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### CONTENTS OF THIS NUMBER.

	PAGE
I. Physical Training in Schools—Gymnastic Exercises—No. 1—With 15 Illustrations. . . . .	65
II. Errors in respect to Schools corrected. (continued)—No. 2. . . . .	67
III. Third Lecture on Free Schools. By the Rev. John Armour, Port Sarnia. . . . .	69
IV. Written Exercises. . . . .	70
V. MISCELLANEOUS. 1. There is a tongue in every Leaf (Poetry.) 2. Literary Obligations of Europe to Arabia. 3. Laws of Health. 4. Ruffronds in Europe. 5. Mutual relation of Parties interested in the Schools. 6. Height and Weight of Men and Women. . . . .	70
VI. Official Answers to Questions proposed by Local School Authorities, (concluded.) . . . . .	72
VII. Mental Arithmetic—Method of Teaching it in the Model School, Toronto. . . . .	73
VIII. Extract from the Message of His Excellency Governor Hunt, relating to Education in the State of New York. . . . .	74
IX. Every Child has a right to a good Public Education. . . . .	75
X. EDUCATIONAL INTELLIGENCE. 1. CANADA—Monthly Summary. 2. Inspectors of Schools in L. C. 3. Queen's College. 4. Victoria College. 5. Trinity College. 6. Chief Superintendent for New Brunswick. 7. Statutes relating to Education in Prince Edward's Island. 8. BRITISH AND FOREIGN—Monthly Summary—9. Society for Teaching the Blind. 10. Mechanics' Institutes. 11. University of Athens. 12. Education in Italy. 13. In Turkey. 14. Buenos Ayres. 15. UNITED STATES—Monthly Summary—16. Legislative Aid to Colleges in New York. 17. In Texas. 18. Increase to N.Y. State School Fund. 19. Free School Petition to Congress. 20. Schools in Georgia. 21. In Kentucky. 22. In Ohio. . . . .	75
IX. LITERARY AND SCIENTIFIC INTELLIGENCE. 1. Monthly Summary. 2. Exhibition Medal, Canada. 3. Thomas Moore. 4. Canadian Institute. 5. Deaths in 1851. 6. Crystal Palace. 7. National Museum. 8. Telegraphic Time in England. 9. Telegraphic Alarms in Boston. . . . .	78
XII. EDITORIAL AND OFFICIAL NOTICES.—Advertisements. . . . .	80

### PHYSICAL TRAINING IN SCHOOLS. GYMNASTIC EXERCISES. No. I.

In the official "Report on a System of Public Elementary Instruction for Upper Canada,"—by the Chief Superintendent of Schools, (Second edition, printed by order of the House of Assembly, pp. 58-60.) are the following remarks on *Physical Training* in our Schools:

On the development of the *physical powers* I need say but a few words. A system of instruction making no provision for those exercises which contribute to health and vigour of body, and to agreeableness of manners, must necessarily be imperfect. The active pursuits of most of those pupils who attend the public Schools, require the exercise necessary to bodily health; but the gymnastics regularly taught as a recreation, and with a view to the future pursuits of the pupil, and to which so much importance is attached in the best British Schools and in the Schools of Germany and France, are advantageous in various respects,—promote not only physical health and vigour, but social cheerfulness, active, easy and graceful movements. They strengthen and give the pupil a perfect command over all the members of his body. Like the art of writing, they proceed from the simplest movement, to the most complex and difficult exercises, imparting a bodily activity and skill scarcely credible to those who have not witnessed them.

To the culture and command of all the faculties of the mind, a corresponding exercise and control of all the members of the body is next in importance. It was young men thus trained that com-

posed the vanguard of Blucher's army; and much of the activity enthusiasm and energy which distinguished them, was attributed to their gymnastic training at school. A training which gives superiority in one department of active life, must be beneficial in another. It is well known, as has been observed by physiologists, that "the muscles of any part of the body when worked by exercise, draw additional nourishment from the blood, and by the repetition of the stimulus, if it be not exercise, increase in size, strength and freedom of action. The regular action of the muscles promotes and preserves the uniform circulation of the blood, which is the prime condition of health. The strength of a body or of a limb depends upon the strength of the muscular system, or of the muscles of the limb; and as the constitutional muscular endowment of most people is tolerably good, the diversities of muscular power observable amongst men is chiefly attributable to exercise." The Youth of Canada are designed for active, and most of them for laborious occupations; exercises which strengthen not one class of muscles, or the muscles of certain members only, but which develop the whole physical system, cannot fail to be beneficial.

The application of these remarks to common day schools must be very limited. They are designed to apply chiefly to boarding and training, to Industrial and Grammar Schools,—to those schools to the masters of which the prolonged and thorough educational instruction of youth is entrusted.

To physical education great importance has been attached by the best educators in all ages and countries. Plato gave as many as a thousand precepts respecting it. It formed a prominent feature in the best parts of the education of the Greeks and Romans. It has been largely insisted upon by the most distinguished educational writers in Europe, from Charon and Montaigne, down to numerous living authors in France and Germany, England and America. It occupies a conspicuous place in the codes of School Regulations in France and Switzerland, and in many places in Germany. The celebrated Pestalozzi and DeFellenberg incorporated it as an essential part of their systems of instruction, and even as necessary to their success; and experienced American writers and physiologists attribute the want of physical development and strength, and even health, in a disproportionally large number of educated Americans, to the absence of proper provisions and encouragements in respect to appropriate physical exercises in the Schools, Academies and Colleges of the United States.

In "The English Journal of Education" for January, and the succeeding months, we find a large space occupied, and numerous wood cuts given, in illustration of this subject. From these cuts we have had wood engravings made for the pages of this Journal. We therefore lay them before our readers, with extracts from the preliminary and accompanying remarks of our English contemporaries:

"In Switzerland, almost all the Schools, both primary and secondary, are provided with a *manège*, or gymnasium, having all the machinery necessary to a complete course of gymnastic exercises—a ladder, climbing ropes and poles, a cross-pole, parallel bars, leaping poles, a vaulting horse, and a large balancing pole. The apparatus is sometimes erected in the open air, sometimes under a covered roof; and many of the schools have both a covered and an uncovered gymnasium. The covered gymnasiums have no floors, but a ground of loose sand, which can be raked up to render it soft. The uncovered gymnasiums are always placed in a field or grass-plot for the same reason.

Such is the interest which the Swiss students take in gymnastics that they form themselves into *Turnvereins*, or Gymnastic Associations, and each Association sends about some of its members from school to school in its own district, to organize the gymnasiums and give the benefit of their instruction and example to the scholars. Each of these associations holds annually a *Turnfest*, or Gymnastic Festival, at which all the members attend; and a great number of exercises are gone through upon every part of the apparatus in the *manège*, which they held for the purpose. This, however, is only preparatory to a great triennial festival, which is held at the principal Swiss towns in succession, as the government used to be. At this festival all the associations meet, and the members compete with one another for wreaths, prizes, and other distinctions, just as in the old Grecian games before they had been perverted from their original purpose and degraded into mere exhibitions of particular feats. People assemble from all parts of the country to witness the performances; the fine national songs of Switzerland and Germany, sung in chorus by the friendly antagonists, excite and sustain the general enthusiasm; the standards of the associations and the gay clothes of the spectators give a radiant aspect to the scene: everything contributes to the joyousness and merriment of the occasion. At the close of the festival, which generally lasts three days, the wreaths are placed upon the brows of the victors in the presence of the assembled spectators, and the prizes distributed by the hands of fair ladies, who thus grace with their presence the ceremony of the award, and impart a higher value to the marks of distinction.

All this is very well, it will be said, and feasible enough, in a country where the education of every member of the community is carefully provided for at the public expense, and where, so far from being a national debt, the governments of the several Cantons have generally a considerable surplus revenue at their disposal for public works. But we reply, that the expense of fitting up even a complete gymnastic ground need not be anything very considerable, if once the site is obtained; and that the play-ground of an elementary school may be furnished with the common apparatus at a cost almost insignificant. The most expensive piece of apparatus, after all, is the circular swing, which has already been erected in the play-grounds of so many schools. It is certainly right to provide first for this most exhilarating of gymnastic exercises. If the schoolmaster were competent to give a course of gymnastic exercises he would have no difficulty, we imagine, in inducing the managers to supply the necessary apparatus. Besides, if the expense be the chief obstacle, it would be advisable to ascertain whether the Lords of the Committee of Council of Education might not be moved to make grants for this purpose. We are of opinion that their Lordships would deem the object of sufficient importance to justify a considerable expenditure of the public money; for the present Government have already evinced their sense of the importance of gymnastics to the people, by the erection of the public gymnasium at Primrose Hill.

But, as our readers are aware, there is a large class of gymnastic exercises which do not require any apparatus at all; and these are, in fact, more essential than the others, to which they are preliminary and introductory. They are such, namely, as are designed to develop the activity of the limbs rather than to call forth the physical strength. These should not be neglected in any school for children. They are very carefully taught in many of our boarding schools; and we cannot see that they are less useful to the children of the poor than to those of the middle classes. This is one of the few particulars in which the middle schools are not behind the best elementary schools, and it is owing to the fact, that the former are able to pay for the services of a drill-sergeant, and the latter are not. But there is no reason whatever why every schoolmaster should not be his own drill-sergeant: in fact, were it possible to

procure the services of a drill-sergeant in an elementary school, it would still be preferable that the master should superintend this and every other part of the discipline himself; for he should be all in all to his own school.

In order to enable schoolmasters to give their pupils a regular training in gymnastics, we intend to insert in the Journal, from month to month, a graduated course of gymnastic exercises. Our subscribers will be able to commence the course at once in their schools, as the preliminary exercises do not require any apparatus; and we trust, that, as the course progresses, managers may be induced to provide the requisite apparatus where this has not already been done.

It is hardly necessary to remind our readers of the more common and obvious advantages which result from gymnastic exercises.

The principal, of course, is the beneficial influence which they exert upon the health. This is a sufficient reason to induce every body to attach great importance to them; but it is a consideration which derives still greater weight in relation to the school and schoolmaster. The regular practice of these exercises will do much towards enabling both to discharge their duties with success; and, in those schools where any thing like high pressure is put on, will act as a most useful safety valve. Besides, light hearts are the natural concomitants of good health, and certainly nowhere are they more desirable than in an elementary school, where there are already annoyances enough, in all likelihood, without those which result from the jarring of bad tempers. How much more pleasantly, both to teacher and taught, does the work of the school proceed where these are absent, and a cheerful tone prevails.

We would beg leave, however, in a special manner, to call attention to one advantage which is not so generally understood. It is thus referred to by M. de Fallenberg:—

"The gymnastic exercises, in all their forms, are a powerful aid to the practice of design, in cultivating the taste for the beauty of form or motion. Their effect in this respect is very obvious; and the occasional festivals which are accompanied by gymnastic games, present examples of a high degree of cultivation in this respect. It is a spectacle which charms the eye, and exhibits the intimate connection of easy and graceful motion with the improvement of physical force, and the capacity to escape from danger or surmount obstacles."

It has accordingly been remarked, that one reason for the pre-eminence of the ancients in sculpture, was the patronage bestowed upon the public gymnasiums, in which the artist could form his models from every variety of development of which the human form is susceptible. However this may be, there can be no doubt whatever that gymnastics do contribute materially to the aesthetic training of the mind.

The first position, in which the body must be placed, is the following:—

Heels close: toes turned outwards nearly at right angles: body upright: shoulders thrown back: stomach kept in: head easy: arms hanging straight by the sides: hands closed with the thumbs inside.

The habit of readily realizing this position having been gained, the first gymnastic action is to be attempted.



(a) Fig. 1. (b)

Action 1. Bring the arms quickly up in front, as high as the shoulders, (nails turned upwards) (a fig. 1,) then swing them forcibly backwards, at the same time turning the nails backwards (b fig. 1), keeping the body perfectly upright. This action being mastered, and having been practised for five minutes, the next action is to be attempted.

Action 2. Stand erect as in the position first described. Put the hands on the hips, the thumbs placed behind, the fingers in front, and the feet close, and then rise as high as possible on the toes. Fig. 3 will illustrate this action to a certain extent. This action should be practised five minutes.

The third action may now be attempted.



(a) Fig. 2. (b)

Action 3. The elbows are to be drawn back, so that the fists may be close to the sides (a fig. 2); then throw the arms straightforward (b) and then back as before.—The gymnast must become perfect in this before proceeding any further: a perfection in this action being intimately connected with, indeed an essential to, the satisfactory performance of many other actions.



Fig. 2.

**Action 4.** The feet are to be brought close, the hands on the hips, then rise on the toes, and jump on the toes with the knees kept perfectly straight (fig. 3).—This action is to be performed for five minutes : and the 12 first actions may be performed during one hour before breakfast, five minutes to each.

In the next action the arms are again brought into activity.



Fig. 4.

**Action 5.** The fists are to be brought up to the shoulders : the elbows being close to the sides. The arms are then to be thrown upwards, and then brought back again to the previous position.



Fig. 5.

**Action 6.** The hands are to be fixed on the hips, the feet close, and then throw the legs in front alternately : the knees being kept straight, the gymnast not moving from his first place, and keeping the body upright (fig. 5).

**Action 7.** The fists are to be brought up to the shoulders as in action 5, but to be turned a little inwards : the elbows close to the sides, as in action 5 ; and then throw the arms downward, and bring them back as before.



Fig. 6.

**Action 8.** The feet are to be brought close : the hands fixed on the hips : then throw the legs sideways (alternately), the toes being kept in front (fig. 6.)

**Action 9.** This may be regarded as the actions 5 and 7 combined. The fists are to be brought to the shoulders, the elbows close to the sides ; then throw the arms upwards, then backwards, next downwards, and finally return. This combination of action requires much muscular power, and calls numerous muscles into activity, and cannot be well performed until the muscles of the leg have been strengthened by the previous exercises. For, though it seems difficult, to those unacquainted with the muscular system, to conceive the connection between these motions of the arms, and the power of the muscles of the legs, the anatomist will be aware, that, without considerable power in the muscles of the legs, these motions of the arms and the position of the body to be preserved, could not be realized.



Fig. 7.

**Action 10.** This again brings the gymnast to his legs. He puts his hands on the hips, keeps his feet close, and then, standing on his toes, kicks the thighs alternately with his heels (fig. 7).



(a) Fig. 8, (b)

**Action 11.** In this action the arms and the muscles of the back are called into action. Raise the elbows to the height of the shoulders (a fig. 8), with the fists on the front of the shoulders, the nails turned inwards, and then throw the arms forcibly back (b), the body being kept upright.

