHERWOOD, ESQ.

The death of Adiel Sherwood, Esq., one of the first settlers of this part of the country, and Brockville's oldest and most respected

citizen is announced. Mr. Sherwood was in the 95th year of his age; having been born near Montreal in the year 1779. In May 1784, his father (who had been an officer under King George the Third) moved to this section and settled on lot No. 1, in the first concession of Elizabethtown. At that time the country was a howling wilderness, there being not a single house of any description within fifty miles of his father's location; not even roads or foot-paths. In the 17th year of his age he received a commission as Ensign in the first regiment of Leeds Militia. After serving fifty years, in all grades, as a militia officer, from Ensign to Colonel, he resigned in 1846, being then 67 years old. When about 18 years of age he commenced teaching a school, about three miles below the present site of Brockville. The school was attended by the children of the early pioneers; the Jones's, Buell's, Sherwood's, Cayley's and others. In 1815 he was appointed Deputy Clerk of the Crown, and in 1816 a magistrate. He also served as Treasurer of the district of Johnstown about 28 years. In 1829 he was appointed Sheriff of the District of Johnstown, which position he ably filled until 1864 when he resigned. Mr. Sherwood was probably the oldest Free Mason in America, having joined the order when about 21 years of age. He was instrumental in starting the Royal Arch Chapter which was established in Brockville, but which, after a few years' existence, passed away. In 1850, he became a member of the Sons of Temperance, and strictly adhered to it up to the time of his death. He was appointed President of the Brockville Bible Society—the first established in Canada—and in 1811 became an attendant of the First Canada Presbyterian Church, then under the ministrations of the Rev. Wm. Smart. In the same year he became a teacher in the first Sabbath School established in Canada, started in connection with Mr. Smart's church. He was afterwards appointed an Elder of the church, in which capacity he served until the present date. In the years 1837-38, he was confidentially employed by the Government, and though it was an onerous duty, for which he received no pay, he had the satisfaction of knowing through information given by him, Brockville was saved from being pillaged by the lawless men who came from the U. S., and who caused so much trouble and anxiety throughout the country. That he has seen wonderful changes no one can doubt,—Brockville, Prescott, and the adjacent villages have sprung from the wilderness and grown into thriving towns; fine cultivated farms have taken the place of the almost boundless forests. He has lived to see the Grand Trunk and Brockville and Ottawa Railroads spring into existence, and steamboats and sailing vessels plying on the river in all directions; and has beheld the friends of his boyhood grow up and pass away. Few, indeed, have ever lived to behold such changes. Mr. Sherwood was an earnest christian, and a zealous worker for his Master's cause, and was a bright and shining ornament in the church to which he belonged.

#### 6. B. C. DAVY, ESQ.

The subject of our notice was born at Bath in the year 1829, the third son of Peter Davy Esq., a justice of the peace, and native of that village. He was educated at the Grammar School at Bath, and commenced the study of the law as a clerk articled to Sir John A. Macdonald, in the office of Messrs. Macdonald and Campbell, at Kingston. In due course he was called to the bar in his twenty-first year, and began the practice of his profession at Bath, from which place after a short time, he removed to Kingston, where he opened an office and continued to practice for some time. He then went to Napanee, where he established his residence, and continued to live for upwards of twenty years. At the time of the admission of the Province of Manitoba into the Dominion, Mr. Davy visited that province with a view of settling there, and had excellent prospects of success in his profession, but these were clouded by ill health, by which he was forced to return to his native county.—*News.*

### X. Short Critical Notices of Books.

—NEW DOMINION MONTHLY FOR MARCH.—The contents of this magazine for the present month are varied, and comprise much that must both instruct and interest. The second instalment of the "Review of the Times" more than fulfils the expectations arising from the February instalment. An article entitled "Canada's Early Marine," contributed by Mr. J. B. A., Kingston, contains much information not generally known, concerning the rise and

progress of shipbuilding and shipping in the Dominion, and must contribute towards the strengthening of that love of country so necessary for the welfare of any nation.

—LYMAN'S HISTORICAL CHART\* is an attempt to enable the student of history to collate and arrange in the mind contemporary events in the history of different nations. The eye is brought to the aid of the mind. Nations existing at the same period are represented by parallel bands of different colours. Where a nation's history begins, the band begins. Where one nation conquers another, the band widens and overspreads the conquered nation. On each band are given the chief events in the history of the nation, and on it are inscribed the names of the most distinguished personages. The Chart is divided into centuries, so that the eye takes in at a glance the leading events in the history of nations for any century under consideration. It may, therefore, be described as a compendious chronological history. The era adopted as the standard to which all other subordinate epochs, eras, or periods are adjusted is the Christian era, and at the top of each century-division is printed in bold type the year before or after the birth of Christ. The year of the world, however, is also given directly under the border, but in small type. The system of chronology followed in the Chart is that of the authors of the Universal History, which is nearly identical with that of Usher. The year of the world adopted in one part of the Chart is that of Hevelius and Marsham—viz., B.C. 4000. In eight pages we have the leading events and dates from the Creation to the Birth of Christ, and in twice that number an epitome of the Chronological History of the World from the latter event to the year 1872. The latter is the more valuable part of the work, as the compiler does not pretend to embody in the Chart the result of late researches into the early history of the most ancient nations. Prefixed to the Chart proper are valuable Tables showing the chief events in the history of the principal countries of Europe and of the United States. In the Chronological Table of the last-named nation the battles of the "Secession War" are enumerated with great minuteness. The Chart and accompanying Key will enable the attentive student to obtain a knowledge of Historical Chronology with greater facility and comprehensiveness than by the old method of committing dates to memory.

