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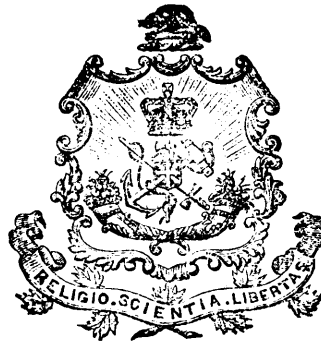
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### M. ARAGO, THE FRENCH ASTRONOMER.

The following obituary notice of this celebrated philosopher is copied from the *London Literary Gazette*, of the 8th October:—

On Sunday evening, 2nd October, died in Paris, at the age of 67, the indefatigable and world-renowned philosopher and politician, Dominique Francois Arago, Perpetual Secretary of the Académie des sciences, and member of nearly all the scientific societies of Europe. He had been suffering for some time past from diabetes and dropsy, but was actively intelligent to the last. Beyond a pendulum exhibition, made early in life by M. Arago with M. Biot, which we shall presently notice, the career of this eminent physicist was not distinguished by any elaborate, great work. His mind was chiefly on the alert for the investigation of passing phenomena, and the discussion of passing topics. He made almost an infinity of small researches, of which the publication is scattered in various memoirs during a long series of years, and sometimes they were extremely important. Chemistry, physics, mechanics, natural history, philosophy and literature, all engaged his attention by turns, and it was his boast that every man was an idler who did not work fourteen hours a-day. For his researches in the comparatively new science of electro-magnetism he had the honour in 1852, to receive the Copley Medal of the Royal Society. "Assure M. Arago," said the President, Sir Humphry Davy, in his address to

Sir James South, who was charged with the mission, "of the lively interest we take in his ingenious and important researches. Tell him we are extremely impatient to know the results of his experiments in a field so new and fertile."

M. Arago was born 1786, at Estagel, near Perpignan. His parents were of the middle class, and his father after the great revolution became cashier of the mint in that town. Having evinced an early interest in the pursuit of natural philosophy, M. Arago was sent to Montpellier to study mathematics and the branches of knowledge required for admission to the Ecole Polytechnique. He was prepared at the age of seventeen to pass the preliminary examination, and did so with an *éclat* that made him to be placed first in the list of candidates. Admitted to the schools, he underwent the examinations with distinction, and having decided on a scientific career, obtained the appointment of Secretary to the Bureau des Longitudes. The zeal and acquirements of M. Arago in that capacity attracted the attention of Monge, and he recommended him to the government in 1806 as a fit and proper person to undertake, in conjunction with M. Biot, the measurement of the arc of the terrestrial meridian. This measurement, on the basis of the decimal system, had been made between Dundirk and Barcelona, and MM. Biot and Arago were commissioned to continue it from Barcelona to the Balearic Isles. Provided with the necessary instruments, they established themselves on the summit of Mount Galatzo in Catalonia, and entered into communication with two Spaniards, charged to assist them, located on a mountain in the Isle of Ivica. In 1807 the operations were so far advanced as to enable M. Biot to return to Paris to make some calculations, and M. Arago was left alone on his onerous mission, when a war broke out between France and Spain. The peasantry, imagining from the peculiarity of his operations, that he was a spy, attempted to murder him. He escaped, however, in disguise, to the coast, and managed to embark in a vessel bound for Belver. After remaining there for some considerable time, M. Arago obtained leave to proceed on board an Algerine vessel to Marseilles, but no sooner had he reached the French coast when the vessel was seized by a Spanish corsair, and carried captive to Rosas. M. Arago was detained a prisoner some time, and subjected to much ill-treatment; and when at last the vessel was set at liberty, it was cast ashore in a violent tempest on the coast of Africa, and he was conveyed as a prisoner before the Dey. In 1809 M. Arago obtained his release and returned to Paris, and as a tribute to his energy and talent under these trying circumstances he was elected, at the early age of twenty-three, a member of the Academy of Sciences, in the place of the illustrious Lalande. He was appointed about the same time a professor of the Ecole Polytechnique; and now may be said to have commenced that eminent scientific career which he pursued with undiminished vigour to within a few days of his death. Only three weeks since he was working on a new edition of his memoir on thunder, and he had just requested M. Babinet to prepare for him a table of the best

determined numbers of the length of undulations to complete a paper on light. The subjects in which M. Arago may be said to have most distinguished himself are Magnetic and Rotatory Polarisation, Magnetism by the action of Currents, and Magnetism by Rotation; and to him we owe the invention of the Polaroscope.

The following is a list of the principal memoirs of M. Arago, which, it is to be hoped, will be collected into a single work:—*Mémoires sur les Affinités des Corps par la Lumière, et particulièrement sur les forces, réfringentes des différents gaz*—*Mémoire sur une Modification remarquable qu'éprouvent les Rayons lumineux dans leur passage à travers certain corps diaphanes, &c.*—*Mémoire sur l'Action que les Rayons de Lumière polarisés exercent les uns sur les autres*—*"Recueil d'Observations géodésiques, astronomiques, &c."*—*"Sur les Chronomètres"*—*"Sur les quantités de Pluie qui tombent à diverses hauteurs au dessus du sol"*—*"Tables des Températeurs extrêmes observées à Paris et dans d'autres lieux"*—*"Sur la Lune rousse"*—*"De la Rosée"*—*"Sur les Explosions des Machines à Vapeur"*—*"Sur les Etoiles multiples"*—*"Notice historique sur le Pôle voltaïque"*—*"Sur les Puits forés, connus sous le nom de puits artésiens"*—*"Sur la dernière Apparition de la Comète de Halley"*—*"Sur les Hiéroglyphes égyptiens"*—*"Sur le Tonnerre"*—*"Notice sur Herschel," &c., &c.*

After the Revolution of 1830, M. Arago was denominated Director of the Observatory of the Bureau des Longitudes; and he succeeded Fourier, whose *éloge* he pronounced, as Perpetual Secretary of the Academy of Sciences. The "Annuaire des Longitudes" was under his direction; and he founded, in conjunction with Gay-Lussac, the "Recueil des Annales Physique de Chimie." In 1834, M. Arago visited this country and attended the meeting of the British association at Edinburgh. As a mark of special distinction on that occasion he was presented with the freedom of the city; and at the meetings of the sections, where he took part in some of the discussions, his remarks were listened to with the deference due to his reputation.

To the political career of M. Arago we need only refer for the sake of noticing the services which he rendered to science as a member of the Chamber of Deputies. On all questions relating to subjects connected with his scientific or literary pursuits his remarks had great weight. It was owing to his advocacy that the chamber voted a sum of money for printing the works of Laplace and of Fermat, and for other similar purposes. He was a brilliant orator, and always firm and independent in his principles. In his earliest youth he refused to vote for the elevation of Bonaparte to the Consulship and the Empire, and on the memorable *coup d'état* of the present Bonaparte he refused to take a vote of allegiance, though threatened with the loss of his appointments, his only means of subsistence. He was the *beau idéal* of a Republican, and many will remember his activity as a member of the Provisional Government that existed for a brief period on the downfall of Louis Philippe. The French critic Timon, speaking of him as a parliamentary orator, says, "when Arago ascends the tribune, the chamber, attentive and curious, becomes silent. The spectators in the public tribunes lean forward to look at him. His stature is commanding, his hair curling and flowing, and his fine head in the southern type denominates the Assembly. The muscular contraction of the temples shows firmness and meditation, which mark him out as a superior man. Unlike most of our orators who speak on anything and everything, and three times out of four know not what they say, Arago only speaks on profound questions, which add the attraction of science to the interest of the occasion. He addresses himself at the same time to the interests and the passions of his auditory. He consequently masters it. Scarcely has he entered on his subject than every eye is fixed upon him. He takes, so to speak, science in his hand, strips it of its asperities and technical formulæ, and renders it so easy that the most ignorant are charmed and astonished at finding they understand it."

M. Arago was a thoroughly honest man, and greatly respected in Paris by all classes. He was buried on Wednesday in the Cemetery of Père-la-Chaise, and though it rained incessantly, the funeral procession was followed by two or three thousand persons. The Emperor was represented at the ceremony by the Grand Marshal of the Palace.

#### AN OBSTACLE TO IMPROVEMENT.

"Small knowledge we dig up with endless toil."—*Young.*

**REGULARITY** and punctuality of attendance are in the highest degree desirable. The reports of some schools within our knowledge are exceedingly favorable in this respect. The names of many pupils are reported, who are never absent, never late. This reminds one of a millennial age in teaching. But such cases are rare. People now-a-days are so anxious to obey the apostolic injunction and "prove all things," that frequently we must not expect to have the same pupils under our care longer than a few months, and perhaps a few weeks. This is eminently true of many of our higher seminaries. It seems to be not less so of many of our common schools; for although the pupils may not change, the teachers do; which is productive of even more disastrous effects.

Not unfrequently every successive term brings a new incumbent to office. Whether this be done because the former teacher is deemed unfit, or because

the committee-men have a diffidence about retaining a good teacher, and so depriving the rest of the world of his services, does not plainly appear.

We cannot be held responsible for impossibilities. We think that six months, or even a year, and that of uninterrupted attendance, is short time enough, (nay too short,) to make deep and lasting impressions upon the mind of the scholar. What shall be done in every case we cannot tell.—Certainly the teacher, as the first thing, should earnestly desire to have it otherwise. His most earnest efforts should be turned in that direction. If, as in many of our higher seminaries, it results from the shortness of the terms and the changing nature of the school, he can do little. He must heat the iron as hot as he can in a short time, and strike hard and fast.—Perhaps he will appear to lose all his labor: and it may be, on the other hand, that impressions of surpassing beauty will be made even in that short time, which will be to his praise and honour hereafter. That teacher has much need of faith. He may well for his encouragement remember the words of Scripture, "In the morning sow thy seed; in the evening withhold not thy hand; for thou knowest not whether shall prosper, this or that."