**Action 12.** This action is connected with the preceding. Raise the elbows as high as the shoulders : fists on shoulders, nails being downwards ; then throw the arms forcibly back, keeping them level with the shoulders.



Fig. 9.

**Action 13.** This action exercises the lower extremities and the muscles of the back. The hands are to be put on the hips : the feet are placed close : then rise on the toes, and kick the thighs with both the heels at once (fig. 9.)



Fig. 10.

**Action 14.** In this the arms are to be turned round front to back : body quite upright. This action has been deemed likely to be injurious, and it would be, if attempted previously to the exercises already detailed ; but from what has been stated regarding the articulating surface of the head of the arm bone with the cavity of the shoulder blade, it will be apparent that such action is perfectly scientific (fig. 10.)



Fig. 11.

**Action 15.** The feet are to be brought close : the hands fixed on the hips. Then touch the breast alternately with the knees, the toes pointing to the ground, taking care to keep the body perfectly upright. This exercise will be at first difficult, but it is astonishing the effect that it has in influencing the circulation, and thereby promoting health.

**Action 16.** This is similar to action 14, except that the arms are to be turned from back to front, instead of from front to back.



Fig. 12.

**Action 17.** This is looked upon by many as almost insurmountable, and much jocularity is produced by the failures in the first few attempts. The hands are to be fixed on the hips, the feet being close. Then rise on the toes, bend the knees, and lower the body gradually till the thighs touch the heels : the knees being kept close and the body upright, rise very gradually.



Fig. 13.

**Action 18.** This next action has a most powerful effect in giving full activity to the muscles of the chest. Bring the right fist on the left shoulder ; extend the left arm in a line with the shoulder : throw the right arm towards the right side, nails towards the ground ; then bring the left fist to the right shoulder, thus altering several times.

**Action 19.** The feet are to be brought close, the hands on hips, then raise the left leg behind, stand on the right toe, and kick the right thigh with the right heel.



Fig. 14.

**Action 20.** Open the hands ; then raise the arms sideways, and touch the back of the hands over the head (fig. 14.)

**Action 21.** The hands are to be placed on the hips ; the feet close ; then raise the right leg behind, stand on the left toe, and kick the left thigh with the left heel.

**Action 22.** Open the hands, bring them in front (the palms touching), and swing the arms backward the height of shoulders, till the backs of the hands meet behind.



Fig. 15.

**Action 23.** The feet are to be placed close, the hands on the hips. Raise the right leg in front, and hold the right toe with the right hand for some time ; then do the same with the left (fig. 15). The knees are to be kept straight.

**Action 24.** Open the hands, extend them in front, the backs touching, swing them in a line with the shoulders till the palms touch behind. See action 21.

(TO BE CONTINUED.)

**ERRORS IN RESPECT TO SCHOOLS CORRECTED.**

(By the Rev. Dr. SEARS, Secretary of the Massachusetts Board of Education, in his last Annual Report.)

**No. 2.**

Another popular opinion, prejudicial to the interests of the schools, relates to practical education ; and requires that it be conducted with special reference to the future occupation of the pupil. Nothing can be more crude than the notions often put forth on this subject. Of these things necessary to be known and practised in common life, scarcely any is adapted to the school-room. The mechanic and other useful arts must be learned in those particular places where they are practised. There are no proper materials or arrangements for teaching them in the schools, nor is it desirable that there should be. These are not the subjects in respect to which the parent needs the aid of the teacher. He can teach the knowledge of his own business or cause others to teach theirs to his children better than it can be done in the school. Any attempt to render the schools more practical by making them industrial establishments, will tend only to divert them from their true office without accomplishing any important object. There are only two appropriate ways of obtaining the practical education referred to ;

the one is by something of the nature of an apprenticeship, and the other by attending a regular technical or practical school. In such an institution nothing but the application of science to the arts can be properly taught. A knowledge of the elementary principles of science, not to mention the common branches of education, must precede and be acquired in a preparatory school, else the technical school will be degraded, and its professors will be compelled to do the work of mere tutors. To talk of a practical school, where the rules of art without its principles are taught, is idle. A workshop or a farm would be better than such a school. In this sense it is to be hoped our common schools will never become practical. How, then, can the elementary schools be made practical? By rendering them strictly elementary; by developing the mind and furnishing it with the instruments of general knowledge; by giving power to the intellect which it can skillfully wield in any direction, and apply to any purpose. The man must precede the artisan. The knowledge common to all persons of ordinary education should go before that which is peculiar to any trade or profession. It follows that all children need essentially the same elementary education. We cannot foresee what will be the occupation or condition of the child on reaching his maturity, and cannot therefore safely descend to specialities in his education. Time must develop the order of his talents, and circumstances must determine the sphere of his duties. Meanwhile his education should be such as to fit him equally for any of the ordinary situations of life.

It is a very common error to regard education as consisting chiefly in the acquisition of knowledge. Persons who entertain this view generally estimate knowledge by its extent rather than by its depth. If we look into the schools where education is conducted on such a principle—and it would not be difficult to find them—we shall see the pupils laboring to store the memory with an immense mass of words and sentences, which are to them often little better than the words of a dead language, or of facts without understanding their nature, relations, or uses. The minds of such persons are like furniture rooms, crammed with articles without utility or order. The acquisitions made are not deeply fixed in the mind. The objects presented to view leave no distinct picture on the imagination. They are not compared, classified and arranged into a system by the intellect of the pupil, and consequently the memory holds them by a slight tenure. Knowledge thus acquired is too superficial to deserve the name, and rather injures than improves the mind. The habit of taking up with first impressions and specious appearances, of allowing loose and inaccurate ideas to float in the mind, is most pernicious in its influences. It tends to weaken the understanding, to destroy its soundness and integrity, and to render it incapable of those decisive and sure acts which are necessary to command reliance. What is chiefly to be aimed at in training this faculty is to give it power and precision, so that it may be both effective and safe in its operations. Such a result can be produced only by patient, exact, and thorough training. Mental discipline is a primary object of education to which the acquisition of knowledge is but secondary. The latter is, in this stage of study, chiefly important as a means of intellectual training, having at the same time a true but subordinate value in itself. Extensive knowledge is not necessary to mental discipline. A little that is well known and thoroughly digested is vastly superior in worth to a great amount hastily and superficially acquired. Not only is its effect upon the mind better, but its value as an instrument of future acquisition is greater. If elementary knowledge be of a faulty character, all that higher knowledge which depends upon it will be equally so. The principle here laid down will appear the more important, if we consider that its influence is not limited to the elementary schools, but extends to all our higher institutions of learning. The weakest point in the whole system of American education, is its deficiency in thoroughness in all the elementary courses. The students in our colleges need twice as much preparatory study as they now have. In our academies, pupils enter upon the study of ancient languages with a defective English education. And it will be found, upon examination, that the whole superstructure of our higher education is insecure in consequence of the slender foundation laid in the elementary schools. The evil spreads from the root of the tree to all its branches, and can be effectually arrested only where it originates. Until the time of study can be greatly increased in

our schools, the course of instruction ought to be restricted within narrower limits. Not only should the number of branches be diminished, but, (as has been already remarked,) the extent to which each is pursued should be curtailed. It is of but little use to proceed far, in studies, in the confused and superficial way which is now so common. If the plan be well laid out, and the studies be properly arranged, the more labor there is bestowed upon the elementary part of each, the better will it be for the future progress of the learner. Beside the impossibility of doing well all that is ordinarily attempted, many of the subjects presented are not truly of an elementary nature, and may, on that account, better be postponed. Requiring as they do a certain amount of preparatory knowledge, and of maturity of judgment in order to be understood, they fail of their object when prematurely introduced, and lose, perhaps fewer, by being improperly used, the power of creating interest in the mind. It matters not how important and useful in themselves these higher studies may be. They may be more advantageously pursued at a future time. At present something more radical is required, namely, the power of acquisition. Though elementary knowledge be limited, if it be well chosen, and used chiefly as a means of intellectual training, it will constitute a solid basis, on which the acquisitions of a whole life may safely rest. If every exercise in the school were such in its disciplinary character that it might serve as a pattern to be copied in all the remaining studies and business of life, this one feature in a system of education would be so valuable that, in comparison with it, all the ostentatious attainments made without method or discipline would be of little account. Habits of order, of accuracy and thoroughness, lie at the foundation of all success in business no less than in scholarship. This building up of the solid frame-work of the mind, giving it capacity and aptitude for vigorous and systematic action, is a principal object of education. A contrary course impairs the strength of the intellect, weakens the whole foundation of character, begets disgust with intellectual effort, leads to sciolism and conceit, and produces just such a character as it is the business of true education to guard against.

Among the faults observable in the mode of teaching in the common schools, that of attaching more importance to words than to things is conspicuous. The true method is just the reverse of this. Not only should the latter be made much more prominent than the former, but it should come first in the order of time. Objects stand related to signs or symbols as substance to shadow. Language itself should, as far as possible, be studied from an inner point of view, beginning with the thought, and thence proceeding to its expression as from cause to effect; or, to speak more definitely, the words of the author should set the understanding and imagination of the pupil at work upon the objects or ideas represented, and these, when truly and vividly conceived, should give to the words employed their more precise import in the connection. In this way language will be learned, as it is in common speech, by usage. It will then be strictly vernacular; whereas that which is learned merely from the dictionary is in some sense a dead language. But I refer to something that lies deeper than this. Teachers do not duly consider what a wide difference there is between the abstract view of the author and the more concrete and life-like view of the pupil;—between the learned terms and artificial style of the one, and the familiar words and easy, simple language of the other. The consequence is, that the language of the book, though committed to memory and repeated paragraph after paragraph, remains a dead letter. The instructor, feeling no difficulty himself in understanding the words and constructions used, and not putting himself sufficiently in the position of the child, takes it for granted that the latter understands all except a few unusual or technical terms, and thinks he reaches the intellect, when in fact half that is learned is only by the mechanical act of putting syllables rightly together, and the equally mechanical act of retaining them in the memory. In hundreds of schools the knowledge of classes in respect to the ideas of the language they repeat has been tested; and the result has astonished none more than it has the teachers themselves. In most cases a full knowledge of the facts would lead to the proper remedy. But in some instances, the practice of committing to memory learned phrases and abstract rules and definitions without understanding them, is defended on the ground that the time will come when the language will be understood. Suppose all this to be true; it would not follow that the course is a judicious one.

What use can the pupil now make of ideas, that are as yet unborn? If one of the most important objects of education is mental discipline, and, if this can result only from exercising the understanding, I see not how that end can be attained but by apprehending the ideas which the language of the lesson was designed to convey. A course of instruction, to be useful, must be so given that one step in its successive stages shall be preparatory to another. What becomes of this linking together of all the parts, each depending on its predecessor, if the comprehension of any part is to be postponed to a future period? If the lesson of one day depends on that of the day preceding, then the former cannot be successfully studied till the latter be well understood. The truth is, the text-book cannot do the work of the teacher. It may aid him; but he will still have more to do with the subject than with the author. He will need to pay chief regard to the pupil's attainments and mental activity, and aim at evolving new ideas from those already possessed. In order to this, the language employed must be conformed to the ideas of the learner. At first, only a very general idea, an outline, so to speak, of the subject in hand is apprehended, for the designation of which familiar and popular language is best adapted. It is sometimes necessary to conform, for a little time, not only to children's habits of thought, but to their vocabulary also. As their ideas become more definite by the addition of minuter details to the outlines of the picture previously formed in the mind, there will be a demand for greater precision in terms: and so there is a natural progression in the accuracy and completeness of a pupil's ideas, requiring a corresponding progression in language. Books, which are always less specific in their adaptations than the words of the teacher, cannot be exactly conformed to each one's individual wants. Hence the necessity of an instructor, who can learn the exact wants of his pupils, and bring his thoughts into close contact with theirs. It is with their ideas of things that he has to do at first. When he has a fast hold on the mind, and can draw out from it true ideas on the subject in hand, then the words best suited to their expression will naturally suggest themselves.

### THIRD LECTURE ON FREE SCHOOLS.

BY THE REV. JOHN ARMOUR, PORT SARINIA.

A third argument which I adduce in favour of the free school system is: That universal education, with its habits of industry, frugality, &c., and the security which these give to society, raises the value of property; and, consequently, property may with reasonable propriety be taxed to educate the whole people. Property, especially landed property, among a peaceful, moral, and industrious population, is much more valuable than among a people the reverse of this in their habits. This difference does not arise from the soil nor the climate, so much as from the character of the people. The same soil and climate, in the hands of an educated and intelligent people, will become like the garden of the Lord in productiveness, and like a mine in value; and in the hands of a peasantry without learning, and destitute of enterprise, will become a wilderness. Thus in Great Britain see the enormous price of landed property. One hundred and sixty years ago, when England was both badly educated and governed, Moostroopers abounded in that country. They entered houses in daylight, and plundered them, and drove off whole herds of cattle. Such was then the insecurity of moveable property, that owners of cattle were necessitated to pen them up at night, beneath the overhanging battlements of the feudal castle. The inmates slept with loaded fire-arms at their sides. Huge stones and boiling water were in readiness to crush or to scald the plunderer who might venture to assail them. Then little or no effort was made to educate the masses. At that period a damsel in high life, if she had the least smattering of literature, was esteemed a prodigy. Ladies of high birth, and naturally quick, were frequently unable to write a line in their mother-tongue without solecisms and bad spelling, such as charity school girls would now be ashamed of. At this time the civil power was unable to maintain order in some parts of the metropolis,—even the warrant of the Chief Justice of England could not be executed without the aid of a company of musketeers. In the same imperial city, a little earlier in its history, shops in Cheapside-street were rented at from eleven to eighteen shillings a year. Land, near the same city, was also rented at from fourpence to sixpence per acre. These

shops, in the same street, rebuilt, but standing on the same site, now bring from £200 to £500 per annum; and land, the same as above, will now bring from £5 to £10 per acre.

Great Britain, for general intelligence and an equitable and just government, stands foremost among the nations; and great prosperity and increased wealth and power is the result. When, lately, nearly all Europe was upheaved with a great political earthquake, and thrones, and institutions, and governments of a thousand years standing were tossed from their foundations, Old England "sat calm on tumult's wheels." Whither also did those refugees of other nations with their fame and fortune come? It was to the shores of Old or New England, esteeming them the most secure and hospitable lands on earth.