—THE LAND OF MOAB, by Rev. A. B. Tristram, M.A.—A most interesting work by the Hon. Canon of Durham, England, on a country but little known and rarely travelled, though of great interest. In addition to the literary attractions of the book itself, it contains descriptions of discoveries and explorations through the country, all tending strikingly to verify those passages in the Bible relating to the Land of Moab. This makes the volume very valuable to the student, while the interesting way in which the incidents of travel are portrayed give it all the charms of the author's former book.

—THE ALDINE for April. Toronto Office, 50 King Street East.—The April number of this work contains illustrations of the beautiful Lake George, making one wish for a trip down to where we have often pictured "Leather Stocking" and his two companions as fit accompaniments of the scenes represented on the lovely Lake Horicon. "An Old-time Sea-fight," executed with a good deal of spirit, and owning a picturesqueness impossible in the present days of ironclads and floating fortresses. The other illustrations are a "Spring day," "Knickerbocker days in New York," "Fishwife of Matthew," by Rudolph Jordans, and a very speaking picture, "In the Cloister Cellar." This number is quite up to the preceding ones.

—AMONG OUR SAILORS, by J. Gray Jewell, M.D.—A practical work on the "cruelties" of American ship-masters towards their sailors, and the avariciousness of American ship owners, by a gentleman well fitted by his position to have seen the one and detected the

\* Lyman's Historical Chart: Containing the prominent events in the Civil, Religious, and Literary History of the World from the Earliest Times to the Present Day. National Publishing Company, Cincinnati, O.; Memphis, Tenn.; and Atlanta, Ga. 1874. Agent for Canada, Rev. T. L. Wilkinson, Aurora, Ontario.

† Harper Brothers, New York; Hart & Rawlinson, successors to Messrs. Copp, Clark & Co., Toronto.

other, cannot fail at this time to be of great interest. The agitation in England in regard to unseaworthy ships, and the investigation of the Royal Commission on the subject, give point to this *exposé*, which, though dealing with a more extensive view of the merchant ship question, will be almost regarded as a trans-Atlantic edition of Mr. Plim-soll's book. An enlightened discussion of this kind cannot fail to result in good, and we will be glad to see the matter as energetically taken up on behalf of the sailors in the United States as in England.

## XI. Educational Intelligence.

—CANADIAN LITERARY INSTITUTE, WOODSTOCK.—The first triennial meeting of the Associated Alumni of this institution of learning was held on Tuesday, the 7th inst., and was in every respect a grand success. There are now no fewer than three fine large edifices crowning the summit of "College Hill," and fast as they have been completed they have been filled to repletion by students. The alumni dinner was served in the Institute dining hall at three o'clock in the afternoon. Over one hundred and fifty persons sat down to a sumptuous repast prepared by the steward, Mr. Hooper. After satisfying the wants of the inner man, the President of the Alumni Society, Rev. J. L. Campbell, of Chatham, called the meeting to order and gave a short address. He spoke in the highest terms of the Principal, Rev. R. A. Fyfe, D. D., amid much applause; and on behalf of the Alumni, presented him with \$160 in gold in anticipation of the reverend doctor's contemplated tour to Europe. The Rev. Dr. Fyfe, on rising to respond, was received with prolonged and hearty applause. He was glad to meet them. The course of the institution has been upward and onward. There would be no stand still. "Excelsior," was their motto. He paid a high tribute to the professors associated with him, and spoke of the warm sympathy of old students. These were their wealth. He loved the Institute. If such a thing were possible, after he was dead, they would find the impress of the Canadian Literary Institute upon his heart. During the delivery of his address the doctor was repeatedly interrupted by enthusiastic bursts of applause. Professors J. E. Wells, M. A., and the Rev. J. Crawford, next replied in brief and fitting remarks. Rev. J. Bates, on rising, said that if Prof. Wells, who knew almost as many languages as there were letters in the alphabet, found it difficult to speak, how could they expect much from him who spoke only his mother tongue? (Loud laughter and applause.) He proceeded to make a characteristically eloquent and able address. Rev. A. McDonald, of Manitoba spoke of the great North-west, and hoped the day would ere long come when there would be a sister college at Winnipeg. (Cheers.) Rev. Dr. Cooper, of London, was exceedingly happy in his remarks. He urged ministerial students to dig deep the well before they put down the pump. If they did not, when they came to be settled pastors and had to preach Sabbath after Sabbath, they would in a short time get pumped dry. (Cheers.) Rev. J. Torrance, B. A., of Toronto, spoke of the lively interest felt by the students in the University, in the Institute. He felt proud of the ever increasing efficiency of the College and the high stand it had taken. (Cheers.) The Rev. Dr. Davidson, of Guelph, made one of his most happy speeches and spoke in the warmest terms of Dr. Fyfe. They would fight on in the future, shoulder to shoulder, as they had done in the past, until they went "over the river." At 7.30 o'clock, p. m., the literary exercises in connection with the Alumni meeting came off. After devotional exercises the President of the Society, the Rev. Mr. Campbell, in a few remarks spoke of the nature of the meeting. He read, amid cheers a telegram he had just received from their fellow alumnus, the Rev. A. A. Cameron, of Ottawa, containing salutations from the Capital, and the reply he had just sent back. Also an exceedingly interesting fraternal letter from the Rev. J. McLauran, missionary in Cocanada, India, who is also an alumnus of this Institution. After which he called on R. Laidlaw, Esq., of Ann Arbor, Michigan, to deliver the first oration of the evening,—Subject, "Duty." Mr. Laidlaw