If the difficulty we speak of proceeds from frequent change of place in the teacher, we of course can suggest no remedy, so far as it is the fault of others. It is truly sad that any of our calling should be so much like certain observances in the Episcopal Church, called "moveable feasts." A rolling stone gathers no moss; so a teacher that is constantly moving, has little prospect of benefiting others or enriching himself. But we should not be blind to the fact that quite a large portion of the schools of New England are still taught in this way. We would not say a word to discourage teachers thus employed. Past experience proves that much can be done. Such persons have *some* advantages; they have no antipathies in pupils to conquer; they do not usually commence their labors after a vacation, the weeks of which have been hardly sufficient to recruit an exhausted frame. He is a poor teacher who, when brought in contact with a group of pupils, for a single term even, with all the disadvantages suggested, does not accomplish much, and erect a monument more lasting than stone.

But there is another difficulty; it is a great irregularity and want of punctuality in pupils. Even these short periods of attendance we have spoken of, are broken by many a long parenthesis for genteel amusements, and for housework. How many cases of comfortable sickness! How pressing is the labor of the farm! What long errands to the shoemaker or store!—How tardily the Congress of youthful delegates from the kitchens and barns of the village, assemble on a winter's morning! The truthful parent fancies that a delay of a few minutes can make but little difference. And alas! he reasons too correctly; for if his child is habitually late, it makes indeed little difference whether or not he is there at all.

What can be done? The teacher has no authority to command attendance. He has no magnetism to quicken the lingering footsteps, and draw in the reluctant pupil to his task. What can he do? The evil is a great one; no school, no pupil can prosper, if habitually tardy or irregular.—Every late footstep is giving a lesson to future life; tardy scholars will certainly make tardy men. But what course shall the teacher pursue?

In the first place let him deprecate the evil. Again, let him *not worry* over it, or indeed over any thing else; worrying shortens more lives than intemperance or the sword. Let him be invariably prompt himself; actions speak louder than words. Let him keep a careful record of all tardiness and absences, and call the attention of the school to them. If circumstances permit him to exercise authority, let him do it. At least let him keep a careful record of these matters and show the offenders how they look on paper. One prevailing fault of teachers is a neglect of keeping an account with their school. A fair and well-kept record of all irregularities of attendance, and of the character of recitations, will be of as great service in school-keeping as a system of maps in geography.

Let the teacher, if possible, kindle some *ambition* to be punctual among the members of the school; the cure is nearly effected then. If this be not attainable, let the matter be referred to the parents, at their homes, or on a meeting of the district. Show them that this is a question in "loss and gain." Show them that an absence of one day in the week will take away one half the benefit of the term. Show them that a tardiness of one half hour each session, will in an ordinary term make eleven or twelve days, and result in a loss of eleven twelfths of the expected gain, besides entailing upon them the odious habit of being forever a little after the time.

We doubt not that with such representations you would rouse at home a disposition to co-operate with you. Can you accomplish this, and effect a reform, you may reckon it one of the noblest fruits of your labor for your pupils. Punctuality is the life of business. Lord Nelson remarked that he owed much of his success in life, to the fact, that he had made it a rule to be always fifteen minutes before the time.

But if scholars, after all, will be transient, and your pupils and their parents cannot be reformed, "fret not thyself in any wise to do evil." We know not what others may advise; but we recommend that such pupils be referred at once to the "committee on unfinished business," and as soon as possible to the "committee on foreign relations!"—*Massachusetts Teacher.*

#### WHAT IS DONE, HAVE WELL DONE.

"Work once well done, is twice done."

Much of our instruction lacks that vigor of discipline, and the nerve, and *persistence*, that will entitle us to future remembrance.

Would you, O teacher, be long remembered? Then do this day's work well. Are you employed with the youngest class of pupils? Then so much the more important your work; for on the solidity of the foundation depends the permanency of the whole. Are you daguerreotyping the numer-

ation table or the columns of addition, on the mind of a pupil or a class?—Do it well, oh, we beseech you! Do it well. Let no man have the honor of doing that work after you. Be daunted by no discouragements. If the sun goes down while you are clambering over the first unit's figure, then let the night rest only on a parenthesis in your labor. Let the morrow find you engaged in the same toilsome ascent, dragging up your pupil after you.—And it *many* suns rise and set before the end is attained, still resolve that it *shall be done*.

And so through all the departments of instruction. Resolve that this thing shall be learned, that principle shall be understood, that intricate places shall be cleared up; and let it be known that from your decisions there is no appeal; and that any attempt to overleap or evade your will, is just as futile as haggling with the decrees of fate.

Do not understand us to refer by this to any pestering particularity, which some teachers mistake for thoroughness. They will tell you of a dozen ways to prove simple subtraction, and make their pupils perform a perfect incubation for a week over a pair of Arabic figures to hatch out some new relation. All this may be good for an Encyclopedia, but it is not in place in the school-room. We refer merely to a practical and thorough knowledge of any given rule or process; and this the pupil should have just so far as he extends his explorations. Is it a page of the classics? let not your pupil turn over another leaf, till he can construe it as rapidly as his mother tongue. Literal and rapid translation is the best rule of prosody. Is it bank discount? let him not dismiss that theme till he can write a note and obtain an endorser, and manage his "days of grace," and *tell* how he does it too, as knowingly as one who walks up the steps of a bank to obtain a loan.

If this has not been the way in which you have shaded your pictures heretofore, then, fellow teachers, when you next go to your school-room, we ask you to put your determination to have it so, in the imperative mood.—Without one word of fretfulness, or any offensive show of authority; with nothing on your part but clear ideas and an inflexible will, your pupils will soon know what vigorous discipline means.

And oh! never forget that this discipline we speak of, to be serviceable, must be expended upon the reason, and not upon the memory. The fault of past instruction has been, not, perhaps, that it cultivated the memory too much, but the thinking powers too little. Would you, therefore, benefit your pupils? teach them how to think, how to analyze and reflect. Make every process a reasoning, reflective process. For this purpose you will rely mostly on the mathematical branches; for as Lord Bacon says, "If a man's wits be wandering, let him study the mathematics;" and for the mass of pupils, arithmetic will take the precedence of every other branch.

In this study, then, as indeed in every other, have done forever with that careless, rapid way, that proves nothing, knows nothing, only that "the rule says so." Never take the pupil's assertion that he understands this part or that. Nothing is more deceptive. Human nature does not love the labor of patient thought. Hence the shifts and subterfuges that the pupil will resort to, to avoid the trial, are endless.

Stand up in your firm determination, and see that the pupil perceives the *wherefore* at every step, and *gives it unasked*. Let every process be reasoned out, let every dark passage be threaded through and through, till the footsteps fall with unfeared confidence in the blindfold part. This may be hard for the teacher, and hard for the taught; but there is no excellence without great labor. If the pupil recoils, hold him firmly to the work. If the parent interferes, tell him, as Ceres told the father of Triptolemus of old, "Unless I hold your son in the flame and bury him in coals of fire, I cannot make him wholly immortal."

We say again, it is hard. It is this that leads the good teacher often to say, "Who is sufficient for these things?" And any thing but an indomitable will, will sometimes yield. But if you are endeavoring to invigorate your pupil with the power of consecutive thought, you are in the right. And whoever may doubt, whoever may deride, whoever may oppose, persevere; consider it is your "mission," to wake up human souls to the ability and luxury of thought. Tire not; but every day march all your force against the castle of indolence in the soul, and with your blows as heavy as sledge-hammers, demonstrate on its never opened doors the wonderful proposition to them, that the powers that sleep therein, are capable of a few moments of unbroken wakefulness. It is from that we expect to give perpetuity to our work.

"'Tis thus that painters write their names at Co!"

You might punctuate the whole earth with pyramids and obelisks, and furrow out Amazons with the point of your cane, and your work would not be so permanent as this. True, your fame or reward may not be present; community may compensate you but poorly; your pupils even may not esteem you *now*. But it was a noble remark of Kepler, "God has waited six thousand years for a beholder; cannot Kepler wait a few years for a reader?" It has been the way with the world's best heroes, to go through scenes of fiery trial, and then suffer an early apotheosis for want of bread.

"Seven cities fought for Homer dead,  
Through which, Homer living, begged his bread."

Nevertheless, the good teacher is one of society's best and most permanent benefactors. Then, fellow laborers, linger here over this thought, and learn the sustaining lesson, taught in the school of the glorious prophets and martyrs, and heroes of all time:

"Still achieving, still pursuing,  
Learn to labor and to wait."

To the industrious man, every day is a little life, and every night a little heaven.

## RESPECTIVE OFFICES OF TEACHERS AND TEXT-BOOKS.

Teachers and Text-Books are the instrumentalities of the school-room to furnish knowledge and mental discipline to the young. Where the office of the former concludes, and that of the latter commences, it is difficult to determine. In ancient countries, and especially in Greece, youth were instructed orally; while in many schools at the present day, scholars receive little instruction but what they obtain from books, the prescribed duty of the teacher consisting merely in an examination of their proficiency not in the study, but in the text-book. Many teachers seem to forget that books are only means of study, not its end. Reflecting upon the noble minds, trained chiefly by oral instruction, in the academies and lycæums at Athens, I have sometimes thought our book education must be inferior to their lectures, calling forth as it seems to do, less effort to remember and understand what can be read over and over again, and each sentence pondered, than to apprehend that which was but once uttered, to recall that which was but once heard; and therefore less adapted to develop and strengthen mind.

But perhaps this method of instruction is better adapted to adults than to children—still, as a scholar, I have experienced a great difference between the dry discussion of a particular subject in a text-book, and listening to a warm and lively explanation of the same subject by the teacher; and a hundred times on hearing recitations in my own classes, when dull and downcast countenances told me plainly enough that the author had failed to make himself understood, and when, after changing the form of the question and simplifying the language, I was still unable to convey a proper idea of the subject, I have thrown down the book, and with black-board and chalk or illustrations of my own, in five minutes the whole class has been roused up, and faces before inanimate, were all glowing with delight, and sometimes with tears streaming down them. There is a life-giving power in the words and explanations of a teacher well versed in what he attempts to teach, and deeply interested in making it understood, that no book however well-written can ever give.