When Canada's shores were first discovered, and her only inhabitants were the red man, they were utterly destitute of culture and intelligence; their dwellings were wigwams; their employments were war or hunting. What were these now surveyed townships worth? Now we see another race inhabiting them. Education, intelligence, and enterprise appear everywhere: vast tracts of country are being cleared and cultivated—mills and factories and foundries appear on every hand—villages and towns and cities are rapidly rising, and prosperity and comfort appear among our thriving population. What has done all this? The education, the industry, and the skill of its population. And now see how landed property everywhere rises annually in value; and if we possessed a higher state still of early, intellectual and moral training, and our political, judicial and municipal establishments were more perfected, property would still rise higher. And if property becomes the more valuable when a people are properly educated, is it not reasonable—is it not just—that property be taxed to promote this object? QUEEN VICTORIA, our beloved Sovereign, seems thus to reason. Believing that property has its duties as well as its rights, she has voluntarily, and at her own expense, provided school-houses, and drawn together the children and provided them with teachers on her Balmoral Estate. This is a noble example to our aristocracy and gentry to go and do likewise in the universal education of the people.

A fourth argument in favour of the free school system is: "That it is the cheapest mode to procure the education of all." I give you a table of rates of assessment for free schools, as published by authority in the State of New York. This table alludes to the year 1849, and shows how small such a tax is, when judiciously levied and applied:

#### RATE UPON EACH \$100 OF VALUED PROPERTY.

Flushing,.....	5 cents per \$100.	Poughkeepsie, 12 cents per \$100.
Brooklyn,.....	6 " "	Bushwick, ... 14 " "
Albany,.....	7 " "	Newton, .... 15 " "
New York,.....	10 " "	Rochester, ... 19 " "

At these rates, all children of school age might receive a good common education, in these several cities or towns. Thus a citizen of the city of New York having property valued at \$4000, would be taxed only one dollar per thousand,—a very trifle when compared with the important object for which it was given. And who is there so sordid as would not willingly be taxed such a sum, that an entire people might have the opportunity of obtaining a thorough and an early training.

But to illustrate the fact, and set it if possible in a stronger point of view still, and to shew its adaptedness even to our rural sections, we will look at it in one of these country divisions. Suppose any board of trustees engage a teacher at a yearly salary of say £50 per annum. On the rate-bill system only those send children who are intent on having their children educated; and those only who are the most needy of their children. In selecting for the school, the youngest, under such circumstances, are seldom sent. Parents suppose it is of no use to send children of 5 or 6 or 7 years of age, to bring on themselves a heavy rate-bill—they will then suppose they learn nothing. When they come to 9 or 10, or upwards, they begin to be useful about a farm; and thus, unless the desire of educating their children is intense, the years of school age are frittered away under one pretence or another, and the children grow up in ignorance and neglect. They, therefore, who are careless under the rate-bill, do not send at all, or only one instead of three or four. Thus, whilst there may be 60 children of school age in the section, it is a large attendance where there are 25; in this case, only a minority of the children in the school district attend. On the free school system, the school-house and teacher are alike at the cor-



mand of all. The whole 60 children would receive an equal education with the 25, and cost nothing more. The teacher, in educating the 25, would have to attend the same hours, and have to ply the same studies; and with a small school and an uncertain rate-bill, he has to labour on under many discouragements. To raise £50 out of 25 scholars, too, becomes very heavy. It is an impost on a family, where two or three are in school, which very few in this locality are able to pay. The result of this system then is—the teacher is reduced to the lowest possible sum as salary; the school-house, through want of repair, becomes uncomfortable; the furniture unsuitable; and neither books nor apparatus can be obtained. The trustees, through want of means, can only keep up the school for six months in the year. In such circumstances, how is it possible for a neighbourhood to be educated and become intelligent? The thing cannot be.

But if we would look at a property tax without selfishness or prejudice, and compare it in its workings with the above, the advantages of the free school system over the rate-bill will appear unequivocal, and, in my opinion, unobjectionable. To take up one school section, say No. 2, of the township of P——; there are in this school section 90 lots of land, of 100 acres each—the most of these, if not all, are settled on by residents,—and if we reckon the public money apportioned to this section to be in value £10, to pay the teacher £50 per annum, £40 will be required to be raised by taxation for a free school. If we value each farm, stock, &c., on an average, to be assessed for £100 (a very low estimate), one penny farthing per pound would raise all that is necessary, not only to pay the teacher, but also to keep the school in repair, firewood, &c.; and in this case, the whole children of school age in the district would be educated during the whole year. The advantages, for cheapness and benefit to the rising generation, of the free school system, is incalculable. And surely there is no man possessed of property among you, of the value of £100, but would be willing to pay 10s. a year to have the sectional school going efficiently the whole year round, whether we have children of school age or not.

I would still further press this argument, by looking at it in another point of view. Suppose the majority of your school section, at a meeting legally called, should decide on having a free school, the wild land of rich speculators or of absentees are equally liable to be taxed, as of the actual settler. (See School Act, sec. XVIII. and 1st clause). These lands have hitherto been great drawbacks to residents in various respects, as not having hitherto been available for public purposes. As the law now stands, however, the actual settlers have power to draw from such lands aid to support their sectional school; and this we deem but just and equitable. The actual settler has improved roads, built school-houses, raised the real value of property, and thus raised the value of these wild lands; and yet these rich speculators, many of them at least, repudiate the payment of a small tax for school purposes. And is such a line of conduct just, or is it honourable? The free school system thus appears the cheapest, whilst at the same time it secures the means of the education of an entire population.

#### WRITTEN EXERCISES.

The constant use of the pen in education, cannot be too strongly urged. It would be well for scholars to write some exercise every day. But we are met with the objection, that it would be impossible for a teacher to correct so many exercises as would be thus thrown upon his hands. A little ingenuity will surmount this obstacle. Pupils may be selected to do the work, or at least, a great portion of it. This will be a great advantage to those who make the corrections. Besides, the corrections made in this way will be more likely to be scrutinized by the writers of the exercises, than if made by the teacher. Another method of abridging the labor of correcting exercises, is to select a few, and read and criticise them in presence of the whole class.

The following exercise we have found very useful:—Before the school is dismissed in the afternoon, eight or ten words, generally selected from the text-books used in school, are dictated to the class. These words are written by the class on slips of paper. In the morning they are required to hand in these words on a half sheet of paper, with their definitions and a sentence containing each word.

#### Miscellaneous.

##### THERE IS A TONGUE IN EVERY LEAF.

There is a tongue in every leaf,  
A voice in every rill—  
A voice that speaketh everywhere,  
In flood and fire, through earth and air,  
A tongue that's never still.

'Tis the Great Spirit wide diffused  
Through everything we see,  
That with our spirits communeth  
Of things mysterious—life and death,  
Time and eternity.

I see him in the blazing sun,  
And in the thunder cloud;  
I hear him in the mighty roar  
That rusheth through the forest hour,  
When winds are raging loud.

I feel him in the silent dews,  
By grateful earth betrayed;  
I feel him in the gentle showers,  
The soft south winds, the breath of flowers,  
The sunshine and the shade.

I see him, hear him, everywhere,  
In all things, darkness, light,  
Silence, and sound; but, most of all,  
When slumbers dusky curtains fall,  
In the silent hour of night.

#### LITERARY OBLIGATIONS OF EUROPE TO ARABIA— PRESENT ADVANTAGES OF CHRISTIAN NATIONS IN RESPECT TO SCIENCE AND LITERATURE.

Though the Crusades were visionary in the extreme, and prodigal of life and treasure, and unsuccessful in their professed object, yet, from all this confusion came order; from all this darkness, light, and from the most miserable combination of evil, was eduiced a lasting good. The fountains of the great deep were now broken up, the stagnations of ignorance and corruption which had for centuries choked and poisoned all that attempted to live, and breathe, and move in them, began to heave and give signs of such coming commotion as must, ere long, purify their putrid waters.

A spirit of enterprise from this time nerved the arm of every nation in Europe. A highway was opened to the nations of the East. The barbarity and ignorance of Europe were brought into comparison with the greater intelligence, wealth, and civilization of Asia. The boundaries of men's ideas were greatly enlarged. They saw in the advanced condition of the Orientals, the advantages which the arts and sciences, industry and civilization, give a people. In these they discovered the main spring of national greatness, and of social and individual comfort and prosperity. They formed new commercial relations; acquired new ideas of agriculture—the handicrafts of industry were plied to minister to the new demands which an acquaintance with the East had created. They lost, too, amidst Asiatic associations, many of the superstitions and prejudices which had so long kept the mind of Europe in bondage, and acquired new views in all the economy of life. And strange, if, on their return, they did not profit by the new habits and information they had acquired.

Here we date the early dawn of the day that should soon rise upon the nations. Ever and anon the darkness broke away, and light gleamed above the horizon. Learning began to revive; colleges and universities were founded; an acquaintance with the East had introduced into Europe the Greek classics, which fixed a new era in its literature, as well as worked wonders in the progress of its civilization. For the Greek language had, for centuries, been the language of history, of the arts and sciences, of civilization and religion. Philo and Josephus chose to embalm the chronicles of their times in the Grecian tongue, that they might thus speak to mere of the world's population than in any other language. And when Socrates and Aristotle reasoned and wrote in their mother tongue, they reasoned and wrote for the civilization and elevation of Europe, fifteen centuries afterwards. And when Alexander pushed his conquests eastward, and settled Greek colonies near the confines of India, (in Bactria,) he opened the way, through Christian churches planted in Bactria, for the introduction of the gospel, centuries after, in Tartary and China.

The introduction of Greek literature into Europe did much to draw aside the veil of the dark ages. By this means, the society, the ethics, the improvements of ancient Greece, were now disinterred

from the dust of ages, and transmitted, reanimated, and nourished on the soil of modern Europe.

And what, in the history of Providence, should not be here overlooked, the Arabs, the determined foes of Christianity, were used as the instruments of preserving and transmitting that knowledge which, finally, became the regenerator of Europe. They were made to subserv the purposes of the truth, up to a certain point, when the privilege was transferred to worthier hands. At the period of which I am speaking, it seemed altogether probable that learning and the arts, the power of knowledge and the press, would be transmitted to future ages through the followers of the false prophet. For it was through them that learning revived, and the inventions and discoveries, which so effectually wield the destinies of the world, were divulged.

In less than a century after the Saracens first turned their hostile spears against their foreign enemies, (the Greeks, at the battle of Muta, in 630,) their empire exceeded in extent the greatest monarchies of ancient times. The successors of the prophet were the most powerful and absolute sovereigns on the earth. Their caliphs exercised a most unlimited and undefined prerogative—reigned over numerous nations, from Gibraltar to the Chinese Sea, two hundred days' journey from east to west. And, what is no less extraordinary, within about the same period, after the barbarous act of Omar, which consigned to the flames the splendid library of Alexandria, (640,) the world became indebted to the Saracens in respect to literature and science—though it was nearly two centuries more before they attained to their Augustan age.

The court of the caliph became the resort of poets, philosophers, and mathematicians, from every country and from every creed. Literary relics of the conquered countries were brought to the foot of the throne—hundreds of camels were seen entering Bagdad, loaded with volumes of Greek, Hebrew, and Persian literature, translated by the most skilful interpreters into the Arabic language. Masters, instructors, translators, commentators, formed the court at Bagdad. Schools, academies, and libraries were established in every considerable town, and colleges were munificently endowed. It was the glory of every city to collect treasures of literature and science throughout the Moslem dominions, whether in Asia, Africa, or Europe. Grammar, eloquence, and poetry were cultivated with great care. So were metaphysics, philosophy, political economy, geography, astronomy, and the natural sciences. Botany and chemistry were cultivated with ardor and success. The Arabs particularly excelled in architecture. The revenue of kingdoms were expended in public buildings and fine arts; painting, sculpture, and music, shared largely in their regards. And in nothing did they more excel than in agriculture and metallurgy. They were the depositories of science in the dark ages, and the restorers of letters to Europe.

Had not this course of things been arrested—had not a mandate from the skies uttered the decree, that the Arabian should no longer rule in the empire of letters, how different would have been the destiny of our race! Instead of the full-orbed day of the Son of Righteousness, casting his benignant rays on our seminaries of learning, they would have grown up under the pale and sickly hues of the crescent. The power of science and the arts, printing and paper-making, the mariner's compass and the spirit of foreign discovery, and the power of steam, (all Arabian in their origin,) would have been devoted to the propagation and establishment of Mohammedanism. The press had been a monopoly of the Arabian imposture; and the Ganges and Euphrates, the Red Sea and the Caspian, illumined only by the moon-light of Islam, would have been the channels through which the world's commerce would have flowed into Mohammedan emporiums.

But He that controlleth all events, would not have it so. These mighty engines of reformation and advancement should nerve the arm of truth; the press be the handmaid of Christianity, to establish and embalm its doctrines and precepts on the enduring page; and the control which men should gain over the elements, to facilitate labour, contract distances, and bring out the resources of nature, be the handmaid of the Cross. Otherwise, Christianity had been the twin-sister of barbarism; and Moslemism and Idolatry had been nurtured under the favouring influences of learning, civilization, and the art of printing. It is worthy of remark, that the press, up to the present day, has been confined almost exclusively within the precincts of Christianity.

And not only has Providence so interposed as to consign to the hands of civilization and Christianity, almost the exclusive monopoly of the press, but, under the guidance of the same unerring Wisdom, the future literature, as well as the society and government of the Gentile nations, is likely to descend to them through the purest Christianity. While science and literature are cultivated and honoured by Christian nations, they are stationary or retrograde among Pagans and Mohammedans. This is giving Christianity immense advantages. For nearly the entire supply of books, schools, and the means of education, are furnished through Christian missions. Who but the Christian missionary, form alphabets, construct grammars and dictionaries for Pagan nations, and thus form the basis of their literature, and guide their untutored minds in all matters of education, government, and religion? In these things, how admirable the orderings of Providence! Christianity at once takes possession of the strong holds of society, and gives promise of permanency. For there is all the difference of civilization and barbarism, of religion and infidelity, in the kind of literature a people have. If supplied by the enlightened mind, the pure heart, and the liberal hand of Christianity, it will be as a fountain of living waters.

—H. Reid.

#### LAWS OF HEALTH.

The best beds for children are of hair, and in winter, of hair and cotton.

Young persons should walk at least two hours a day in the open air.

Young ladies should be prevented from bandaging the chest. We have known three cases of insanity, terminating in death, which began in this practice.

Every person, great and small, should wash all over in cold water every morning.

Reading aloud is conducive to health.