was received with hearty cheers. The oration was able, and delivered in Mr. Laidlaw's happiest manner. He pointed out in eloquent terms the effects of right and wrong conceptions of duty, referred to a number of humorous circumstances which transpired while they were students there, and strongly enjoined upon all faithfully and honestly to go forth in the discharge of the high duties they owed to their country, the institution and the cause of truth. The next was an essay by Miss Bella Sinclair, on "Earth's Battle Fields." The fair essayist, after referring to the physical fields of carnage, proceeded to show the higher arenas in the mental, moral, and religious world, in which all are combatants. For her able essay, she received a hearty vote of thanks afterwards from the Secretary. The next was an oration by the Rev. W. Baldwin, of Strathroy, on "The tendency of human institutions." The reverend gentleman, by a number of forcible illustrations, showed the downward tendency of human institutions when left to themselves, and that Christianity alone was the preserving element in the world. The oration evinced careful thought, and was well received. A scientific paper was then read by the Rev. J. Torrance on "the measurement of the distances of the heavenly bodies." He illustrated his subject with diagrams on a blackboard. The subject was made very interesting by the speaker, and after he completed, the meeting was brought to a close. Rev. J. Torrance is the newly elected President.—*London Daily Advertiser*.

## XII. Departmental Notices.

### COUNCIL OF PUBLIC INSTRUCTION.

The Chief Superintendent has been notified of the following elections to the Council of Public Instruction:—

The Very Rev. William Snodgrass, D. D., to represent Queen's College, Kingston.

The Rev. John McCaul, LL. D., to represent University College, Toronto.

### HIGH SCHOOL AND TEACHERS' EXAMINATION.

The examination of candidates for admission to High Schools and Collegiate Institutes will be held (*D. V.*) on the 29th and 30th days of June next.

The examination of Public School Teachers will also be held (*D. V.*) on the 20th of July for 2nd and 3rd Class Certificates, and on the 27th July for 1st Class Certificates.

QUEEN'S BIRTHDAY.—As the Queen's Birthday falls on Sunday, the School holiday will be held on Monday, the 25th inst., or on any other day selected by the local municipality concerned for the celebration of the Queen's natal day.

### NO PENSIONS TO PUBLIC OR HIGH SCHOOL TEACHERS UNLESS THEY SUBSCRIBE TO THE FUND.

Public notice is hereby given to all legally qualified Public and High School Masters and Teachers in Ontario, who may wish to avail themselves at any future time of the advantages of the Superannuated Teachers' Fund, that it will be necessary for them to transmit to the Chief Superintendent or Inspector, if they have not already done so, their subscriptions, at the rate of \$5 per annum for each preceding year of teaching (commencing with 1854, if the applicant has been teaching from that year), and at the rate of \$4 per annum for the current year's subscription. Subscriptions are not required to be remitted for years of teaching prior to 1854, as the subscriptions for such years will be deducted from the first year's pension. If the intending subscriber has not taught every year from 1854, he need only remit for the years during which he has actually taught in a Public or High School.

The law authorizing the establishment of this fund provides, 101. No teacher shall be entitled to share in the superannuated teachers fund, unless:—

(a) He has contributed to said fund the sum of four dollars, or more per annum, during and for the period of his teaching school, or of his receiving aid from said fund.

No pension can therefore be granted to any teacher who has not subscribed to the fund, nor can one be granted for any year of teaching since 1854, for which the subscription has not been paid. All subscriptions due must be paid before the applicant ceases teaching.