It is the living speaker in contrast with the printed oration—the letter of a friend compared with the warm pressure of his hand and his words of welcome. The eye, the countenance, the very motion of the body—all speak, and tend greatly to secure the attention of the class, and deepen the impression upon their minds. Besides, the teacher has the advantage of the author in being able to select for illustration, objects familiar to the scholar. Incidents are constantly occurring about a school-room, which seized upon by the intelligent teacher, may serve to illustrate important principles, while those selected by an author must necessarily be in a degree unknown. And this is an important matter. As long as knowledge is considered by the pupil as having but little relation to the affairs of life, he can take but a small degree of interest in its acquirement. He must feel that it concerns himself—his home—and the constantly recurring phenomena of nature about him. This capability of making the passing events of the school-room and of home minister to the end of teaching, is one of the surest tests of a teacher's fitness for his office; for nothing will add more, if as much, to promote an interest in study among scholars.

Pardon this digression. I mean not to argue whether it is best to teach *with* books or *without* them. They do not prevent the skillful teacher from making his own explanations and illustrations; while without them, many a poor fellow would be sadly puzzled to supply their place, by requisitions upon his own stock of knowledge.

Admitting therefore, the necessity of text-books, and that it would be inconvenient and improper to dispute with them, two questions arise:—1. What are their true functions? and, 2. How should they be prepared, to adapt them to the purposes of teaching?

These are questions in an educational point of view, of great magnitude, and about which, men of much experience in teaching differ; and what I shall offer, is not intended as a solution of them; only the expression of an opinion, which upon examination, may be found to be a greater or less approximation to the truth.

What then are the true functions of text-books? What want do they supply in the school?

Children are sent to school to be educated. Whether they are so or not, will mainly depend upon their own exertions. But teachers and text-books are important auxiliaries in the work. The first place must, however, be given to the teacher; and from the multiplicity of duties incumbent upon him to discharge, it is absolutely impossible to devote much time to each individual scholar, and he is compelled to employ a substitute in the text-book. The true functions of text-books therefore, seem to me to be two, viz:—1. To aid the pupil. 2. To assist the teacher. We will speak of the latter office first.

While text books are designed to assist the teacher, it is only at particular times, and in a circumscribed sense. It is gross abuse of them when employed to compensate for the teacher's want of information. That teaching must, indeed, be superficial which is confined to the printed page, and enlivened by nothing original. The teacher should be competent to teach every study in his school *without* books

He should be able to solve all questions in arithmetic, without reference to rule, answer all those in geography and grammar without the necessity of hunting the atlas, or examining the grammar book. Unless he can do this, he can never teach well, or gain that confidence in his ability, which all experienced educators agree is so essential to success, and even the semblance of which costs the assumption of so much false dignity, and so much pretended knowledge on the part of some of us school-masters.

The teachers should not only be able to render every needful assistance in the school without reference to text-books, but he should also be competent to conduct the recitations without them. Horace Mann remarks, that in Germany the very best results follow from this method. There, the teacher never looks in a book, while hearing a recitation, no matter in what study. His head is his text-book—his library. He can keep his eye constantly upon the class—glance from side to side, accommodate his questions to the circumstances—watch the struggling mind as it essays to surmount their difficulties, and keep alive the interest of the class, instead of permitting it to flag during every interval of the times of hunting and putting the questions, and afterwards examining to see if the answer be correct; and these are no insignificant advantages. Text-books, therefore should not be used in hearing recitations; and, answers to questions—all questions at the bottom of the page, or at the end of the book, should be omitted in their preparation. Neither, in my judgment, can any argument be offered in support of the numerous keys to arithmetic, algebra, &c., geographical keys, keys to lessons in the languages, &c., &c., which are now published and find a welcome place in many of our schools; unless it be that it is proper to reward indolence, or render a tribute to ignorance. So much evil have I seen grown out of their use, that were it not for the aid they sometimes furnish to those who have no opportunity for a teacher's assistance, I would say that great benefit would follow, if the whole tribe, including literal translations of the ancient authors, were made into a huge bonfire and burned.

It is not then to enable the teacher to teach what he does not know—to ask questions that he could not answer, nor to find a convenient explanation of difficulties without the "wear and tear" of mind necessary in other circumstances, that text-books are useful to him; but it is to supply his place when otherwise engaged—to teach in his absence—to fill up with important work the hours which would otherwise be frittered away in idleness. This, too, is the manner in which they aid the pupil. Had the teacher no other duties but to attend to a single class, text-books would be unnecessary.

Let me prove this. Suppose a class in arithmetic-lesson, the Single Rule of Three. Now, a teacher can explain this much better than can be done in a book. Afterwards, it would be an easy matter to compose questions, bringing in the names of his pupils, and making use of transactions with which he knows them to be familiar, and thus, he could convey more knowledge in a single lesson than they could obtain from a book in a week. But he has not time for all this. Other classes must be heard, so he explains the rule, gives each member of the class a book containing questions, and requests their solution by the next recitation. It is so with all studies. The position of text-books, therefore, is subordinate to that of the teacher—their teachings are inferior to his, and that their introduction into the school-room is of advantage at all is owing to his multiplied duties, which preclude the possibility of his paying much attention to each individual. But this is necessarily so—their function is an important one, and to fulfil it properly requires much skill in their preparation. I shall probably have something to say about this in a future number.—*Ohio Journal of Education.*

### Miscellaneous.

#### INFLUENCE OF GREAT MEN.

There is no subject, apparently, upon which we differ so much from the opinions expressed by authors and editors in general, as to what "constitutes a great man." When mighty statesmen and triumphant warriors belonging to any nation fall before the scythe of death, the whole land puts on sackcloth and goes into mourning. We have seen two recent instances of this kind in different parts of the world; we allude to the death of Webster among ourselves, and that of Wellington in England. Intellects cannot be measured by the rule or square, nor can greatness be measured by public requiems and monuments. We can only form an opinion as to the greatness of men by what they have done, "by their works ye shall know them." We hear men frequently boast of the genius of Hannibal, Cæsar, Napoleon, and Wellington; of the intellect of Burke, Pitt, Hamilton and Webster! but neither warriors nor orators stand in the front rank of intellect, they must take a lower place than many men of science, whose greatness we seldom hear a word about. What intellect among warriors and statesmen can rank with that of Galileo, Kepler, Leibnitz, Bacon, Newton, Euler, Wollaston, La Place, Black, Lavoisier, Davy, Watt, Boyle, Franklin, &c. We

might mention others, but these are enough for our purpose. The works which these men have accomplished, affect all men; they meet us on the right hand and on the left every day and every night, and they will do so to others through all coming ages. The victories of Hannibal were all shattered and blasted by the single defeat of Zama, and the whole of Napoleon's conquests sunk for ever on the single field of Waterloo. It is true that the speeches and writings of statesmen do not perish so suddenly; they go down and are read by succeeding generations, but at the same time new circumstances arise, which lead men who were considered wise in one generation to be looked upon by another as doubtful preceptors, or as false lights for a new age. It is different with those profound thinkers and discoverers in the scientific world; they are the intellectual Titans. When we hear people speak of a great man we ask what he has done, and we try his works to see if they are the genuine coin. The rolling stars by night continually remind us of Galileo, Kepler, Herschel, and La Place. There is not an apple falls to the ground but reminds us of the great Newton. The lightning fleeing from cloud to cloud, reminds us of our own Franklin who brought it down from the skies as the hunter brings down the eagle in his flight. The lives of hundreds are saved every year by Davy's Safety Lamp. The invention of Watts has multiplied the power of man over inanimate matter more than a million fold; and the genius of Fulton has made a turnpike of the Atlantic. We would not perhaps have written upon this subject at present, but recently we have seen so much in our daily papers about great men and great intellects, and so much has been said about them by orators and others; and comparisons between this one and that one having been made, and seeing nothing at all said about men of science and inventors, whose reasonings often took sublimer flights than the imagination of Shakspeare, we have said this much and could say a great deal more to fortify our position, that warriors and statesmen must take a lower rank for genius and intellect than those men whose names we have mentioned. There are also others, of whom we have not room to speak, but assuredly our men of science, discoverers, and inventors, are the great ones (speaking of intellect,) of the earth. Time would fail us to tell how Kepler discovered the laws which govern the planets in their orbits, how Newton has arranged the whole universe before his mind, and discovered the force which guides a planet in its course, a sparrow in its flight, and the great tides of the sea which refresh and fortify our shores; of Wollaston making metal threads finer than those of the spider; of Davy resolving metals out of stones by galvanism; of Stephenson driving his iron horse over mountain and moor; of Daguerre using the sun beam for a pencil; and of Morse the lightning for his pen. Ignorant and circumscribed in intellect, must that man be, who, in speaking of great men, fails to perceive and mention the claims of philosophers and men of science;—*Am. Paper.*

#### A POOR BOY RAISED TO EMINENCE—GEO. WILSON.

A few years since as Mr. Gallaudet was walking in the streets of Hartford, there came running to him a poor boy, of very ordinary appearance, but whose fine intelligent eye fixed the attention of the gentleman as the boy inquired, "Sir, can you tell me of a man who would like a boy to work for him, and learn him to read?" "Whose boy are you, and where do you live?" "I have no parents," was the reply, "and have just run away from the workhouse because they would not teach me to read." The gentleman made arrangements with the authorities of the town and took the boy into his own family. There he learned to read. Nor was this all. He soon acquired the confidence of his new associates, by faithfulness and honesty. He was allowed the use of his friend's library, and made rapid progress in the acquisition of knowledge. It became necessary, after a while, that George should leave Mr. Gallaudet, and he became apprenticed to a cabinet maker in the neighborhood. There the same integrity won for him the favor of his new associates. To gratify his inclination for study, his master had a little room finished for him in the upper part of the shop, where he devoted his leisure time to his favorite pursuits. Here he made large attainments in mathematics, in the French language and other branches. After being in this situation a few years, as he sat at tea with the family one evening, he all at once remarked that he wanted to go to France.