#### RAILROADS IN EUROPE.

The London *Times* has recently been publishing statistics of the progress of the different countries, which exhibit these results:—Belgium has 532 miles of railways, 352 of which have been constructed and worked by the State, the remainder by different private companies. The expense of constructing the whole has been £9,576,000 or £18,000 per mile. The annual expenses are 68 per cent. of the receipts, and the profits three and a half per cent. on the capital. In France, there are 1,818 miles of railway under traffic, 1,178 miles in progress, and 577 miles projected. The cost of construction per mile has been £26,832, and the whole expenditure requisite for the completion of the 3,573 miles is estimated at £95,870,735. The average annual net profit on the capital employed does not exceed two and seven-tenths per cent.

In Germany there are 5,342 miles of railway in actual operation. 700 in progress, and 2,414 miles projected. Of the railways in operation, 1,812 miles were within the Prussian territories, and 771 miles in the Dutch Netherlands, the Danish Duchies, and ex-German Austrian provinces, and therefore only 4,571 miles can be considered as strictly within the Germanic confederation. Two-fifths of these 4,571 miles were constructed and worked by the States, the remainder by private Companies. Those in Prussia, however, are all the result of private enterprise. The expense of construction of the 5,342 miles is estimated at £12,500 per mile, being single track only. The working expenses are about fifty per cent. of the receipts, and the net profits are nearly three per cent. In Russia a railway from Warsaw to Cracow, 168 miles in length, is in operation; one connecting Warsaw with St. Petersburg, 683 miles in length; and one of about 400 miles, from St. Petersburg to Moscow, is in progress. A railway for goods from the Welga to the Don, 105 miles in length, is also contemplated. In Southern Russia a line of railway between Kief and Odessa has been surveyed. In Italy no extensive system of railway has yet been executed. A few lines, diverging from the principal cities, such as Naples, Milan, Venice, Leghorn, and Florence, Sardinia, Spain, and Portugal, railways are only in prospective.

By multiplying £1 by \$4.85 we can arrive the cost per mile of some of these roads. It will be observed that the French lines—the highest—cost \$130,135.20 per mile, or nearly three times as much as those of Massachusetts, the cost of which averages \$43,781.00, or about £9,000. If the European lines pay at such an enormous cost, need we be afraid?—*Scientific American*.



### MUTUAL RELATIONS OF PARTIES INTERESTED IN A SCHOOL.

It is, no doubt, true that each of the five parties, parents, teachers, scholars, school-officers, and the public, have their own *peculiar* duties. Yet little that is valuable will be accomplished, if either one of these five parties sets itself up to criticise or condemn the others. As a caution and injunction appropriate to all five, it may briefly be said :

Beware of fault finding ; it is very easy to detect faults ! Be industrious, laborious ; the school needs us *all*.

The following is a brief outline of the duties of these five parties, respectively.

Parents—To sustain the responsibility, and *they alone*, of securing the welfare and education of childhood. Reward and punishment is in their hands. Supervision of a child's habits, neatness, punctuality, &c.—honesty, manliness, &c.—religion, politics, &c.—in short, the *entire* responsibility for childhood's welfare, has been laid out by the Creator upon the parents of the child. Listen not to the tittle-tattle of children about the teacher.

Teachers—to accept temporarily such a share of the duties that primarily devolve upon parents, as can be more conveniently and thoroughly discharged by a school, than by a family organization. Intellectual exercise, access of information, social training, require a kind of supervision which parents cannot readily exercise. But the teacher is, or ought to be, if parents were faithful, only auxiliary, and never principal in the estimation of childhood.

Scholars—to render, during the years of their dependence, a willing, intelligent, and entire obedience to the wishes of parents and of teachers, *so far as they express the parental will truly* ; to practice those virtues enjoined upon them by superior wisdom and experience, always trusting willingly the guidance of those who merit such confidence.

School Officers—To oversee the building, premises and finances of the school ; to protect, sustain, and defend the character of both of teachers and scholars, as long as they are members of school ; to educate and care for the community in all school matters ; to *observe and advise* with a teacher as to the interior management of the school, in no case interfering with teacher's labours, nor attempting to practice teachership in school themselves, unless requested to by the teacher himself.

Public in general—To bear the expense of schools ; (the school fund *by itself* never did, and never will sustain a decent school any considerable time ;) to attend school meetings and insist upon knowing from officers what has been done ; to avoid gossiping rumors and tale bearing ; to encourage weary teachers by giving them good homes, honorable rank, and suitable compensation ; to vote intelligently in such a way as will ensure success to every general State movement in behalf of schools and teachers.

From these general outlines, which have been sketched with little regard to accuracy of phrase, several important specifications of duty should be inferred.

Parents *as they are*, and parents *as they should be*, are very distinct classes,—as widely different as are ordinary teachers and truly professional teachers. There is many an orphan whose parents are living. Hence, oftentimes the teacher must act both as parent and as teacher ; and in such cases parental responsibility actually rests upon the teacher. Too often many teachers be heard saying, "He's got such a father that there's no use in trying to do anything for him at school ;" far better were it to say, "He has no good at home, I *must* do something for him at school," for a teacher is not sent for them that are whole and need no teacher, but for them that are sick.

If a child has intelligent, faithful parents, expulsion may be often *expedient* ; but for the neglected and the poor, for the child of the outcast, and the school is the only home ; ye shall not banish him thence.

It is a part of a teacher's duty to educate parents to *their* duty ; and it is part of a parent's duty to educate teachers to *their* duty ; a quarrel *always* implies culpability on both sides. Let the stronger bear the burdens of the weaker, for there is load enough to burden all.

If parents stand for rights, and teachers stand for law, and school officers stand for form and ceremony, each party running his fence to keep out intrusion, and standing watchfully to convict his co-laborer of neglect, there will surely cause enough be found for con-

attention. If after a contention has begun between teacher and parent, or teacher and committee, the teacher talks about *rights*, and sets up to assert them, it is easy to discern the end of all such *unprofessional* acts. A teacher's strength and panacea for all evils in and out of school, is self-sacrificing industry. If parents are impertinent and unreasonable, labor for their children, give way, give up ! but strive to *educate* the child, and soon the breach shall be healed scarless. If officers are meddlesome, officious, and wilful, made so by the little brief authority the law has given them, bear with their presence, raise no remonstrance, pursue your *systematized* course silently, laboriously ; strive night and day for a good school, and committee men will be soon forgotten.

That which is urged upon teachers when evils surround them, is equally true as the remedy when committees and parents find themselves associated with incompetent or unreasonable teachers. The principle is simply this : that nine times in ten, if a fault-finder will cease from complaining, and *do* the neglected duty of his negligent neighbour, he will save time, reprove and reform his neighbor, and better than all, cause no wear and tear of conscience or sacrifice of right.

Hard workers may have difficulties in their hours of *idleness* : fortunately, the *faithful* teacher can have no *idle* hours.

Reward and punishment ought to be in the parent's hand even when their ground is school conduct ; for thus the scholar learns that teacher and parent are but continuations each of the other. School is helped by home, and home is helped by school ; but if parents will not assume this duty thankfully, thou of course it devolves upon the teacher.

Punctuality and extra school virtues belong to the parent's sphere ; but if parents neglect, teachers must assume their culture. —Thus as to all the parties whose welfare is affected by a school, though there *are* peculiar duties resting upon each party, yet it is equally the duty of all to make up for the incompetency or *idleness*, of any one, for the *school* is what we labor for, not our own rights or will, or character.

There are few teachers who have really studied their profession, but such rarely find difficulty in their relations to society or the school ; they are usually, as they ought to be, virtually independent. —*D. S. J. of Ed.*

### HEIGHT AND WEIGHT OF MEN AND WOMEN.

The average height of Europeans at birth, is generally 19 inches : female children being of less size in the proportion of 490 to 460. In each of the twelve years after birth, one-twelfth is added to the stature each year. Between the ages of 12 and 20, the growth of the body proceeds much more slowly ; and between the ages of 20 and 25, when the height of the body usually attains its maximum, it is still further diminished. This point being reached, it is found that the increase is about three and one-quarter times greater than at the period of birth. In old age, the height of the body decreases on the average about three inches. In general, the height varies less in women of different countries than men.

There is a difference in the weight of sexes, both at birth and infancy. The average weight of a male child at birth is about 7 pounds, and of a female child only about 6½ pounds. The weight of a new born infant decreases for the first three or four days after birth, and it does not sensibly commence to gain weight until it is a week old. At the end of the first year, the child is nearly three times as heavy as when it was born. At the age of seven years it is twice as heavy as at the end of the first year, and at 14 years old its weight is quadrupled. The average weight of each sex is nearly the same at the age of 12, but after that period, taking individuals of the same age, the females will be found to weigh less than males. When the weight of the body has reached its average maximum, it is about nineteen times heavier than at the time of birth. The average weight of men is about 130 pounds, and of women, about 112 pounds ; of adults, without distinction of sex, about 120 pounds. In case of individuals of both sexes, who are under the height of 4 feet 4 inches, females are somewhat heavier than men ; but if above this height, men weigh more than women. Men attain their maximum weight about the age of 40, and women at or near the age of 50. At the age of 60, both the one and the other usually commence losing their weight, and the average weight of old persons, of either sex, is nearly the same as at 19 years of age. —*D. S. Journal of Education.*

## OFFICIAL ANSWERS TO QUESTIONS PROPOSED BY LOCAL SCHOOL AUTHORITIES.

(Continued from page 57.)

NUMBER 20.

A majority of persons present at a school meeting passed a resolution against any tax for the support of the School, but did not say in what manner the Trustees should provide for its support. The trustees apply for advice as to what they can and ought to do in the circumstances. The following is the answer given to their representation and inquiry :

"No school meeting has authority to pass a resolution that would take away from trustees a power which is expressly given to them by Act of Parliament. The 4th and 5th clauses of the 12th section of the school act, makes it the duty of the trustees to determine what expenses they will incur to support their school ; and the latter part of the 7th clause of the same section provides, that if the sum or sums provided for at an annual or special school meeting are not sufficient to pay the expenses thus incurred, the trustees shall have authority to assess the property of the section and collect any additional rate they may require to enable them to meet their engagements.

"The majority of the trustees of your section, under the circumstances which you state, have ample authority to levy and collect a property rate for whatever sum or sums they may require, over and above the amount of the school fund apportionment for the year, to pay their teacher's salary and the other expenses of their school. The proceedings of the meeting, therefore, to which you refer, enable and require the trustees to establish and support their school as a free school,—as they have no authority to levy a rate-bill on parents sending children to the school, according to the resolution which you enclose."

NUMBER 21.

At an annual school meeting the resolution, as to the mode of providing for the support of the school having been found to be injurious to the attendance of pupils and not sufficient to meet the engagements incurred, the trustees called a special meeting to reconsider the matter. Their right to call a meeting for that purpose, and the legality of the proceedings of such meeting having been objected to, the trustees applied for advice to the Chief Superintendent, who returned the following answer:—

"As the 12th section of the school act authorises the trustees to call a special meeting of their section for any school purpose specified in such section, a majority of the trustees of your school section have authority to call a special meeting to reconsider the whole question of the mode of providing for the support of your school, and rescinding or modifying any resolutions which may have been adopted on the subject, at the annual or any previous school meeting.

"I may further remark, that no school meeting has authority to say that the trustees shall be confined to what may be paid by rate-bill and the apportionment from the school fund for the support of their school ; since the 4th and 5th clauses of the 12th section of the school act make the trustees the judges as to the sum or sums they will expend for the support of their school, and the latter part of the 7th clause of the same section expressly authorises them to assess the property of the section for whatever sum or sums they may require to meet their engagements, and the payment of which has not been otherwise provided for."

For the Journal of Education.

## MENTAL ARITHMETIC—METHOD OF TEACHING IT IN THE MODEL SCHOOL TORONTO.

(BY MR. JOHN SANGSTER, SECOND MASTER.)

Through some unaccountable oversight on the part of teachers, mental arithmetic has been hitherto almost entirely neglected in our common schools ; as a branch of useful instruction, it is, probably, not even thought of in more than one out of twenty of the schools through the Province. This is the more unfortunate, as, besides being a subject of great practical utility, it is admirably adapted for developing the youthful mind.

I venture nothing in asserting that mental arithmetic, when properly taught, is a mental discipline second to no other,—geometry,

perhaps, excepted. True, geometry, the best of all studies for enabling the mind to make clear logical deductions, to investigate complicated arguments, so as to decide upon their validity or fallacy, leading the mind, as it does, to draw from a few simple data, the most astonishing conclusions, so fills it with a consciousness of the power and sublimity of *Truth*, as effectually to train it in habits of precision and acuteness ; but it is no less true that mental arithmetic, being eminently a process of abstraction, and compelling the mind, as it were, to retire within itself for a time and think, by giving it habits of activity and correctness, has an effect upon the intellect almost as beneficial as the study of geometry.

In mental calculations, the mind, after a little practice, acquires the habit of becoming for a few seconds intensely concentrated ; and this habit of repeatedly confirming it, for a short time, to one subject, must necessarily sooner or later bring the attention under complete subjection to the *will*, one important, if not the most essential lesson to be learned by the human intellect. Moreover, besides its advantage as a means of improving the understanding, it is exceedingly useful in the affairs of every-day life. How often, for instance, is the farmer, when selling his produce, necessitated to trust to the computations of others, when a very moderate knowledge of mental arithmetic would enable him to ascertain the price of his load with accuracy and ease. Alike serviceable to the merchant and to the clerk, to the farmer, the mechanic and the labourer, why is it not more generally taught in our schools ?

Let the intelligent teacher try its effect upon his pupils for only one quarter, and he will become so thoroughly convinced of its merits, that he will ever after continue it among his subjects of tuition. He will find it, perhaps, superior to all other means for waking up mind in his school, and a truly valuable auxiliary in imparting to his pupils a thorough and comprehensive knowledge of written arithmetic. How frequently do we meet with children who, after spending month upon month at school and after having "gone through the arithmetic" once or even twice, are still unable to apply the fundamental rules—boys who have floundered through all the intricacies of Single and Double Position, still unable to find the price of 79 articles @  $2\frac{1}{2}$ d. each, or obtain the answer to any similar question ! Such a lad may know, and be able to repeat, accurately, all the rules in the book, but he cannot apply them ; and hence, when asked the simplest arithmetical question, he either obtains the answer in some roundabout inexplicable manner, or gives up in despair, declaring that he can do it if any person will tell him what rule to make use of.

Now the child that has been properly taught mental arithmetic is independent of all mere book rules, he has a method of his own, which he applies intuitively, without a moment's hesitation, and with the most surprising effect. The consequence is, that, in a short time he not only acquires a much clearer idea of practical arithmetic, but also becomes more attached to the science of numbers ; he finds every part of the subject marked by a beautiful simplicity ; he no longer "sees through a glass darkly ;" but his mind carries on the requisite operations with greater rapidity than his hand can set down the results.

In teaching mental arithmetic, as in teaching any other branch, there is a right and a wrong method. The latter consists in giving the pupil too many rules, in dwelling more upon the *how* than the *why* ; the former in allowing him as much as possible to devise methods for himself, and in requiring him to give a concise, lucid explanation of the manner in which each question is solved.

Upon its first introduction into his school, the teacher must endeavour to make the subject as attractive as possible ; especially must he aim at extreme simplicity, as, every effort will eventually prove a failure, unless he guard against giving the class questions above their capacity.

The larger the class learning mental arithmetic, and the greater the variety of modes consequently adopted by the different children to obtain the answer, taking it for granted that the teacher always encourages each child to explain the steps by which he arrives at the required result, the more easily and effectively is it taught. Suppose the class, then, to contain from fifty to a hundred children, between the ages of ten and sixteen, they may be most conveniently seated, if the arrangements of the school permit, on parallel benches, rising one above another, as in a gallery, so that the teacher, when at his proper station, before the front seat, can see all that is going on in the class, and be able to check instantly the slightest inatten-

tion. It may be here proper to remark, that, while we would encourage the teacher to diligent self-preparation, every evening, for the duties of the following day, we cannot too forcibly urge the impropriety of his making use, during the lesson, of any text-book containing question and answer. It is so palpable an acknowledgment of his inability to obtain the answer, as quickly as his pupils, that very soon they lose that respect for their master's attainments which is essential to his usefulness and success. Besides the habit of giving questions extempore is so exceedingly advantageous in many other respects, and is so easy an acquisition, that no teacher should hesitate a moment which mode to adopt.

In conducting the lesson, the teacher must steadily keep in view that the grand object to be attained is, not so much facility in mental computation, as rapidity of thought, power and truthfulness of intellect; and accordingly every question must be made more or less conducive to this one great end. Bearing this, then, constantly in mind, he will direct his attention chiefly to three things:—First. He will be careful that all or nearly all the children in the class are actually engaged in solving the problem. Secondly. When the answer is given, he will ascertain that all are thoroughly conversant with the principles by which it was obtained. And thirdly. He will anxiously endeavour to develop in his pupils that amount of self-confidence and ardent desire to surmount obstacles which the subject is so well designed to teach, and that form so essential an element in the character of him who would successfully encounter the difficulties and temptations of life.

In briefly adverting to the manner in which this threefold object may be accomplished, we shall suppose that 80 or 100 children, who have already devoted some two or three months' attention to the subject, are seated, as before described, on parallel benches, rising one above another. The teacher without any text-book, stands before the class, ready to propose questions, receive answers, and explain, on the blackboard, the principles involved in their solution. The question is propounded clearly and distinctly, and while the pupils, with lips instinctively moving and eyes half closed as if to shut out all external objects, are *silently* employed in obtaining the answer—the teacher carefully guards against giving any intimation whatever, either by word or sign, as to the individual from whom he intends to require it. Hence, every child knowing his liability to be called on for the answer, does his utmost to be able to give it correctly.

Although no show of hands or any other signal is allowed, yet it is an easy matter to distinguish those that have finished from those still engaged in the mental operation. The more excitable, directly they have ascertained the answer, can scarcely refrain from springing off their seat, and seem to be almost bursting with eagerness to be permitted to announce it: while even in the more plodding and sluggish, the sudden illumination of their countenance presents an unmistakable sign of their readiness to make it known. The teacher uses his own discretion as to the amount of time requisite for waiting, determining it by the nature of the question and the capacity of the class. A sufficient interest having elapsed, some one is requested to announce the answer. If not given instantly, and correctly, a second, a third, and a fourth, in different parts of the class, are asked for it in rapid succession. If these all fail in giving an accurate reply, it is required from an entire seat or the question is thrown open to the whole class. If then, as sometimes happens, none or but few answer, the teacher, so far from jumping at the conclusion that his pupils are dunces and incapable of learning mental arithmetic, attributes the failure to his own want of consideration in not adapting the question to their capacity, and, with more judgment and discretion, resolves in future, rather to lead them almost imperceptibly onward, from the simple to the difficult, than attempt to drive or pull them through the perplexities of an uninviting study. When it occurs that none but erroneous answers are returned, instead of offering a special rule to meet the case, the question is for the time abandoned, and a much easier one of the same description substituted in its place; this being correctly answered and thoroughly explained by a number of the pupils, a second and a third of the same nature, but somewhat more difficult, are successfully dealt with. Thus in the space of two or three minutes the difficulty is so effectually removed, that when the original question is again proposed, it is answered by the majority of the class with facility. The pupils are left as much as possible to their own ingenuity in devising methods for solving each problem, still,

when a particularly difficult question is under consideration, the teacher sometimes endeavours to facilitate the process of finding the answer, by throwing such judicious hints as he may think proper; but however much they are thus helped, it is done in such a manner, that the children learn the lesson, fully impressed with the idea that they have resolved every difficulty without assistance. In every instance when the answer to a problem is given accurately, as many of the pupils, as convenient, are requested to state the steps by which they arrived at the required result. The teacher also, indicates the means pursued by himself. The principles on which these different modes depend are all investigated, and thoroughly explained on the blackboard; the more expeditious method pointed out and recommended to the class; and, in further illustration of the rule, one or two other questions of the same kind proposed. Another class of questions are then proceeded with, and so on till the end of the lesson, which it is not expedient to continue more than twenty minutes or half an hour.

S.

EXTRACT FROM THE MESSAGE OF HIS EXCELLENCY  
WASHINGTON HUNT, RELATING TO EDUCATION IN  
THE STATE OF NEW YORK.

*School Fund—Literature Fund—Free Schools—State Aid to New  
Colleges—Industrial College—Charitable Institutions.*

The funds devoted to school purposes are believed to be in a safe and healthy condition. On the 30th of September, the capital of these several funds was as follows:—

Common School Fund,.....	\$2,325,449 72
United States Deposit Fund, .....	4,014,520 71
Literature Fund,.....	272,880 12

Making an aggregate of \$6,612,850 55 invested in productive securities for the advancement of education.

The annual report of the Superintendent will present a complete view of the operations of our common school system.

The number of children taught during the year, was 726,291: the whole amount expended for teachers' wages, including books for school libraries, was \$1,432,696. Under the present law the state furnishes \$1,100,000 of the amount required annually for the support of the district schools, viz: \$300,000 from the income of the school fund and \$800,000 required to be raised yearly by state tax. It is estimated that the sum thus furnished from the treasury will be sufficient in most cases, to make the schools free for six months in each year, leaving it for each to provide means by rate bills for such additional period as the school may be taught.

The act passed by the last Legislature was adopted as a compromise of conflicting opinions, and appears to have been received with general favour by the community. It has put an end to the controversies produced by the unequal operation of the law of 1849, which had for some time agitated the public mind and kept the districts in a state of fermentation. It is gratifying to observe the return of that harmony which is essential to the successful working of a system of popular education. In considering any further changes that may be proposed, we should endeavour to avoid any experiment calculated to reproduce the divisions that have been so happily, but with so much difficulty, healed.

In pursuance of a resolution of the last Assembly, I appointed Samuel S. Randall, a Commissioner, to embody in a single act a common school code for the state. His report will be placed before you at an early day, and will doubtless receive the respectful consideration due to recommendations coming from one whose long experience and enlightened zeal in the cause of education, are widely and justly appreciated.

The ordinary appropriations in support of colleges were omitted by the last two Legislatures. The present condition of the United States Deposit Fund is such as to justify a moderate grant in aid of the higher institutions of learning, and I would renew the recommendations in their favour, contained in my last annual message. Several new institutions, including the Genesee College and the Rochester University, which have not yet enjoyed the public bounty, present strong claims to encouragement, and it would seem but just and reasonable that they should be admitted to an equal participation in the patronage of the state. The University of Albany has been organized under favourable auspices, and if the design of its patrons and professors shall be realized, it will ultimately be made equal to the best universities of Europe.

Much interest has been manifested for some years past in favour of creating an institution for the advancement of agricultural science and of knowledge in the mechanic arts. The views in favour of this measure, expressed in my last annual communication, remain unchanged. My impressions are still favourable to the plan of combining in one college two distinct departments for instruction in agricultural and mechanical science; but many, whose opinions are entitled to weight, contend that a separate establishment for each branch would be most advantageous to both. Before adopting any final action on the subject, the merits of the several systems of organization that have been proposed, should be maturely considered. I would respectfully recommend that a sufficient portion of the proceeds of the next sale of lands for taxes be appropriated to the erection of an institution which shall stand as a lasting memorial of our munificence, and contribute to the diffusion of the useful sciences and the elevation of the producing classes, during all future time.

Our charitable institutions continue to fulfil the beneficent purposes for which they were designed. The particular condition of these establishments will be presented in the annual reports of their officers. We may contemplate with intense satisfaction the blessings that have been conferred upon the children of adversity by the humane spirit of our past legislation. The state has given its powerful aid to every plan of practical philanthropy calculated to ameliorate the condition of the unfortunate. So far as human skill can supply the faculties of which they have been deprived by their Creator, the blind have been made to see, the deaf to hear, and the dumb to speak. Liberal provision has been made for the infirm and destitute; the paternal guardianship of the Legislature has been extended to the fatherless, the insane, and even to the idiotic. I cannot too strongly commend the agencies by which these generous aims are accomplished to your fostering care and attention.

#### EVERY CHILD HAS A RIGHT TO A GOOD PUBLIC EDUCATION.

It is not because a person is poor that he can, with propriety, claim of the public a good education for his child. It is not a gratuity which the public may or may not grant, as its benevolence induces or its selfishness withholds. Though a man be as *Crossus*, rich, and his neighbours poor, he can, by right claim of them, that in common with him, they shall defray the expense of the education of his children; though he has many children and they none at all, the right is the same. Shall a man then say he does not wish to have his children educated at the expense of his neighbour? Or again, shall a man say that the law compels him to give his money to educate his neighbour's children &c.? Then the right of the thing is not understood; as well might a man say he does not wish to drive his team over a bridge built by the county or town; as well might a man say he was obliged to give his labour upon the roads to his neighbour.

The right arises from this: every child is to a certain extent, the child of the public; of him the public will require certain duties—to fit him to fulfil these is, therefore, the duty of the public. From him the public will derive certain advantages; it is, therefore, under the most powerful obligations to fit him to yield to them. The father of a child is under obligation to educate the child in respect to all those things which reflect advantages upon the child itself. Is it said that the child will be happier if educated to properly perform all its duties toward society, and therefore it is the duty of the father to thus educate the child? This does not exactly follow. It is the duty of the father to see that the child is thus educated; but it is not his duty to be at the expense of it. It is his duty to see that the public educates the child, and pays the expense of educating the child in respect to its public duties. For it is evident enough that the recipient of benefits should pay the necessary expense. Scorned then be the idea that public schools are a kind of benevolent institutions, instituted for the benefit of the poverty of the land. No, viewed aright, it is a privilege to the public to have the educating of children. Nothing adds so much to the happiness and prosperity of a society as a well educated people. If our hearts glow with gratitude, when we see the maturing wheat clothe our fertile fields, and rejoice because we hope soon to enjoy the well ripened fruit, how much more shall we be glad when, in our well educating schools we see the youth ripening into manhood, soon to bless us by their refining influences, and not less,

our children and friends adorning society, and handing down our institution, improved by their care, to the remotest generation. Nothing repays culture so well as boys and girls. It is a blessing to society, therefore, to educate.—From the *District School Journal of Education*.

### Educational Intelligence.

#### CANADA.

##### MONTHLY SUMMARY.

From an excellent address "to the Clergymen of the various denominations within the County of Brant," by the local Superintendent of Burford, the Rev. St. George Cantfield, in the *Brantford Courier* of the 8th inst., we select the following admirable counsel and suggestions:—While it rests with the Board of Public Instruction to decide upon the capabilities of teachers, it rests with you to determine that no immoral, no outwardly irreligious person be found in the responsible position of a teacher of the youth of our country. The power of granting certificates of moral conduct is very wisely left in the hands of the Clergy; for it appears to me that such a certificate is meant, not alone to exclude from the office of teacher, drunken and dissolute persons, but also all those who would set before their pupils the bad example of a Sabbath-breaker, or a neglecter of the public worship of the denomination to which they belong. Brethren, a weighty and important trust is here laid upon us; we are responsible for the character of those who are sent forth to teach, and if we only strictly and impartially perform this duty, in a short time no immoral or irreligious teacher will be found in our schools. Let us act upon those words of the Chief Superintendent:—"The moral character of teachers involves the deepest interest of our offspring and the widest destinies of our country; no tax expediency or false delicacy should be permitted to endorse a person of *irregular habits*, or doubtful morals as "a good moral character—and let him loose upon society, authorised and certified as a duly qualified teacher of its youth.".....The *Brockville Recorder* of the 6th instant, contains a sensible and appropriate letter, signed "Juventus," on the subject of "the little respect shown to those who have the care and instruction of youth." We can assure "Juventus" that just in proportion as the profession of school teaching elevates itself or becomes elevated, in the same degree is the public anxious and willing to treat its members with the greatest consideration and courtesy. The profession it is well known is much more highly prized and respected in Upper Canada, in 1852, than it was in 1842. ....At the close of the recent examination in school section No. 1, Niagara and Grantham, the trustees presented a written address to the teacher, Mr. David Thompson, expressive of the entire satisfaction of themselves and their constituents with his management of the school. This merit is ever appreciated and acknowledged. The trustees state that "immediately preceding your commencement as teacher, the school had dwindled down to from five or six to ten or twelve scholars. But such was the confidence you inspired, and such the anxiety of the people to send their children to be taught by you, that the school rapidly arose to the unprecedented number of between sixty and seventy scholars, and the progress of the pupils is such, as none ever remember to have before witnessed.".....The Rev. W. Bettridge, of Woodstock, we learn from the *London Prototypist*, delivered, on the 14th ult., one of "the most eloquent, argumentative, convincing and truly christian lectures ever heard within the walls of the Mechanic's Institute, or in the town of London, on the importance of education, in all its different stages, from the first dawning of intellectual light. Mr. Bettridge was just the man to bring conviction home to the minds of all, to satisfy the Episcopalian, the Presbyterian, the Methodist, the Baptist, the Independent and the Quaker, that the present school act for Upper Canada is capable, if worked according to its true spirit and intent, of satisfying the different conflicting parties that have so long agitated the Province on educational matters. But that he did so we have abundant testimony. Men of all ranks, of every religious persuasion, and from different countries, agree with us, that the lecture of the reverend gentleman did more to remove their prejudices than all the speeches ever uttered within the walls of parliament, or all the newspaper articles that for years have fallen from the press. Mr. Bettridge's lecture will, we understand, be printed in pamphlet form. ....Mr. J. R. Hoag, in a communication to the *Oshawa Freeman*, gives an interesting account of the examination in school section No. 1, at Harmony. The arrangements for the examination seem to have been admirable. He says: "The house was tastefully decorated with evergreens, which brought the associations of beautiful pine bowers, and were the best emblems of the laurels sought by the little competitors. The exercises of each succeeding class indicated most clearly the spirit of progress that is becoming general in the school. The trustees recently introduced Holbrook's scientific apparatus, the the Planetarian, Tellurian, &c., which, with only one week's practice,