"Go to France!" said his master, surprised that the apparently contented and happy youth had thus suddenly become dissatisfied with his situation—"for what?"

"Ask Mr. Gallaudet to tea to-morrow evening," continued George, "and I will explain."

His kind friend was invited accordingly. At tea time the apprentice presented himself with his manuscripts in English and French, and explained his singular intention to go to France.

"In the time of Napoleon," said he, "a prize was offered by the French Government for the simplest rule of measuring plane surfaces of whatever outline. The prize has never been awarded, and that method I have discovered."

He then demonstrated his problem, to the surprise and gratification of his friends, who immediately furnished him with the means of de-

fraying his expenses, and with letters of introduction to the Hon. Lewis Cass, then our minister to the Court of France. He was introduced to Louis Philippe, and in the presence of the king and nobles, and plenipotentiaries, this American youth demonstrated his problem, and received the plaudits of the court. He received the prize, which he had early won, besides valuable presents from the king.

He then took letters of introduction, and proceeded to the Court of St. James, and took up a similar prize, offered by the Royal Society, and returned to the United States. Here he was preparing to secure the benefit of his discovery by patent, when he received a letter from the Emperor Nicholas himself, one of whose ministers had witnessed his demonstrations at London, inviting him to make his residence at the Russian Court, and furnishing him with ample means for his outfit.

He complied with the invitation, repaired to St. Petersburg, and is now Professor of Mathematics in the Royal College, under the special protection of the Autocrat of all the Russias!

#### RULES FOR YOUNG MEN TO RISE IN BUSINESS.

The history of commerce is fraught with principles of deep practical value to young men. He who wishes ultimately to be a master, should be something more than a servant. If he carries to the extreme length the simple question of hours, minutes, and money, the chances are fearfully against him that he will never come to much. The first for rising is, that a young man shall make common cause with his employer, that he shall entirely identify himself with his interests. We have frequently heard of individuals in manufactories, as being noted for a sort of selfish decision, boasting to the effect, that were a hammer, mallet, or other tool lifted when the clock began to strike, they would not bring it down. The men who talk in this style think it is very grand—very independent; and foolish boys who hear it, are too apt to admire, and, in their turn, to repeat the boast, and to imitate the folly. Mark these men, and see what comes of them!

But the matter does not end here. They who do this will do more—they will drag, drawl, idle, and while away their time, longing for the hour that shall set them free, careless of the concern in hand, and reckless of the interests of their master. Now, as the tendency of one passion is to produce another, so the tendency of indifference is to produce indifference. They who pursue such a course have no claim to consideration beyond legal demands; and as they mete it shall be measured to them again.

We could give a young man rules whereby without fail, he could rise in any commercial establishment whatever. Let him show all the zeal of a partner; let him be first at the factory in the morning, and last out at night. Let it be with him a study how to please customers, to improve the character of the house, to give cohesion and fixity to everything that comes under his influence. Such virtue as this will not long escape the notice of an employer; and it cannot be noticed without being felt, nor felt without being at length rewarded. The result will be the increase of emolument, and, when circumstances admit of it, advancement in place. He will rise step by step, till you find him an overseer—in all probability very soon a junior partner, and, in process of time, the whole concern may come into his own hands. Such things have resulted scores and hundreds of times in the commercial world.

Now, if the youthful reader will take this council, and act upon it, before ten years pass over his head he will find his account in it to an extent which will redound more to his benefit than if we had made him a present of hundreds, perhaps of thousands of pounds. This is a divine plan—it is sowing as a servant to reap as a master. The reader who is conversant with the Scriptures will remember some striking passages which bear upon this point. There he will find men exhorted to serve, "not with eye-service, as men pleasers," but to serve God with a willing mind; and whatever they do, to "do it as unto the Lord, and not unto man." Nothing is more offensive to generous men than this species of eye-service, although few things are more common. Perhaps the reader remembers the well known proverb; "A master's eyes are worth both his hands." This is severe reproach to human nature! It ought not to be so. The master's ought to be worth nothing—absolutely nothing; or, rather, they ought to be a disadvantage.

How beautiful are the words of the Apostle to one of the churches, bringing out this idea, where he speaks of their excellent conduct in his presence, and expresses the confidence, that for this they will be distinguished much more in his absence. This is as it ought to be. Oh! it is painful to hear a mistress complaining of servants, that she cannot go abroad on works of faith and labours of love, without domestic neglects; or a master complaining, that, if absent, there is nothing done, no interest, all is neglected; and where something is done, from sheer carelessness it is often done wrong. These things ought not so to be; and we trust that the reader will make it a point, that he, at least, for one, will diminish the number of the multitude who constitute this truthless, trustless, and dishonorable fraternity.  
—*American paper.*

#### SEEK USEFUL INFORMATION.

No man who would be wise for himself, who desires to march upwards and onward with an honourable name for sound sense and general intelligence, can either possess the qualification spoken of, or gratify his desires, if he has not a taste for reading, and selects that kind of food for his mental appetite, which, with all his knowledge, will enable him to "get understanding." History can instruct and poetry can charm, but ignorant indeed must that man be at the present day, be he rich, or the poorest of the poor, who seeks no instruction, in scientific literature, and finds no pleasure in some kind of scientific pursuit. A knowledge of the passing events of the day—the actions of nations and men, are essential to the intelligent man; but along with this kind of knowledge, it is impossible for a man to lay claim to the possession of general intelligence, unless he reads often and attentively some periodical devoted to a diffusion of that knowledge which relates to the progress of science and art. Men of scientific taste are generally distinguished for strength of mind. They are shining lights, that dazzle and attract the attention of those who come within the sphere of their influence. That mechanic who possesses the greatest amount of useful knowledge, and is best acquainted with the inventions and improvements of the day, always exerts the greatest influence in his sphere and commands the highest wages. Every person knows this to be true, and it is equally true that such a person is ever found to be a great reader.

The man who reads not, is ever found to be one who believes that the moon is "no bigger than his grandsire's shield." It is quite possible for some of our working people to be far more learned than some of those who have a great name for extensive learning. A man may be able to pronounce *steam engine*, in twenty different languages, but if he knows nothing about its nature, construction and operation, he is but a very ignorant man, after all, in comparison with a man who possesses a full knowledge of these things.—This same comparison may be well applied to every other branch of useful knowledge. A knowledge of the nature of things is a grand object—an object which every man should continually bear in mind. But how are people to acquire this knowledge which you speak of, some will say. We will answer. It is not possible for any one man to acquire a knowledge of all the sciences, in one short life; but if every man would spend his spare moments in reading *useful* books or papers, and would make a habit of classifying the knowledge he acquires, the growth of information and the grasp of his mind would increase with his existence; and no man who has the least experience in the world, but has felt at some time or other the supremacy of his mind, when discoursing upon some subject with which he was well acquainted, in the company of those who were ignorant of the same. The more intelligent a man is, the more self-respect he feels; he understands his own just rights better and maintains them with a commensurate dignity.

#### POWER OF MEMORY.

Facts compel the writer to believe that the powers of memory are bounded only by the extent of its *cultivation*. Of the extent of its natural capabilities, he has the highest ideas. Indeed, he regards its powers as almost infinite. Innumerable facts tending to establish this conclusion, he has witnessed and experienced. On requesting the South Boston omnibus drivers to do errands in Boston, he observed that they took no memoranda, yet committed no errors, though they often do a score of errands at a trip. The second time I went to the Boston Post Office, the delivering clerk, without looking over the letters or papers, said there was none for me. I requested him to look, which he did, meanwhile remarking that it was useless, but found none; and scores of times, the moment he saw me, said there was nothing for me, without my being able to detect a single mistake. To be able thus to remember whether or not there was something for any of those thousands of citizens and strangers continually applying, requires an extraordinary retentive memory; and yet every reader might have attained, probably can yet acquire, one quite as efficient. Mr. Worthen, baker, Manchester, N. H., serves three hundred customers, about two-thirds of whom take more or less every morning; but he sets down nothing till he returns home, after having visited one-half of them; yet he forgets not a loaf. A man in Halifax, Nova Scotia, can tell at once the name and age of every inhabitant in town, young and old. After delivering a lecture at Clinton Hall, on the improvement of the memory, one of the audience stated, that an acquaintance of his, a cattle drover of New York, who could neither read nor write, after having sold out large droves to different butchers, kept the number, price, and every thing in his mind, and could go round months afterwards, even after having bought up and sold out several other droves, and settle from memory, without ever having been known to forget any thing. Those who think this too marvellous for belief, will find it abundantly confirmed by converging and collateral evidence throughout this work. The Gaboon merchants accomplish by memory what is still more extraordinary. The fact is remarkable in itself, and furnishes a practical proof of the correctness of this doctrine

of improving memory illimitably by its exercise, that all those who can neither read nor write have astonishing memories—several hundred per cent, better than others. Of this fact, any reader can very easily find illustrative examples. The reason is that such, unable to *recall* their business, are compelled to remember them, and thus strengthen this faculty. Indubitable and universal facts compels the belief that the human mind is constituted and capacitated, provided the body were kept in the right state and this faculty disciplined in the best manner, to recall every event of life.

#### DULL CHILDREN.

No fact can be plainer than this, that it is impossible to judge correctly of the genius or intellectual ability of the future man, by the indications of childhood. Some of the most eminent men of all ages were remarkable only for dullness in their youth. Sir Isaac Newton, in his boyhood, was inattentive to his study, and ranked very low in school until the age of twelve. When Samuel Wythe, the Dublin school-master, attempted to educate Richard Brinseley Shridan, he pronounced the boy an "incorrigible dunce." The mother of Sheridan fully concurred in this verdict and declared him the most stupid of her sons. Goldsmith was dull in his youth, and Shakspeare, Gibbon, Davy, and Dryden, do not appear to have exhibited in their childhood, even the common elements of future success.