worked to the entire satisfaction of visitors present. It is surprising how much children will learn, in so short a time from tangible illustrations. Every school ought to introduce them without delay. The apparatus costs about \$21. The examination was in the new house erected recently by Mr. Taplin, and is an ornament to the section. It is to be regretted that it has not a small belfry with a suitable bell—for a bell is very necessary in announcing school hours, and thus regulating the habits of children. The house might be rendered still more attractive by setting out a suitable number of shade trees, which should adorn the site of every school-house, at whatever cost. I congratulate the Harmonians on the fine specimen of a school-house they have obtained after the "sore trial" they have experienced. Belligerent parties that shook the peace of the section a few months since, have come to terms—arms are grounded; two schools melted into one: and Mr. O'Leary leaves only to return in a few months and become a permanent teacher."..... A petition to the Legislature in favour of Roman Catholic separate Schools, says the London, (U. C.) *Times*, has been presented for signature at the church door of that town. The movement, says the *Times*, is simultaneous all over Upper Canada..... The recent meeting of the preliminary Teacher's Institute of the County of Oxford appear to have been highly interesting and practical. Its proceedings are reported in a late number of the *Western Progress*. Explanatory lectures on various branches of instruction were delivered by several teachers. Addresses by the Rev. W. H. Landon and by George Alexander, Esq., were also delivered. The Institute will meet again on the 16th July..... The *Bathurst Courier* of the 14th and 21st inst., contains a lecture on Free Schools, by J. A. Murdock, Esq. We are happy to learn from various sources that so many excellent lectures have been prepared and delivered by local superintendents in different parts of the Province..... In the *Norfolk Messenger* of the 29th ult., "J. S.," of Sandhill, discusses with much practical ability the subjects of "Discipline," and "modes of teaching" in a school. His suggestions are valuable and useful..... Sheriff Rutan, of Cobourg, has addressed a circular "to schoolmasters and parents throughout Canada," urging them to adopt a system of ventilation in the erection of school-houses. He says:—Now that the necessity of the ventilation of school-houses is beginning to be felt, it is only necessary for me to remind you that our schools are the nurseries of most of the diseases which affect the adult population of our land. I have great pleasure in now informing you that I have found a remedy, and that after eight years of incessant labour, and the expenditure of many thousands of dollars in experiments, I have reduced spontaneous or natural ventilation to a science—an unerring and universal system, which has never before been accomplished by any man. As hundreds of school-houses must of necessity be erected every year, and as the building season is rapidly advancing—I take the earliest opportunity of apprising you that no building can be ventilated unless it is expressly built for it. As much of my time as my business will admit of, will cheerfully be devoted to the instructing of builders as to the mode of building for this purpose. To save time, send me a rough plan of the building you want.

*Inspectors of Schools in Lower Canada.*—Recent numbers of the *Canada Gazette* contained appointments by His Excellency the Governor General of District Inspectors of schools in Lower Canada, under the act of last session. The *Montreal Herald* thus remarks on the subject: "These officials, if they be well chosen, and judiciously supported, while at the same time their authority is held sufficiently in check to prevent it from becoming annoying to the inhabitants of the country, are likely, we think, to effect a great deal of good. The school act referred to, sets forth the great increase of schools in Lower Canada within a few years, and the necessity thence arising for the instruction of suitable schoolmasters. It then goes on to make provision for the establishment of one or more normal schools, to be paid for out of the unclaimed balances of appropriations of common school moneys, and, in case of these proving insufficient, out of the Jesuits' Estates. It then gives authority to the Governor General to name Inspectors of schools, and declares that the duties of these Inspectors shall be to visit each school municipality in the district for which such Inspector shall have been appointed; to audit the accounts of the Secretary Treasurer, and the registry of school commissioners, and to report generally whether the dispositions of the school law are properly executed; each inspector having all the power of the Superintendent of schools, in so far as they are not otherwise limited by his commission. The act farther declares that each inspector shall make quarterly reports of all particulars relating to the schools in his district; and that they shall have a salary in no case to exceed £300 per annum. We believe that the salaries have been fixed at about £150 per annum."

*University of Queen's College.*—Session 1851-2.—On Thursday, 29th April, the Senatus Academicus of the University, after examination on the subjects prescribed, conferred the degree of Master of Arts on the three following candidates for that honour, viz:—John Hugh McKerras, A. B., Brockville; William Johnson, A. B., Nelson; David Watson, A. B., Williams. On the same day, the Senatus Academicus

conferred the degree of Bachelor of Arts on the following candidates, after examination on the subjects prescribed for that honour, viz:—John Lindsay, Ormstown, C. E.; Robert Sutherland, Jamaica; Farquhar McGillivray, Glengarry; Peter Watson, Williams; Alexander G. Fraser, Glengarry; James McEwen, Belleville; Thomas Miller, Flamboro West; James Rollo, Seymour. Of whom John Lindsay and Robert Sutherland passed with honours, both in classics and mathematics; Farquhar McGillivray with honours in classics; and Peter Watson with honours in mathematics.—[Globe.

*University of Victoria College.*—Session 1851-2.—The closing exercises of the winter session of this Institution were held on the 3rd, 4th, and 5th instant. During the three days of the examination, various classes in the English branches, classics, mathematics, and natural sciences, underwent a thorough examination, and they acquitted themselves in a very satisfactory and creditable manner; and all who have attended the examination, have expressed themselves in terms of unqualified praise of the very efficient system of teaching adopted, and successfully carried out in Victoria College. Of this system we should consider the first characteristic to be thoroughness. The second and third characteristics of this mode of communicating instruction, are its perfect practicability, and the introduction of all the improvements of modern instruction. On Tuesday evening, the Rev. Dr. Ryerson, Chief Superintendent of Schools, delivered in the chapel of the college, before a crowded and highly-delighted audience, a most able and eloquent lecture. The subject was "Denominational Colleges and Academies, their relation to our system of Public Instruction, and to the State." The subject chosen by Dr. Ryerson is one of great interest and vital importance to the whole community. He assumed the position, and most satisfactorily proved, that common school education should not be sectarian; that a system of instruction should be based on religion, but that religious instruction should not be expected to be given in common schools; that we should have a provincial university somewhat similar to the London University; that the separate colleges should be denominational, and receive pecuniary aid from the State, but not for the maintenance of theological chairs, which should be entirely upheld by the various denominations who establish them, without any claim upon the Government for pecuniary assistance. Although the subject of the lecture was somewhat novel, he handled it with great skill and effect. We hope that Dr. Ryerson will favour the community by publishing his views as set forth in his lecture, at an early period, as we consider they would be eminently useful, and generally approved of at the present moment. On Wednesday evening were the commencement exercises of the College, and we believe we only echo the opinions of all, when we say they were of a very high order of merit. We understand that the attendance during the winter has been between 60 and 70. This is a great improvement on former years, and we attribute it to the success of the scholarship scheme. The Summer Session commences on the 17th of June next.—[Port Hope Watchman.

*Trinity College, Church University.*—Bishop Strachan has published a Pastoral letter to the Clergy and Laity of his diocese, appealing to their liberality on behalf of Trinity College. The Bishop says:—"Trinity College is no longer a visionary conception, but a substantial reality—daily employed under able professors in the work of instruction, and numbering in its several departments, by the last return, seventy scholars. Under such favourable circumstances, the Council of Trinity College appeal with the greatest confidence to the friends of pure religion and learning, to enable them to bring the arduous and important struggle in which they engaged to a speedy and successful issue. For, let it be remembered that the members of our Church in this diocese, have no other Seminary except Trinity College, to which they can, as religious men, entrust the education of their youth. Hence it becomes the bounden duty of all our people to establish in this important colony a seat of learning, in which the doctrines of the Church of England shall be taught in their pure integrity, and in which her pure and 'reasonable service' shall elevate and sanctify the labors of the teacher and the scholar." We perceive, by the last *Church*, that this Institution has just received a grant of £1,000 from the Society for the Propagation of the Gospel, being a portion of the amount raised for the Jubilee Fund.

*A Chief Superintendent of Schools for New Brunswick.*—The Rev. James Porter has been appointed General Superintendent of Schools for the Province of New Brunswick. This appointment will give general satisfaction to those who know most of the talents, education, and amiable deportment of the gentleman thus selected. The County Inspectors will not be appointed till the next sitting of the Council.—[N. B. Reporter, 7th May.

## PRINCE EDWARD'S ISLAND.

*Statutes relating to Education.*—In the list of Acts assented to, on the 3rd ult., by His Excellency, Sir A. Bannerman, on behalf of Her



Majesty, we find the following relating to education, &c., viz.:—1. An Act for the encouragement of Education, and to raise funds for that purpose, by imposing an additional assessment on land in this Island, and on real estate in Charlottetown and Common, and Georgetown and Common. 2. An Act to alter and amend an Act passed in the sixth year of the reign of her present Majesty, intituled an Act to alter and amend an Act for the establishment of an Academy in Charlottetown. 3. An Act to continue an Act for the encouragement of Education. 4. An Act to provide for the care and maintenance of Idiots, Lunatics, and persons of unsound mind.

## BRITISH AND FOREIGN

### MONTHLY SUMMARY.

An Association has been lately formed in London under the name of the Working Men's Educational Union, the object being the elevation of the working classes in physical, intellectual, moral, and religious condition. The chairs of History and Philosophy have been suppressed in the University of Paris by a decree of the President, and various checks are put upon the teaching of even the physical sciences. Homerton College, which was long under the superintendence of the late Rev. Dr. Pye Smith, as a seminary for the candidates for the Nonconformist ministry, has been formally inaugurated as the Normal Training School, in connection with the Congregational Board of Education. The Rev. Dr. Harris, Principal of the New College, St. John's Wood, delivered the inaugural address. The late Edward Lombe, Esq., of Melton Hall, Wymondham, Norfolk, lately deceased at Florence, left his personal property, subject to the life interest of his wife, to the University College Hospital. The will has been proved in the Prerogative Court of Canterbury by the executors—the Baron de Goldsmid, Treasurer to the hospital, and Charles Caleb Atkinson, Esq., Secretary to the College; and the property is estimated at more than £25,000. The Rev. Dr. Samuel Wilson Warneford has presented to the theological department of the Queen's College, Birmingham, an endowment of £10,000, which sum had been invested in the names of James Thomas Law, Chancellor of the diocese of Lichfield; William Dickens, Esq., of Cherrington, Chairman of the County Quarter Sessions; Vaughan Thomas, B. D., and William Sands Cox, F. R. S., in preference shares of the Great Western Railway Company, at 4½ per cent. interest. A donation of £1,000 has also been given by Dr. Warneford towards procuring furniture, books, and defraying current expenses. The princely munificence of Dr. Warneford has been ordered to be entered on the records of the Society, and the most grateful acknowledgments presented to him. Dr. Warneford's endowments to the Queen's College and the Queen's Hospital exceed £25,000, as noticed from time to time in this *Journal*. John Miller, Esq., of London, formerly the head of one of the principal mercantile houses in Rio de Janeiro, has endowed Elizabeth College, in the Island of Guernsey, with 1,000 milreirs per annum, to establish exhibitions for the pupils of that Institution. There has been bequeathed to the University of Glasgow, by the late Mrs. Elizabeth Brown, widow of Dr. Ebenezer Brown, Inspector-General of Army Passports, an illuminated manuscript Bible, together with 30 volumes, containing beautiful specimens of very early printing. At a recent meeting of the Edinburgh Town Council, a letter was read from Professor Wilson, resigning the Professorship of Moral Philosophy in the University from ill health. Professor Brande has lately retired from the Royal Institution, after having lectured on chemistry since 1812. For the sake of facilitating education, the London and North Western Railroad carry boys, going to and from school, for half the fares at which they would carry them under ordinary circumstances. By a decree of the Minister of Public Instruction, M. Villemain and M. Cousin have been named honorary professors of the faculty of letters in France.

**Society for Teaching the Blind to Read.**—The annual meeting of the friends of this Society took place at the Hanover-square Rooms, the Earl of Shaftesbury presiding. The report of the committee states that, it was found impossible to employ the blind girls in the ordinary domestic offices of the school, as their infirmity quite disqualified them from the performance of such offices. The embossing of the Scriptures for the use of the blind was actively proceeding; 51 volumes of the embossed Bible had been published at an expense of £32 per volume, and several editions of the Gospel, Psalms, and other works were in progress.

**Mechanics' Institutes an Educational Agency.**—At a recent Soiree of the Halifax (England) Mechanics' Institute, Sir Charles Wood, Ex-Chancellor of the Exchequer, (as one of the members of the borough) attended, and, in seconding the adoption of the report, remarked that, he could not but look to these institutions as one great branch of that general education which he felt deeply anxious to see promoted throughout the length and breadth of the land. He believed that the general conviction

was, that education was one of the first things which they ought to promote; and though it was one of those things which had been beset with difficulties, he believed that in a few years they would see a much more rapid progress made in favour of general education than had been the case for many years past. At the close of a very excellent speech, Sir Charles expressed his desire to assist in the erection of a new building for the Institute by a subscription of £100. Mr. Cobden, M.P., also addressed the meeting, and in the course of his speech made a pertinent observation relative to the taxation of paper. "When they went into a cotton-mill, and looked at the rubbish called cotton-waste, they would say that it was a strange idea for any Chancellor of the Exchequer to think of putting a tax on that. But these things were sometimes converted into reams of paper, which were made into primmers and grammars; and then, although the Chancellor did not tax the article with which parties might shoot a partridge or a snipe, yet when it was converted into an article to teach a 'young idea how to shoot,' forthwith his excellent friend, their representative placed an exciseman on the paper, and before it could be used in their school-rooms and libraries he put a tax upon it."