When Berzelius, the eminent Swedish chemist, left School for the University, the words "Indifferent in behaviour and of doubtful hope," were scored against his name; and after he entered the University he narrowly escaped being turned back. On one of his first visits to the laboratory, when nineteen years old, he was taunted with the inquiry whether he "understood the difference between a laboratory and a kitchen." Walter Scott had the credit of having "the thickest skull in the school," though Dr. Blair told the teacher that many bright rays of future genius shone through that same "thick skull." Milton and Swift were justly celebrated for stupidity in childhood. The great Isaac Barrow's father used to say that, if it pleased God to take from him any of his children, he hoped it might be Isaac, as the least promising. Clavius, the great mathematician of his age, was so stupid in his boyhood, that his teacher could make nothing of him till they tried him in geometry. Carracci, the celebrated painter, was so inapt in his youth, that his masters advised him to restrict his ambition to the grinding of colors.

"One of the most popular authoresses of the present day," says an English writer, "could not read when she was seven. Her mother was rather uncomfortable about it, but said as every body did learn with opportunity, she supposed her child would do so at last. By eighteen, the apparently slow genius paid the heavy but inevitable debts of her father from the profits of her first work, and before thirty, had published thirty volumes." Dr. Scott, the commentator, could not compose a theme when twelve years old; and even at a later age Dr. Adam Clark, after incredible effort, failed to commit to memory a poem of a few stanzas only. At nine years of age, one who afterwards became a chief justice in this country, was, during a whole winter, unable to commit to memory the little poem found in one of our school books.

Labor and patience are the wonder workers of man—the wand by whose magic touch he changes dross into gold, deformity into beauty, the desert into a garden, and the ignorant child into the venerable sage. Let no youth be given up as an incorrigible dolt, a victim fit only to be laid on the altar of stupidity, until labor and patience have struggled with him long enough to ascertain whether he is a "natural fool," or whether his mind is merely enclosed in a harder shell than common, requiring only a little outward aid to escape into vigorous and symmetrical life.

#### DUTIES OF PARENTS.

MUCH, very much too, and from the necessity of the case, much must be required of teachers in the discharge of their arduous and responsible duties. It has never been, it never can be overrated. Discharge their obligation as well as they may, very few of them, if any, can come so near the standard of perfection, as to leave nothing at which parents or trustees may not cavil. It is perhaps no more than right that parents should feel a deep interest in the proper education of their children. But have parents no *duties* in the matter? Is there nothing for them to do—nothing to refrain from doing, which may properly be styled the duties of parents, not only to themselves and their children, but to the teacher? As speaking our views we here copy portions of a report from JOEL MANN, published in the Rhode Island Educational Magazine:

"The necessity of their hearty co-operation with teachers is so great, that we hope to be excused for presenting again this topic. The efficiency of Schools, particularly as it respects discipline, depends greatly on this co-operation. If parents speak ill of the teacher in the presence of children; if they take up in their defence when they have been subjects of deserved correction; if they even pity them as those

who have been ill-treated, it will encourage insubordination, neglect of study, and improper behaviour, and make it more and more difficult to govern, either by mildness or severity. Parents are surely not aware of the injury they do to their own children, and to the School, and to the neighbourhood by such a course.

We might say also that there is an utter impropriety in the direct interference of parents with the exercises and government of the School. If a teacher fails essentially in performing his duty, or does what calls for interposition, a complaint should be made to the proper officers, and they are bound to attend to the matter. All lynch law proceedings are illegal and impolitic. They multiply difficulties and remove none. They weaken the authority of the teacher, and encourage imprudence and idleness.

We may add a word here on the subject of the proper govern ment of children at home. That is the place where in youth the character receives its first impress and is chiefly formed. If parents think they can safely turn off the government and discipline of their children on school teachers, they are greatly mistaken. If they do this, they are false to the trust committed to them by the Creator, and recreant to the welfare of the State and country. 'A child left to himself bringeth his mother to shame,' is a truth inscribed on the page of inspiration, and illustrated in the experience of mankind. It is not difficult to determine by the conduct of children at School, whether they are properly managed at home. It is rare for a teacher to have difficulty with those who have been trained to subordination, to respectful behaviour, and obedience under the paternal roof. And we think we may say in truth, that there is no one thing, that more seriously threatens danger to our republic, than the rearing up of a generation which from early life has been permitted to have their own way,—to set aside law and authority at their pleasure, and to make their own depraved will the rule of their actions. He has not begun to form a correct view of education, who does not know that the most important part relates to this matter."

*From the (N. C.) Old North State.*

#### RULES FOR HOME EDUCATION.

The following rules we commend to all our patrons and friends for their excellence, brevity, and practical utility. They are worthy of being printed in letters of gold, and placed in a conspicuous position in every household. It is lamentable to contemplate the mischief, misery and ruin, which are the legitimate fruit of those deficiencies which are pointed out in the rules to which we have referred. Let every parent and guardian read, ponder, and inwardly digest:

1. From your children's earliest infancy, inculcate the necessity of instant obedience.
  2. Unite firmness with gentleness.—Let your children always understand that you mean exactly what you say.
  3. Never promise them anything unless you are quite sure you can give them what you promise.
  4. If you tell a little child to do something, show him how to do it, and see that it is done.
  5. Always punish your children for willfully disobeying you, but never punish them in anger.
  6. Never let them perceive that they can vex you, or make you lose your self-command.
  7. If they give way to petulance and temper, wait till they are calm, and then gently reason with them on the impropriety of their conduct.
  8. Remember that a little present punishment when occasion arises, is much more effectual than the threatening of a greater punishment should the fault be renewed.
  9. Never give your children anything because they cry for it.
  10. On no account allow them to do at one time what you have forbidden under the like circumstances at another.
  11. Teach them that the only sure and easy way to appear good is to be good.
  12. Accustom them to make their little recitals with perfect truth.
  13. Never allow tale-bearing.
  14. Teach them that self-denial, not self-indulgence, is the appointed, and the surest method of securing happiness.
  15. Guard them against the indulgence of an angry and resentful spirit.
  16. Above all, strenuously endeavour to give your children a knowledge of THINGS, instead of a knowledge of WORDS.
- These rules are plain and simple enough, one would think, and easy of observance by parents; but how often are they reduced to practice? Not by one in a thousand! The great majority of parents seem to rest quite satisfied that because a child attends school, and learns by rote a few elementary rules, that all's right; not to mention a great multiplicity of words, about the meaning of which they know nothing! This is all wrong, and hence the too many dunces at twenty, and the labor of the teacher gone. It is here that the parent should assist the school teacher. It is his duty to do so. "Understandest thou what thou readest?" was a question put a long time ago, and should be kept in mind by every parent. There is much to be learned at the family hearth.

THE TORONTO PRESS ON THE RECENT NORMAL AND MODEL SCHOOL EXAMINATIONS.

[From the Examiner.]

The tenth session of the Normal School was closed last Thursday, by a public oral examination of the students in the theatre of the institution, in presence of a goodly number of citizens and others. The subjects of examination were Grammar and School Organization, Geography and History, by Mr. Robertson—Arithmetic and Algebra, Geometry and Mensuration, Natural Philosophy and Agricultural Chemistry, by Mr. Ormiston. During the whole day, the students in general creditably sustained a rapid and searching questioning upon the several branches of study; not a few of them acquitting themselves well and giving evidence of great fitness for the profession to which they aspire. At the close of the examination, Lord Elgin's prizes for proficiency in the subject of Agricultural Chemistry were presented by the Chief Superintendent, to the successful competitors—the first to John G. Malcolm, the second to Lydia A. Appleton. Honorable mention was also made of several others, especially of Lachlan Kennedy, who stood next on the list. After some statements and explanations from Dr. Ryerson, and a short but forcible and appropriate address from the Rev. Mr. Lillie, the exercises were closed by all singing the national anthem. This, however, as we were informed was only a part of the ordeal through which the students had passed, as during four previous days they had been privately examined upon the same subjects, in writing. The number of students in attendance during the last session was stated as something greater than that of any previous session, 160 having been admitted at the commencement, and about 130 being present during the examination. This institution has, we believe, already done much towards raising the status of Common School Teachers, and consequently the character of our Common Schools; and if wisely and efficiently conducted, as we believe it is at present, it is destined to do still more; as a proof of which, there are now more applications, accompanied by the offer of good salaries, for first-class teachers, than can be granted. And it must be obvious to all, that a greatly increased number of properly qualified teachers is absolutely necessary to the successful carrying out of our Common School system—and to supply this demand is the design of the Normal School—a design which it is well calculated to accomplish. The Normal School presents well supported claims to public confidence. The partial changes recently effected in its management, have given it a character, which we trust it will maintain; so that its usefulness may always be proportionate to the requirements of the country. The details which we elsewhere present of the proceedings of the session just closed, indicate the present status of the Institution, as to the number of students and the character of the studies pursued; and here we are only reminded to add, that in order to secure a continuance of the highest talent in its management, (which is above all things necessary) it is indispensable, that the remuneration and social position of the Principals, be at least equal to the Professorships of the Provincial University. The course of study prescribed in the school is extensive, compared with the required time of attendance, which is only ten months, although no subject is taught but those with which every respectable teacher ought to be acquainted. The only remedy, therefore appears to be either to require a higher degree of attainment before admittance, or to increase the time of attendance; and we doubt not, that as soon as the present pressing demand for teachers is partially supplied, and the progressive character of our Common Schools demands it, that something of the kind will be done. The building itself is spacious, commodious, and handsome; and the grounds around it are appropriately and beautifully laid out. Within it is well supplied with books, maps, charts, apparatus, and every facility for imparting instruction in the necessary subjects—a staff of teachers freely supported—and pecuniary aid kindly extended to the teachers in training. Altogether, it is a munificent proof both of the intelligence and the well-directed efforts of the country—an institution of which the country may well boast, and from which it may reasonably expect not a little. May it go on and prosper. On Friday and Saturday the children in the Model School, connected with the Normal School were also examined,—the Girls under the tuition of Mrs. Clark and Miss Johnson, on Friday; and the Boys on Saturday. This School well deserves its name; and it would be well, were it indeed a *model* for many. Mr. McCallum and Mr. Robins seem both well qualified, and peculiarly well fitted for their vocation. It must have been pleasing to the teachers, as well as encouraging to the children, to see so many present during the greater part of both days.—Among those present were Dr. Willis, Dr. Taylor, Professors Wilson, Hincks and Young, and several clergymen, the City Superintendent, and the teacher of the Grammar School.

[From the Leader.]

On Saturday the Semi-Annual Examination of the boys at the Model School took place. We went with something of high expectation from

recollection of the talents not only intellectual but communicative of the gentlemen to whom the several departments are entrusted and even so our anticipations were in nowise disappointed. The parties who are thus responsible to the public for the elevation of a considerable, and it may be said, in some sense, a select portion of our boys, are Mr. McCallum, Mr. Robins, and Mr. Tupper. To the first, in the day's proceedings, was assigned the department of Natural History, with Geography and History. Mr. Robins took that of Grammar, and Mr. Tupper his own natural science of music. Dr. Ryerson, of course, and the other officers of the institution were present, and we observed among the audience the Rev. Dr. Willis and Mr. Hincks, both of them eminent for their own ability in the training and education of youth. It is not expected from us to describe the Examination, though there are points in it which would interest the public, but these regard rather the *modus operandi* than any peculiar features in the examination itself. The effect of the system adopted is what was to be exhibited, and we consider that,—making all necessary allowance for that degree of *mauvaise honte* which it is so difficult to dissociate in boys from real merit,—the exhibition is creditable to the institution and to the boys themselves, and most encouraging to those who look for the real prosperity of our rising country in the solid education of her citizens. The questions put demonstrated a very high degree of confidence on the part of the preceptor in the thorough attainments of the pupil, and in an astonishing number of instances, they were answered without a moment's hesitation. The knowledge necessary to do this must not only have been well inculcated, but rendered familiar to the student. The facility and rapidity with which the questions were put, miscellaneous as they were, was not the least pleasing part of the exhibition. While these considerations mainly occupy the mind, there is an under current of admiration at the silent order in which everything is done. Where the rivalry of so great a number of boys is so strongly excited, the utmost perfection of order is imperative, and we may say that we never saw it carried to a point beyond this, even in military discipline. But the best of all is that there is proof in this examination that these young minds are trained to think and to feel, and to do both rightly.—Mr. Tupper's talent for instruction in music was as conspicuous here as in other instances, and the perfect observation of *time* which he has accomplished in his young pupils is a feature not so frequently met with even among students of a higher grade.—On the whole we augur well of the institution itself, of that (the Normal School) of which it is a sort of subsidiary branch, and of the city and of the State which are to reap the benefit of this intellectual culture.

[From the North American.]

The Semi-annual Examination of the Model Schools took place on Friday and Saturday, in the Theatre of the Normal School. Friday was devoted to the examination of the Girls' department, and Saturday to that of the Boys. The display was highly creditable both to teachers and pupils. The system has had another sharp trial, and the examination just concluded only tends to confirm the favorable opinion we have expressed on several previous occasions in regard to the efficiency of the Institution, and the happy adaptation of the means employed to effect the desired end. The system is also capable of being transplanted with great success. We had an opportunity last week of visiting the Hamilton Central School, conducted by Mr. Sangster, whose services in the Normal School here were so highly appreciated. It is scarcely credible, that in the brief space of six months, Mr. Sangster has so filled that school, that three ward schools are in process of erection, to draw off the more juvenile pupils, and train them in the elementary branches on the same system, and fit them, for the Central School, which will thus be reserved for the more advanced. He has at present between 1,100 and 1,200 pupils under his charge, and accessions are daily made. When this school was projected, it was plainly stated that there would be so great a rabble, that the more wealthy portions of society would not send their children to be contaminated with the vices which are considered inherent to the children of the poorer classes; but time and experience have proved the fallacy of the statement. On the same benches, and in the same gallery, you will find the children of the industrious artisan and those of the wealthy merchant or banker, their intellects pretty nearly at a par, although their fortunes are diversified. The Hamilton people are proud of their school, and they have cause to be so. Mr. Dittin, the worthy chairman of the Board, is enamoured with its success, and now devotes the greater part of his time to the perfecting of the arrangements.

[From the Globe.]

On Thursday, the examinations of the Normal School, at the close of the Summer Session, were concluded. The class at present in attendance numbers 127, and in appearance they show to more advantage than any other set of students which we have seen in the Institution. The examinations exhibited all the usual satisfactory indications of care on the part of the teachers, and diligence in the scholars. An ex-



perienced teacher who was present, remarked the absence of anything like the mechanical exercise of memory in answering questions.—Every subject was discussed on its principles. At half past four, after the singing conducted by Mr. Tupper, had been concluded, Dr. Ryerson rose to present to the successful competitors, the Governor General's prizes for proficiency in agricultural chemistry. He said that the principle upon which prizes were given, was not recognized in the Normal School. They went upon the idea, that all students should be treated according to their general conduct and diligence, and should not be rewarded for skill in any particular department which they might derive from peculiar talents or from the effect of previous circumstances. This idea he wished to prevail through all the Common Schools of the country. As the Governor General wished to encourage the particular study of agricultural chemistry, these prizes were bestowed. A committee of gentlemen well informed on the subject, drew up a series of questions, and the students who entered for the prizes were given three hours in which to answer them. Eight had contended on this occasion, two of whom were ladies; one of them had gained the second prize, and the other stood only a little below the third competitor. The study of agricultural chemistry was entirely voluntary on the part of the young ladies; but whenever they entered into it, they placed themselves entirely on an equality with other competitors. He was not sure that the gaining of a prize was even proof of superior knowledge; it depended a great deal upon the power of readily using the knowledge acquired. In this case, the successful lady competitor had so much facility, as to be able to write 18 well filled foolscap pages in the space of three hours. The young man next to her, Mr. Lachlan Kennedy, had answered so far as he went perhaps better than any other, but he failed to give in his reply to the three last questions in time. The Superintendent then proceeded to present Mr. John G. Malcolm, of the Township of Zorra, County of Oxford, with the first prize, which consisted of a number of well-bound books, chiefly relating to agricultural chemistry, with praise for his diligence and good conduct, and words of encouragement for his future career. The second set of books was then presented to Miss Lydia Anne Appleton, of the County of York, and the doctor resumed. He said that 160 students had commenced this session, a larger number than in any previous to it. Of these, 12 had been obliged to leave from ill-health, and nine for family reasons; others had left to take schools in various parts of the country, and one or two had been dismissed for ill-conduct. 127 remained at the close; the largest class they ever had. The object of the Normal School was to improve the Common School teachers of the country, and they had satisfactory proofs of success in the demand for their students from every quarter. He had now several applications and Mr. Robertson had others for teachers, and it was satisfactory to notice that the salaries offered were far higher than ever before. Seventy-five pounds per annum was an ordinary amount, and it often rose to £150, and in some instances £250. The demand was constant for teachers from the Normal School, who could impart instruction in vocal music and drawing. In future, no more third class certificates would be issued, but only first and second. He had every confidence that the students before him would maintain the reputation which the Normal School teachers had already acquired.—By that reputation they were now enabled to obtain a much larger amount in one year than the whole expense of their education in the institution. He might mention an instance of advantage derived from persons witnessing the working of this school. They had a warm contest in Vaughan on the question of taxing the people for establishing school libraries, and it was finally left to the vote of the people.—Without any preparation for their purpose, the Reeve, Councillors, Trustees, Magistrates and Clergy, visited the institution, looked at the books, and the result was that the Township voted a thousand dollars for the libraries. The friends of the School were encouraged to proceed in their work by the financial improvement of the School affairs of the Country. He had just ascertained that the people voted £20,000 more than last year, although the number of Schools was only a little larger than before. In the previous year the increase was over £19,000.

The Rev. Adam Lillie addressed the students very impressively on the importance and responsibility of their future labours, and closed the proceedings with a benediction.

Afterwards, an address was presented by the pupils to Messrs. Robertson and Ormiston, first and second masters, full of expressions of kindly feeling and attachment, to which these gentlemen made suitable replies.

**READING WORKS OF THOUGHT.**—It is wholesome and bracing for the mind to have its faculties kept on the stretch. Reading an essay of Bacon's, for instance, or a chapter of Aristotle, or of Butler, if it be well and thoughtfully read, is much like climbing up a hill, and may do one the same sort of good. Set the tortoise to run against the hare; and, even if he does not overtake it, he will do more than he did previously, more than he would ever have thought himself capable of doing. Set the hare to run with the tortoise: he falls asleep.


  
**JOURNAL OF** **EDUCATION**
  
 Upper Canada.

TORONTO: NOVEMBER, 1853.

**PROVINCIAL NORMAL AND MODEL SCHOOLS.**

Accounts of the semi-annual examination of students and pupils in the Normal and Model Schools for Upper Canada (which was concluded Saturday, the 15th Oct.) will be found in another part of this number. They are extracted from the Toronto city press.

The Winter Session of the Normal School will commence on Tuesday the 15th November, and close the 15th April. Candidates for admission must apply during the first week of the Session.

**PUBLIC SCHOOL LIBRARIES.**

During the last six weeks, notice has been received at the Education Office from nearly *two hundred* Municipalities, mostly Townships, of appropriations for the establishment of libraries; and similar intimations continue to be received from day to day. Some of the municipal appropriations notified, amount to £300; and the greater part of the sums appropriated has been made payable during the months of October and November, so as to secure the advantages of libraries during the ensuing winter. The number of books which will be put into circulation by means of these libraries, in the course of another month or six weeks, will amount to from 50,000 to 75,000 volumes, affording reading for several times that number of persons. All these books have been purchased since the beginning of September. We doubt, whether in any State in America, so much was ever appropriated by the people, and so many libraries established within two months. It is a most gratifying and encouraging example of the spirit of the people of Upper Canada, and of the facilities of communication, that within three months, notices should be sent to all the Municipalities, deliberated upon by the majority of them, such means appropriated and provided, such quantities of books obtained from England and the United States, forwarded to their places of destination—including every county municipality in Upper Canada. The reading of these books will afford agreeable and useful entertainment to some 300,000 of our fellow countrymen during the long evenings of the ensuing winter, apart from the indication it gives, and the prospect it opens of the future of our beloved country.