**University of Athens.**—An American gentleman, Mr. H. M. Baird, at present attending this University, in a recent letter to the *N. Y. Commercial Advertiser*, writes as follows:—"The university commenced its sessions nominally in the latter part of September, but the weather has been so warm (warmer than in August at New York) that the course has but lately begun. The lectures are delivered constantly from 8 A. M. to 7 P. M., and generally three will be delivered at the same time. I, however, shall attend but three lectures daily at the utmost. At eight in the morning I attend a lecture by Professor Venthylus until nine. He translates on two days of the week, Demosthenes's oration against Leptines, and on two others, Æschylus's play of Agamemnon, into modern Greek. From 9 to 10, I hear Prof. Asopius on the Odyssey, the Greek poets, &c. Then I study until eleven, when a student, and myself, for an hour, translate alternately from English to Greek, and *vice versa*. This is a very instructive exercise. Then I study, either committing to memory words from a vocabulary, translating, or studying the grammar, until five o'clock, when I hear Prof. Manousis, a very good historian, on universal history, and at six, Prof. Paparagopoulos on Greek history.

**Education in Italy.**—118 elementary schools of the first grade for boys, and 25 for girls, are supported by the Sardinian Government; 4,242 schools of a second grade for boys, and 1,259 for girls. There are also 591 male private schools, and 602 for girls. The amount expended in support of these schools exceed \$330,000 a year, and the number of pupils is stated to be 200,000. There are 104 institutions of a higher grade, with 900 teachers and 12,000 pupils. In the Universities there are 3,000 students, for the support of which the Government gives \$125,000 annually, and the same sum to the schools.

**Educational Department in Turkey.**—We extract the following paragraph of news from the late number of *Harper's Magazine*:—"When the department of the Minister of Public Instruction was created some little time ago in Constantinople, it became apparent that there existed a great desideratum of Moslem civilization, necessary to be supplied as soon as possible—a Turkish vocabulary and a Turkish grammar compiled according to the high developments of philology. The grammar has now been published; being compiled by Faud Effendi, *mustesher* of the Grand Vizier, a man known for his high attainments—assisted by Ahmed Djesvid Effendi, another member of the Council of Instruction. The work has been printed at Constantinople, and translations will be made into several languages: the French edition being now in preparation by two gentlemen belonging to the foreign office of the Sublime Porte, who have obtained a privilege of ten years for its sale." From the above it will be seen that the Ottoman Empire is progressing, and that the Moslems mean to run in the race of improvement with their brethren of the Cross. The work will be of value to eastern savans, and more particularly to comparative philologists.

**Education in Buenos Ayres.**—The *British Packet* of a recent date contains various public documents, proclamations, &c., by the new Government. One relates to education, and is from the Minister Alsina to the Rector of the University; which, after stating that the authorities desire to reform the different branches of the Government, speaks of public instructions as primary and important. The Minister, therefore, ordains that the decree passed in 1838, which required the students to pay all the expenses of the University of Buenos Ayres, and which has caused it to languish for the last 14 years, be repealed. The Minister further adds, that the Provisional Government desires to put an end to the deplorable scandal and shame that such a city as Buenos Ayres should have wanted public schools for 14 years. Until a more general arrangement can be effected, he advises that all the expenses of the University shall be paid out of the public treasury.



## UNITED STATES.

## MONTHLY SUMMARY.

We learn from the *N. Y. Times*, with regret, that George R. Perkins, Esq., A.M., Principal of the New York State Normal School, intends to resign his present post at the end of the current session of the Institution. . . . Ex-Governor Slade continues his earnest and successful labours for the promotion of the cause of education in the West. Lately three excellent female teachers were sent out to California, and one is soon to be sent to New Mexico. Twenty-five teachers, who have been under a course of educational training at Hartford, left for the Mississippi Valley on the 1st of May. We believe the whole number of teachers sent into the Western valley and to the Pacific coast, by the Society which Ex-Governor Slade represents, is about 275.

**Legislative Aid to Colleges in the State of New York.**—In the proceedings of the N. Y. Senate, just before its adjournment, we find the following:—Mr. Bartlett, from the select committee, reported the College appropriation bill as follows:—Rochester University, \$5,000; Genesee College, \$5,000; for the education of one student from each Assembly district at the Albany University, \$10,000; St. John's College, \$1,500; Oneida Conference Seminary, \$1,500; Delaware Institute, \$300; Oneida Indian School, \$200; Madison University, \$2,000; Rensselaer Institute, \$3,000; Medical Department, Buffalo University, \$2,000.

**Land Appropriation for Denominational and other Colleges in Texas.**—From the report of the commissioners for the investigation of land titles in the Western District of Texas, just made to the Legislature, we learn that in Texas there has been the following lands patented for educational purposes:—

For two State Universities, .....	acres, 199,102
For Denominational Colleges, .....	" 31,106
For Primary Schools in each county, .....	" 175,645
Total, .....	405,853

This includes only the lands surveyed and patented. There are some 300,000 acres more already ordered by law to be surveyed for the primary or common school purposes.

**Proposed increase to N. Y. State School Fund.**—In the proceedings of the N. Y. Assembly during its recent session, we find the following:—Mr. Underwood moved to take up the bill to increase the common school fund, and provide for a more free education. The bill provides for the so-called Chancery fund and unclaimed savings' bank deposits being applied to educational purposes. This bill has since become a law.

**Free School Petition to Congress.**—A beautiful and interesting scene was enacted here to-day by the presentation of the free school petition to Congress, by the hands of three thousand school children. The children of the District free schools went in procession to the Capitol, the boys and girls all neatly clad in uniform dresses, and delegations from schools, each covered the steps of the Eastern portico, and presented the petition to a committee. The ceremony occurred before the hour of meeting, and nearly all the members of both houses were present. The memorial is signed by eleven thousand citizens of Washington, and asks aid from Congress for the free schools.—[Cor. N. Y. Com. Adv.]

**Education in Georgia.**—There are in the State of Georgia, 1,450 schools, colleges, and academies, with one thousand six hundred and twenty-two teachers, and an aggregate number of 41,702 pupils. Notwithstanding the number of white persons in the State, over twenty-one years of age, who cannot read or write, is 41,786.

**Common Schools in Kentucky.**—The report of the Superintendent of Public Schools in Kentucky, estimates the income for school purposes in the year 1852, at \$133,000, and states that in a few years it may reach \$140,000. The actual income of the fund for 1851, is set down at \$123,000, and the number of children in the State, within the school ages, at 206,000.

**Common Schools in Ohio.**—The number of townships in the State of Ohio is 1,316, of which 1,121 have reported on the number and condition of their common schools. They contain 9,783 whole and 1,529 fractional school districts, having a total of schools, 12,664; male teachers, 8,350; female teachers, 5,706; scholars enrolled, males, 238,574; females, 207,426; average number in daily attendance, males, 203,407; females, 159,760. The amount of wages paid to teachers from public funds was, to males, \$398,744 27; to females, \$135,335 96; amount paid from other sources, to males, \$111,759 47; to females, \$40,254 20; number of months schools have been taught, by males, 29,041; by females, 16,064; number of school-houses built, 300; cost of new school-houses, \$109,303 77; amount of building funds raised, \$102,811 41; amount of school taxes on county duplicate, \$322,920 55; total amount of school funds received by reporting counties, \$587,659 51. The total amount of school and trust funds paid out of the state treasury during the year, was \$298,268 41.

## Literary and Scientific Intelligence.

## MONTHLY SUMMARY.

Thomas McClear, 45, Yonge Street, Toronto, purposes publishing the first number of a monthly magazine, to be called "*The Anglo American*," on the 1st of July next. It is to contain 96 pages. . . . From an excellent paper in the *Norfolk Messenger*, of the 29th ult., entitled, "Nationality—another of the Wants of Canada," we select the following passage, which contains a correct estimate of the importance of cherishing the noble spirit of nationality and love of country in the bosom of Canadian youth:—"But one of these emotions, beautiful in itself, and found in the bosom of all true patriots, is not only creditable to him whose heart is actuated by it, but alike important and valuable to the State. Its presence is a guarantee of the watchful care taken by its citizens to guard, in truth, the Constitution which protects them in the rights and privileges they enjoy, and the love which knits them together in the common duty of advancing the interests of their native land, and instilling into the children's minds that reverence and love for the good and beautiful, which will fit them for the truly brilliant career of a lover of his country" . . . . In addition to the supposed remains of an elephant discovered in Burlington Heights, we learn from the *Kingston Whig* that, "In excavating for the foundations of two houses in the Market Square, some fossil remains have been found embedded in the limestone rock. They appear to be the trunks of antediluvian trees, of a round form, and apparently composed of carbonate of lime in a state of chrysalization, resembling quartz." . . . . The French Academy, at the instance of M. Montalambert, offers a prize of 4,000 francs for the best essay on "Political Eloquence in England." . . . . The publications of the magnificent work called the Catacombs de Rome, for which the National Assembly voted £8,000, will shortly commence under the direction of a commission nominated by the Government, consisting of Messrs. Ampere, Ingies, Merimeo, and Vitel, members of the Institute. The work will contain exact copies of the architecture, mural paintings; inscriptions, figures, symbols, sepulchres, lamps, vases, rings, instruments, in a word, of everything belonging to or connected with the primitive Christians, which by most diligent search exercised during many years, have been brought to light in the catacombs of ancient Rome. For many years, no publication of such importance, or requiring such an enormous outlay, has appeared; but it is to be regretted, that whilst its contents are calculated powerfully to interest every historical student, and indeed Christian, who cares to enquire into the history of his faith, its enormous price, between £50 and £60 will keep it out of the hands of all except the most wealthy. . . . John McGregor, Esq., the member for Glasgow, has become the proprietor and editor of *Tait's Magazine*. . . . The right of newspapers to copy telegraphic despatches without credit from other papers, is a subject of discussion among the journals of Germany. . . . The *New York Herald* says that it is stated that a discovery has been made of the causes, and of the sure mode of prevention of the explosion of steam boilers. A memoir on the subject was presented to Congress, and it is to be printed for examination. It is said that scientific men have been struck with the novel and ingenious views of the author of the memoir, whose name we have not heard. . . . Among the most recent inventions, says an English paper, are gutta percha pens, which are stated to be far more durable than goose quills, and more available than the metallic material. . . . Alex. Mackay, author of the *Western World*, died lately at sea, on a return voyage from India. Mr. Mackay formerly resided in Toronto. Nicholas Gogol, one of the most distinguished of the modern authors of Russia, died a few weeks ago at Moscow. He was excessively poor, but that was his own fault, as he repeatedly refused to accept the liberal offers of publishers for a new and complete edition of his writings. His reason for thus refusing was that he had fallen into religious mysticism, and fancied that his publications constituted a deadly sin. He would have destroyed them all if he could, and carefully burned all his unpublished manuscripts. It has been represented that he was persecuted by the Russian censors of the press, but, so far from this being true, he was, it appears, a sort of "chartered libertine" with the pen, and that by the Emperor's express orders. His works throw great light on Russian manners, and he has been called the Russian Dickens. Just before breathing his last, he exclaimed, "Ah! if people knew how pleasant it is to die they would not fear death!" . . . . The great experiment of a public free lending library is to be shortly commenced in Manchester. The lending library contains 4,713 volumes. . . . At the anniversary of the Society of Antiquaries, held on St. George's Day, the President, Viscount Mahon, announced that Mr. Forbes Stephenson, a fellow of the Society, had bequeathed the sum of £16,000 to this corporation for the promotion of historical research and antiquarian investigation. . . . At a sale of rare editions of the Bible and New Testament, which took place at Edinburgh, a copy of the New Testament, entitled "Tyndale's Second Genuine Edition," was knocked down at \$116.

**Multiplying by Five.**—Any number of figures that you may wish to multiply by 5, will give the same answer if divided by 2, a much quicker operation; but you must remember to annex a cypher to the answer when there is no remainder, and when there is a remainder, whatever it be, annex a 5 to the answer. Multiply 464 by 5, and the answer will be 2,320; divide the same number by 2, and you have 232, and as there is no remainder you annex a cypher. Now take 357 and multiply by 5, the answer is 1,785; on dividing this by 2, there is 178 and a remainder; you therefore place a 5 at the end of the line, and the result is again 1,785.

**Great Exhibition Medal for Canada.**—We have been favoured with an opportunity of inspecting that awarded to John Patterson Esq., of Dundas. The design and execution of the medal, which is of solid bronze, is exquisite. It was designed by William and Leonard Leon, Engravers to the mint. On one side are two beautifully-executed profiles of Her Majesty and Prince Albert. A trident of Neptune and two dolphins, emblematical of the naval supremacy of the Empire, are likewise represented on this side, and encircling the figures is the inscription—"Victoria, Dei gratia, Brit.: Regina F. D. Albertur Princeps Conjux MDCCCLII." On the other side is shown on the foreground, Britannia with her helmet laid aside, seated, and encircling with a wreath the head of Industry, represented by a female kneeling with a distaff in one hand and an apriary by her side. Europe, Asia, Africa, and America are represented as on-lookers, and the characteristic likenesses given to those figures are most remarkable. In the background, a wheel, a hammer, a bale, and a figured vase, beside which is a bust of Flaxman, representing manufacturers and the fine arts. The motto on this side is from Ovid's *Metamorphosis*—"Dissociata locis concordi pace ligavit," which may be rendered, "It has bound in peaceful harmony those separated by situation.—[Examiner]."

**Death of Thomas Moore.**—The Bard of Erin, after long bodily and mental suffering, is no more. With him disappears the last one except Samuel Rogers, of that glorious array of talent and genius which adorned the early part of this century. Poor Tom Moore! thousands of hearts which have melted at the pathos and been ravished by the harmony of his beautiful verse, will sigh at the loss of this true son of song. He was born in Dublin, May 28, 1780, and was consequently in his 72nd year. Moore may justly be styled the *Catulus* of our British Literature. His sweet melody, light and beautiful animation, fertility and imagination, give him a niche in the temple of fame from which he will never be displaced. The stars of Erin are falling one by one. Tom Moore is gone and he leaves not his like behind. Moore has left three manuscript volumes—a journal kept with great regularity, which may be regarded as a sort of biography. This work was always intended by Mr. Moore for publication, and it will be prepared for the press forthwith by Mrs. Moore, who will, no doubt, accompany it with other documents of interest. The following is from a fly-leaf in the *Edinburgh Review*, just out:—"Messrs. Longman & Co., have to announce that the MS. journal and papers of the late Thomas Moore are in preparation for publication and that they will be edited by the Right Hon. Lord John Russell."

**The Canadian Institute.**—The annual conversazione of this admirable Institution, was held in the large hall of the Mechanics' Institute, on the occasion of the acceptance of office by the officers elected under the new Royal Charter. The room was crowded quite as much as was consistent with the comfort of the numerous guests, among whom were included a large proportion of the most eminent professional and scientific men of the city, with a number of other gentlemen, all of whom appeared to be highly delighted with the combined amusement and instruction derived from the inspection of the numerous models, designs, and other scientific objects which were displayed around the rooms, as well as from the several addresses delivered on scientific subjects. One of the principal attractions was the figure of a crusader, carved in wood by Mr. Fleming. The attitude of this figure, as well as the proportions, are very good, but its chief merit consisted in the exquisite neatness of the workmanship. The figure was above four feet high, and was carved from basswood. Near this was a model in wood of a frame bridge, by W. Armstrong, C. E., carefully designed, and very neatly executed. An instrument for measuring the ebb and flow of the tide, by Mr. Sandford Fleming, attracted much attention. In the absence of W. E. Logan, Esq., F.R.S., President of the Society, Captain Lefroy, R.A., F.R.S., took the chair, and called upon the Secretary to read the annual report, which gave a very favourable idea of the progress of the Institute, and showed that its establishment had been already attended with important results, as was evinced by a list of the papers on different subjects, principally connected with civil engineering, which had been read and discussed in the Institute during the past winter. Allusion was also made to the Royal Charter—the first ever issued by the Provincial Government—which had been granted to the Society, and it was stated that arrangements were in progress by which it was hoped to affect the incorporation of the Institute with the Athenaeum. On the 8th inst., the concluding meeting of the session for 1851-2 was held.—[Daily Patriot.

Among the numerous other arrangements for the ensuing session, means will be taken to collect, during the recess, information respecting the Indian antiquities of Canada. Steps will also be taken to collect information and specimens of the Hydraulic and other limestones of the Province. The Council of the Institute were authorised to make final arrangements for publishing the transactions of the Institute, and we understand that the Prospectus of their journal will issue immediately, and that the first number may be expected to appear for August. It is also proposed to award a medal or prize, at the end of their next session, in some branch of science connected with their pursuits.—Ibid.

**Deaths of Distinguished Persons in 1851.**—The Duke of Newcastle, K. G., aged 65. The Marquis of Northampton, for eleven years President of the Royal Society, aged 60. Field Marshal Grosvenor, aged 86. John James Audubon, the celebrated ornithologist, aged 76. Lord Bexley, formerly Chancellor of the Exchequer, aged 84. Miss Joanna Baillie, the celebrated authoress of "Plays on the Passions," aged 88. Lord Langdale, late Master of the Rolls, aged 67. Mr. Dowton, the celebrated actor, aged 87. Admiral Sir Edward Codrington, G. C. B., aged 81. The Earl of Cottingham, late Lord High Chancellor of England, aged 70. The Right Hon. Richard Lalor Shiel, British Minister at Florence, formerly Master of the Mint, aged 57. The Earl of Shaftesbury, Chairman of Committees in the House of Lords for 37 years, aged 82. Viscount Melville, First Lord of the Admiralty during the administrations of the Earl of Liverpool and the Duke of Wellington, aged 80. The Earl of Derby, K. G., aged 76. M. Daguerre, inventor of the Daguerreotype. Dr. Lingard, the celebrated historian, aged 81. Mrs. Harriet Lee, authoress of the "Canterbury Tales," aged 95. The Earl of Clare, aged 59. H. R. H. Prince Frederick, Duke of Saxe Cobourg and Gotha, elder brother of the King of the Belgians, and uncle of Her Majesty Queen Victoria, and H. R. H. Prince Albert, aged 66. James Fenimore Cooper, the distinguished American novelist, aged 62. Prince Frederick William Charles of Prussia, youngest son of Frederick William the Second, brother of the late and uncle of the present King of Prussia, aged 68. Viscount Bolingbroke, aged 65. The Earl of Liverpool, formerly Steward of Her Majesty's Household, aged 66. Lord Stafford, aged 80. His Excellency Count Reventlow, Ambassador to Great Britain from Denmark. H. R. H. the Duchess of Angouleme, daughter of Louis XVI. of France, aged 72. His Majesty the King of Hanover, aged 80. Marshal Soult, Duke of Dalmatia, aged 82. J. M. W. Turner, the oldest member of the Royal Academy of London, aged 75.

**The Crystal Palace.**—We doubt very much whether its oldest friends will be able to recognise the building in Hyde-park when they are again admitted. All the temporary wooden partitions which divided the several classes, countries, and colonies from each other, have been pulled down, and the visitor is at once, and for the first time, impressed with the vastness of the structure; the immense expanse of the noble nave, now cleared of its varied and thickly-studded contents and its swarming crowds; the interminable sweep of the aisles, which can be seen at a glance from one end of the building to the other; the long lines of delicate-looking taper columns, and the airy lightness that pervades the whole, impress one with feelings of admiration at the grandeur and simplicity of the design—the harmony and perfection of the arrangement, and the wondrous skill and ingenuity displayed in the execution. The building is now to be seen in an aspect which it never presented in any stage of its erection. The first impression it conveys to even those who have paced up and down its aisles and galleries for months is a feeling of novelty that is absolutely startling. The contrast between what it was last summer and what it is now is so striking that the mind is unprepared for the marvellous change, and experience all the pleasure of a fresh excitement, while the effect of the whole is most favourably heightened by the delicate azure tint of the frame-work.—[Observer.

**The National Museum.**—Contributions are still pouring in for the intended national museum, and, as far as present appearances enable us to judge, the collection will be extremely interesting and valuable. Most of the large English and foreign manufacturers have sent specimens of their cloths, stuffs, silks, woollens, and cottons, very ingeniously arranged, with the prices of the several articles and qualities attached. Some specimens of a very rich and artistically coloured velvet pile carpeting, have recently been sent in. One of the Nottingham lace manufacturers has sent a large number of specimens of the various qualities of this delicate fabric, also priced—the pillow lace, with its hundreds of pins and reels attached, is also shown in process of manufacture. The whole process of glove manufacture, with the mode of cutting out and fitting, is here; a very complete assortment of watch movements, and the silk hat manufacturer in all its stages. There is also a specimen of the first sheeting ever made from China grass in this country. Some very beautiful cases of wax flowers, and models of various kinds, including one of the Ebbwvale Company's extensive iron works in Wales. The contributions in raw materials are also increasing rapidly, and one of the first duties of the Royal

Commissioners will now be to look for some suitable building or site for the museum. Seeing that the interest of the surplus funds in the hands of the commissioners amounts to nearly £5,000 a year, there can be no difficulty in making all the necessary arrangements upon such a scale of efficiency and completeness as may render it worthy the commercial character of the country.—[Observer.]

**Telegraphic Time in England.**—The latest development of the electric telegraph system is at once useful and beautiful. It is a plan for distributing and correcting mean Greenwich time in London and over the country every day at noon. Every holiday taker knows the ball which surmounts the Royal Observatory, and has watched with interest its descent as the clock gave the first stroke of noon, thereby telling the sea-going men in the river the exact state of the chronometers which were to become their guides over the pathless waters. Such a ball is to be raised on a pole on the telegraphic office, near Charing Cross, and at noon each day is to drop by electric action simultaneously with that at Greenwich—both balls being in fact liberated by the same hand—and, falling on a cushion at the base of the pole, is to communicate standard time along all the telegraphic wires of the country. At the same instant, the bells will ring out noon at the most distant places,—Hull, Holyhead, Aberdeen, Harwich, and Devonport. The great metropolitan clocks, such as the Horse Guards, the Exchange, the New Palace, are to be regulated on the same principle. It is said that all the railway companies have agreed to avail themselves of these means of obtaining an exact uniformity of time.

**Telegraphic Alarms in Boston.**—A novel application of the telegraph has been invented by Dr. Wm. F. Channing, of Boston, and introduced in that city for a general system of fire alarms. Electricity corresponds to the agent of vitality which traverses the nerves, in its rapid transmission of impressions or impulses, as in the common electric telegraph, and in its power of producing attractions as in the electro-magnet. These are the two functions of the nerves of sensation and motion. Hitherto the sensitive function of the telegraph has been developed almost exclusively. A peculiar feature of the fire-alarm system is the development of the motor function of the telegraph, that is, its application to the production of important mechanical effects by means of artificial muscles and limbs, either directly by its electro-magnetic energy, or by acting through the medium of other machinery. In the system constructed in Boston, there are two distinct classes of electric circuits, radiating from a common centre, the one conveying signals, and answering to the sensitive nerves, extending to the reservoir of galvanic or nervous power for the whole system. This galvanic centre, which corresponds to the brain, presided over by an intelligent will (the single operator watchman) on receiving the impression or indication of a disturbance at the extremities, sends out an impulse to appropriate action over the other circuit, passing through the bellies of the various bells, and thus giving the alarm to the whole city. This is done in the following manner:—At each belfry the electric agent acts upon the electro-magnetic apparatus, corresponding to the human muscles; the result is the release of powerful machinery, which strikes a single and definite blow upon the bell. A combination of such blows can, of course, be made by the intelligent will at the centre, to represent district or any other signals. The system is highly ingenious in the details, and presents a beautiful instance of the application of scientific principles to purposes of practical utility.

### Editorial and Official Notices, &c.

#### APPORTIONMENT OF THE LEGISLATIVE SCHOOL GRANT FOR 1852.

For the reasons assigned in the Circular to Wardens of Counties, by the Chief Superintendent of Schools, published in the last number of this *Journal*, page 57, we regret being as yet unable to announce the apportionment of the Legislative School Grant for the current year. Very few abstracts of the audited returns of School Monies have been received by the Educational Department as required by law; and until they shall have been received, no apportionment can be made by the Chief Superintendent to the County in default. Due notice of this fact was given last year, as well as this year; and if delay occurs in receiving the Legislative School Grant, the local school authorities are alone responsible for it.

#### A HAND-BOOK OF THE ENGLISH LANGUAGE :

For the use of Students of the Universities and Higher Classes of Schools. By R. G. Latham, M.D., F.R.S. 12mo., pp. 398. New York, 1852. D. Appleton & Co., Rochester, D. M. Dewey.

The mere enumeration of the chapters in this book would induce a person to procure it. The work is divided into seven parts, and the subjects

are discussed in eighty-six chapters. It is furnished with a list of questions and notes on each part at the end of the book. The author was formerly the professor of English language and literature in University College, London.

In the *HAND-BOOK*, the distinguished author's learning and philosophy appear to singular advantage. "It contains the entire results which have been arrived at in his larger treatises, accompanied with sufficient discussion and detail to enable the student to avail himself of the author's method and sources of investigation, without bewildering his mind by reasonings which those only who are somewhat familiar with comparative philology are able to follow."

#### A DICTIONARY OF THE FRENCH AND ENGLISH LANGUAGES :

In two parts. I. French-English; II. English-French; with a Vocabulary of proper names. By Gabriel Surreure. Abridged from the larger Dictionary. 18mo., pp. 556. New York, D. Appleton & Co.; Rochester, D. M. Dewey.

This has been considered a standard School Dictionary in Europe. It seems to be equally so in America. The system of pronunciation adopted is that of the French Academy, and of the most eminent lexicographers and grammarians.

#### THE NEW FRENCH MANUAL AND TRAVELLERS COMPANION :

Intended as a Guide to the Tourist and a Class Book for the Student. By Gabriel Surreure. 18mo., pp. 287. New York, D. Appleton & Co.; Rochester, D. M. Dewey.

This Manual contains an introduction to French Pronunciation; a copious vocabulary, and a very complete series of dialogues on topics of every day life, etc., etc.

#### HISTOIRE DE CHARLES XII. :

Par Voltaire Soigneusement revue par Gabriel Surreure. 16mo. pp. 262. New York, D. Appleton & Co.; Rochester, D. M. Dewey.

Few English students of French but have reason to recollect this beautifully-written History, although they may not have always succeeded in doing justice to the clearness and elegance of the author. This edition is very neatly prepared.

#### WOMEN OF CHRISTIANITY :

Examples for Acts, Piety, and Charity. By Julia Kavanagh, author of *Women in France*, etc., etc. 12mo., pp. 384. New York, D. Appleton & Co.; Rochester, D. M. Dewey.

A most interesting record of those hundreds of excellent, devoted women, eminent for active charity and Christian benevolence, who have lived during the last eighteen centuries. The author has admirably fulfilled her pledge, "to record those marvels of charity and devotedness which are the greatest boast of the Christian faith, and in which man has not as yet surpassed women." The completeness of her narratives has been a labour of love. The work "does not profess to include those women whose virtues went not beyond the circle of home, and whose piety was limited to worship. Love and adoration are beautiful, but the spirit of sacrifice is the true spirit of Christianity."

#### THE USES OF SUNSHINE :

By S. M. 16mo., pp. 348. New York, D. Appleton & Co.

#### HEARTS UNVEILED :

Or, the Pure Pleasure of Pure Minds. By Sarah E. Saymore. 12mo., pp. 300. New York, D. Appleton & Co.

#### THE SPANISH TEACHER;

And Colloquial Phrase Book. By F. Butler. 18mo., pp., 293. New York, D. Appleton & Co.

#### PLANE TRIGONOMETRY;

And its Application and Mensuration of Land Surveying, accompanied with all the necessary Logarithmic and Trigonometric Tables. By George R. Perkins, A. M. 8vo., pp. 151 x 175 = 326. New York, D. Appleton & Co.

#### THE PRACTICAL ARITHMETIC :

Designed for such Institutions as require a greater number of examples than are given in the author's Elementary work. By G. R. Perkins, A. M. 12mo., pp. 356. New York, D. Appleton & Co.

We have to thank the publishers for the above works, kindly sent through our American book agent, D. M. Dewey, Rochester, and regret that want of space prevents us from referring to them more at length.

**A MATHEMATICAL TEACHER**, who will be disengaged on the 1st October next, is anxious to obtain employment from that time. He is 37 years of age—has been 18 years constantly engaged in teaching the Mathematics and the English Languages—is prepared to stand the test of a strict examination on either subject—holds a First Class Certificate in the Counties of Frontenac, Lennox, and Addington and can give satisfactory references.

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