**PUBLIC SCHOOL LIBRARIES—FIRST APPORTIONMENT OF THE LEGISLATIVE LIBRARY GRANT.**

*To the Municipalities of Townships, Cities, Towns, Villages, and School Sections.*

The time having arrived for making the first apportionment of the Legislative Grant for the establishment of School Libraries in Upper Canada, the Chief Superintendent of Schools proceeds to explain the basis on which he proposes to make the apportionment, and the manner in which he thinks, under the circumstances, it should be made.

2. After much consideration, and in harmony with the principle on which the School Fund in each Municipality is distributed, *local exertion* (and not property or population) appears to be the most equitable basis of apportioning the Library Grant, and that which is likely to give most general satisfaction and to exert the most beneficial influence. The principle of aiding each School Municipality (whether it be a Township, City, Town, Village, or School Section) in proportion as it exerts and helps itself, is, upon the whole, unobjectionable, and is best calculated to excite and bring into action that kind of interest and public spirit which are the life of any general system of social advancement. This, therefore, is the principle on which the Library Grant will be distributed.

3. As to the *amount* to be apportioned to each Municipality—whether a School Section or Township—it has been decided to add, in the first apportionment, *seventy-five* per cent. to all sums raised by local exertion—thus apportioning £9 for every £12, and £75 for every £100 raised in a Municipality, and so on, in the same ratio for larger or smaller sums raised by local effort. This is a larger apportionment than has been intimated in the correspondence of the Department, and is ventured upon with some hesitation, from the apprehension of inability to continue it. So large an addition to the sums raised by local effort can only now be promised in the first apportionment. Those Municipalities, therefore, which desire to have the books during the ensuing winter, will be supplied with them on payment of the amount of their appropriation—which they can transmit by check or in bank bills, as may be most convenient—if possible before the 15th instant.

4. The question next to be considered is, should the School Sections and other larger Municipalities, which have not yet acted upon the Circulars sent to them in the latter part of August, or have not yet notified the sums they propose to appropriate for the establishment of Libraries, be excluded from the first apportionment of the Legislative Grant for that purpose? This was intended by the terms of the Circular referred to, and by the notice in the *Journal of Education* for October. But the following objections and representations have been urged against such a decision in numerous communications which have been made to the Educational Department. 1. The notice was too short for the people of many Townships and School Sections to consult and act upon it within the time prescribed. It is stated that the *Journal of Education*, containing the Circulars, Regulations, and Catalogue of Books for Libraries, sent out near the end of August, was not received in many places until sometime in September—the 20th of which was stated as the time for returning their answers; that the second notice in the *Journal of Education* for October was not received in many Sections until it was too late to call official meetings before the 20th of the month—the latest period mentioned for replies from them; that in some of the Municipalities the officers to whom the *Journal of Education* containing the Circulars, Regulations, and Catalogue were addressed, who alone had authority to call the corporate meetings for considering them, were absent; that in other instances they were individually indifferent or opposed to accepting the offer made, and paid no attention to it; while a great portion of their Municipality were anxious to secure its advantages. 2. It is also stated in several letters by Reeves and others (who have hastened to accept the offer made, some of them on their own personal responsibility, not having had time to call a meeting of their colleagues), that until they received the notice in the *Journal of*

*Education* for October, they supposed, from the tenor of the previous Circulars, that they could make their reply any time before the 1st of next July, as that was the time at or before which they were to raise money in order to share in the first apportionment of the Library Grant; that they had thought it better not to attempt to call meetings on the subject during the busy months of September and October, but to wait until the annual School meetings in January; that they were persuaded many others had received the same impression with themselves.

5. In reply to these and many similar statements, the undersigned has to say that, by the utmost exertions possible, the Circulars, Regulations, and extensive Catalogue of Books for Libraries, could not be prepared at an earlier period than they were; that the sole reason for giving so short a time to School and other Municipalities to make their replies, was a desire to get the largest possible number of Libraries established before the winter; that it is both his wish and his duty to extend the advantages of the Library system to as many, and as widely, as possible; that he should be sorry to cause loss and injury to whole Municipalities on account of the voluntary negligence or opposition of one or two individuals; and he would shrink from excluding Municipalities for causes accidental and not faulty, and more especially Municipalities in the newer and remoter parts of the Province, where the means of communication and intercourse are less frequent and easy than in the older Townships.

6. Under these circumstances, and after carefully considering the facts above stated, and reviewing the whole question involved, the undersigned deems it his duty frankly and at once to explain and modify the terms of his previous Circulars and notice in the three following particulars:—

(1.) All School and other Municipalities that will advance money before the 1st of next July (at whatever time they may signify their intention to do so) for the establishment of Libraries, will be included in the first apportionment of the Legislative Library Grant. If the sum heretofore mentioned is insufficient for that purpose, the balance will be provided from the Grant for next year.

(2.) All School Sections, as well as Townships, will be included—whether such Sections are situated in Townships, the Councils of which act or not in the establishment of Libraries; for the sums raised in individual Sections are only so many additions to what has been or may be appropriated by the Township Council.

(3.) All those Municipalities (nearly two hundred in number) that have already acted so promptly in the matter, and notified the sums raised or appropriated by them for the establishment of Libraries, will be entitled to an apportionment of *seventy-five* per cent. on any *additional* sums they may appropriate and expend for the same purpose before the 1st of next July. And should the Legislature increase the Library Grant (as is to be hoped) so as to increase the apportionment to *one hundred* per cent. on all sums raised by local effort for School Libraries, an additional apportionment of *twenty-five* per cent. will be made upon all sums that have been appropriated by the Municipalities which have already moved in the noble work.

The undersigned confidently trusts that the foregoing views will meet the circumstances and wishes of all parties, and afford the greatest encouragement and facilities possible for the establishment of libraries throughout Upper Canada, even in single school sections, and in the remotest townships.

7. A word may be added on the selection of books for libraries. In a large number of cases, this task has been assigned by the local authorities to the Chief Superintendent of Schools; in some cases the local authorities, have, by a committee of one or more of themselves, selected all the books desired by them; while in other cases, the local authorities have selected the books to the amount of their own appropriation, and requested the Chief Superintendent to select the rest, to the amount of the apportionment of the library grant. This last mode of selecting the libraries, has an advantage over either of the other two. In a considerable number of the lists of books selected by the local school and municipal authorities, there is the omission of many small and cheap works, most admirably adapted both to entertain and instruct. These omissions occur chiefly in regard to books contained in the latter part of the catalogue, characteristic notices of which could not possibly be prepared by the Chief Superintendent within the time and space at his disposal. In cases where the exclusive selection of libraries by the Chief Superintendent is requested, it is to be feared he may omit some books specially desired in the Section or Township, whose authorities have confided this trust to him. But if the local authorities would select to the amount of their appropriation such books as they particularly desire, and leave to the Chief Superintendent the selection of the rest, with such suggestions as they may think proper to make, he would be able to fill up their lists with such books, as would, for the most part, be new, as well as useful and entertaining. The undersigned is disposed to believe that this joint mode of selecting books for libraries will be found better than that of local authorities selecting all the books themselves, or wholly confiding the selection of them to the Chief Superintendent. This suggestion is offered to all parties concerned, with the wish that they will feel themselves perfectly free to act or not act upon it as they may think best.

8. The whole plan of operations in regard to the establishment of libraries being now before the public, it is fervently hoped, that, as what has been done during the last two months has exceeded the largest expectations of the most sanguine, so still more will be done during the next few months, as the people will understand the subject better, and will have better opportunities for consultation, especially at their approaching annual school, and other municipal meetings.

E. RYERSON.

EDUCATION OFFICE,  
Toronto, 25th Oct., 1853.

#### FIRST YEAR'S CULTURE OF THE NORMAL SCHOOL GROUNDS.

The objects which these grounds were procured to promote, are thus stated in the address delivered by the Chief Superintendent of Schools to His Excellency Lord Elgin, at the laying of the Corner Stone of the buildings, 2d July, 1851:

"The land on which these buildings are in the course of erection, is an entire square, consisting of nearly eight acres; two of which are to be devoted to a Botanical Garden, three to Agricultural Experiments, and the remainder to the buildings of the Institution and grounds for the gymnastic exercises of students and pupils. It is thus intended that the valuable course of lectures given in the Normal School in Vegetable Physiology and Agricultural Chemistry, shall be practically illustrated in the adjoining grounds."

Mr. Mundie, a landscape and practical gardener (then resident in Hamilton), was selected to prepare and submit a plan of the grounds for these purposes, and was subsequently appointed to superintend them. We are happy to lay before the public Mr. Mundie's account of the first year's operations on these grounds—grounds which, in 1850, were partly bog, and abounded in stumps. These operations are, of course, only preparatory; but the first results are very satisfactory. From the report, which follows, it will be seen that much in the way of agricultural experiment can be done on a small scale, and that utility in connection with taste, has been consulted in the external, as well as the internal, arrangements of the Provincial Normal School. Mr. Mundie's remarks on the subject of *draining* merit the particular attention of farmers.

It is, perhaps, but just to add, that Mr. Mundie prepared a plan of the contemplated Botanical Garden in the University grounds in this city, which was highly approved of by the Professors; also a plan of the Trinity College grounds. In connection with his superintendence of the Normal School grounds, he has recently been appointed to take charge of the University grounds, and is proceeding, with his characteristic skill and energy, to drain the portion of them selected for the new Parliament buildings and Governor's residence, preparatory to the planting and ornamenting of them next year.

To the REV. DR. RYERSON, Chief Superintendent of Education.

REV. SIR,—I have the honor to submit to you the accompanying report and descriptive list, containing the results obtained from the crops grown on the Experimental Farm ground attached to the Normal School and Model Schools, which, together with thirty-seven specimens of grains, roots, vegetables, and fruits, I prepared and sent to the Secretary of the Agricultural Association, for exhibition at their last great annual show, held at Hamilton. Judging that you might wish to disseminate, or have it for reference, I enclose a copy of my letter to Professor Buckland.

I might mention, and that from personal observation, that this collection of specimens attracted much attention from a great portion of the visitors.

I am also very happy in having to report most favorably of the ornamental part of the grounds. The shrubs and trees, with very few exceptions, have all taken very well; and many of them have grown since planted in the spring.

The grass has done remarkably well, as every one visiting the grounds may see. It is now, at this present time, much finer and closer than many a lawn which has been made for years.

The show of annuals and other summer flowers, which were put in temporarily, until the grounds were so far finished as to allow of the botanical arrangements, have done well, making the grounds gay during the whole season.

The portion of the grounds on the east side of the building, which has required so much filling up, is now very nearly completed, and I will have the walks laid down in it this Fall. In the spring I shall be able to sow it down and plant it uniformly with the other parts of the grounds, after which the permanent botanical arrangement, as originally contemplated, will be proceeded with.

The following are the reports of the Judges upon the specimens sent from the Schools:

The Judges on the agricultural productions in whose class the specimens were entered, say:

"We have much pleasure in recommending the collection of grains, roots, and vegetables, from the Normal School grounds, to favorable notice, and consider them in every way worthy of the Institution, as also being brought out in a manner well calculated to convey both useful and interesting information."

The Judges on the horticultural department also noticed them as follows:

"A fine collection of grains, roots, and vegetables, with a report, from the Normal School grounds, highly commendable, as conveying information from experiments."

I am, with respect, Rev. Sir,  
Your most obedient servant,

WILLIAM MUNDIE.

Toronto, October 25th, 1853.

To Professor Buckland, Secretary of the Provincial Agricultural Association.

SIR,—Regarding the accompanying thirty-seven specimens of Grain, Roots, Vegetables, and Fruits, sent for exhibition from the Experimental Farm ground attached to the Normal Schools at Toronto, I would beg to state that they are not exhibited for competition, or for anything very extraordinary in themselves, but with a view to explain the experiments which have been made, and the results obtained therefrom. The details are more particularly described on the cards attached to the various specimens.

The soil on which the operations have been carried on is, with a few slight exceptions (which are noted on the descriptive cards), of a very light sandy nature, lying on a deep bed of blue clay, very tenacious, and generally about an average depth of from three to four feet from the surface. In short, the soil was of such a character when we commenced, as, at a distance of twenty or thirty miles from a city or town, would be pronounced poor sandy common, which would not pay for cultivation.

The operations for improving it were commenced last Fall; the first step was to underdrain it; the drains were put in at the average depth of three feet six inches, and twenty-four feet apart. The whole was then sub trenched, that is—about one foot of the surface soil was dug up and thrown forward in trenches, and the under, or sub-soil was stirred and left in the bottom in its original place: the loosening being about an average depth of twenty inches; and although done with the spade, was made to resemble subsoil ploughing as nearly as possible; or what might be equally well done with the subsoil plough, if operating on a large scale.

In the process of cropping in the spring, the ground, generally, got a moderate dressing of manure, which consisted of about two-thirds stable-yard manure, with one-sixth street scrapings and one-sixth leached ashes; these were intimately mixed and broken up. The quantity given was varied according to the nature of the crop intended, a minute detail of which would be too lengthy for this paper.

On the whole, considering the originally poor and light nature of the land, and also the great dryness of the past summer, the results obtained have been most satisfactory, both on the cultivated or farm portion of the land, and also on the portion laid out in grass lawn, fruits, flowers, and shrubbery, fully establishing the great benefits to be derived from under-draining and subsoiling, especially on light shallow soils lying on retentive under-strata, as mentioned above.

It may be taken as a certainty, that the deeper the subsoil is moved and loosened, there will be a proportionate retention of moisture in the ground; not stagnant moisture (the drains take off that), but active, vegetative, growing moisture, accompanied with an equally growing, genial heat, which the loosening of the subsoil allows to penetrate to a depth which, before the draining and loosening of the soil took place, was utterly impossible; as then, instead of the heat penetrating or being absorbed into the earth, to benefit and nourish the crops at the root, where they most wanted it, the hot sun having only the shallow surface soil to act upon, would burn up all vegetation to any depth that ever the plough had stirred. And that surface soil becoming completely dried up, would ultimately radiate or throw off a great portion of the heat into the already too much heated atmosphere, producing that scorching arid dryness, which is so disagreeable to the animal functions, and, of course, may be fairly presumed to be no less so to the vegetative.

In analysing the above, it seems to stand thus—that so long as the soil is undrained, and untrenched or *subsoiled*, the heat penetrates but

a very short distance into it; consequently, the drying up of that small portion is so complete, that evaporation from the moist bottom soil almost ceases. And what little evaporation there may be, is so quickly dried up by the half roasted surface soil, as to be of very little avail to the growing crops. On the other hand, when the land is drained and subsoiled, then the moisture, from a greater depth, will be encouraged or drawn to the surface by the influence of the sun's heat, and in coming up through the deeper and lower soil, will be caught or absorbed, and, as it might be termed, held in solution by the soil, ready to act in the most beneficial manner upon vegetation.

Finally, allow me to recapitulate the tenor of the above in one single paragraph.

The drains draw away all stagnant moisture: subsoiling loosens the under soil, and allows this stagnant moisture to run to the drains, it allows the roots of the crops to penetrate to a greater depth, it allows the sun's heat to warm and moisten the soil as above described, it allows the atmosphere to circulate in the soil, purifying and sweetening the whole—the same as good ventilation does our houses. And when all these advantages are brought to bear upon the land, it will not require any great stretch of imagination to anticipate what the results will be with respect to the crops. What, then, may the results be with respect to the health and salubrity of the climate? Why, where these improvements are extensively carried out, the chances of general good and vigorous health will be increased in a twenty-fold ratio. And being assured of these very great benefits, both to the health of the climate and the productiveness of the soil, it behoves every one having a piece of land to improve, to be up and doing, beginning with a little, and that little once well done, will assist in doing more, until, in a very few years, those who now begin in a right spirit will see it to be so much to their own interest in every point of view, that they will consider a certain portion of such improvements every season, as necessary as the common ploughing of their land. And then no great fear but neighbor will follow neighbor in doing the same thing, if it interests them.

Then they may safely say good bye to fever and ague, rheumatism, &c., and good bye to burnt-up grass fields, rusted wheat, and many other drawbacks consequent on an unimproved state of the land.

To you, Sir, individually, it would be presumption to write the above; but to you as the medium of addressing the Association and the public at large I have addressed it.

And now, trusting that the interest of the subject may be an excuse for trespassing upon you at such length, I shall proceed to give you the result of the various crops in detail, of which the articles sent for exhibition are fair specimens.

The following is collected from the descriptive card, attached to the specimens:—

- Barley No. 1, sown May 21st, at the rate of  $1\frac{1}{2}$  bushels seed per acre; produce, at the rate of 55 bushels per acre; weight, per bushel, 61 lbs. Soil light.
- No. 2, sown May 24th, at the rate of  $2\frac{1}{2}$  bushels seed per acre; produce, at the rate of 38 bushels per acre; weight, per bushel, 62 lbs. Soil very light.
- No. 3, sown May 26th, at the rate of 2 bushels seed per acre; produce, at the rate of  $52\frac{1}{2}$  bushels per acre; weight, per bushel, 61 lbs. Soil sandy.
- No. 4, sown May 19th, at the rate of  $1\frac{1}{2}$  bushels seed per acre: produce, at the rate of 53 bushels per acre; weight, per bushel, 61 lbs. Sandy soil.
- No. 5, sown May 19th, at the rate of  $1\frac{1}{2}$  bushels seed per acre; produce, at the rate of 36 bushels per acre; weight, per bushel, 63 lbs. Soil light.

Note—The barley was all of one kind, but sown at different thicknesses; and I might mention that the above weights show the highest point that it was possible to dress it up to.

Canadian White Oats, sown May 21st, at the rate of  $2\frac{1}{2}$  bushels per acre; produce, at the rate of 77 bushels per acre; weight, per bushel, 33 lbs. Soil, black deposit.

Canadian Black Oats, sown May 21st, at the rate of  $2\frac{1}{2}$  bushels per acre; produce, at the rate of  $74\frac{1}{2}$  bushels per acre; weight, per bushel, 33 $\frac{1}{2}$  lbs. Soil, vegetable deposit.

Kildrummy Oats, imported, sown May 20th, at the rate of 3 bushels per acre; produce, at the rate of 60 bushels per acre; weight, per bushel, 35 lbs. Soil, black deposit, with sand.

Scotch Barley Oats, imported, sown May 20th, at the rate of 2½ bushels per acre; produce, at the rate of 58 bushels per acre; weight, per bushel, 35 lbs. Soil, black deposit.

Sandwich Oats, imported, sown May 20th, at the rate of 2½ bushels per acre; produce, at the rate of 66½ bushels per acre; weight, per bushel, 34 lbs. Soil, black deposit.

Corn, Early White, sown May 27th, 3 feet square apart in hills, 3 seeds; produce, at the rate of 10 tons per acre. Sandy soil.

Corn, Sweet, sown 27th May, 3 feet by 2 feet, in lines; single seeds; produce, at the rate of 9½ tons per acre. Light soil.

Corn, Large Yellow, sown May 27th, 3 feet square, apart, in hills, 3 seeds; produce, at the rate of 12½ tons per acre. Light soil.

Corn, Tuscarora, sown May 27th, 3 feet by 2 feet, in lines, single seeds; produce, at the rate of 11 tons per acre. Sandy soil.

Cabbages, Red Dutch, planted 17th June, 2½ feet square apart; produce at the rate of 23 tons per acre. Light soil, mixed with black deposit.

Cabbages, Bergen, planted June 17th, 3 feet square apart; produce, at the rate of 29½ tons per acre. Soil same as last.

Cabbages, St. Dennis, planted June 17th, 3 feet apart each way; produce at the rate of 42 tons per acre. Soil, light black and sand.

Cabbages, Flat Dutch, planted June 17th, 3 feet square apart; produce at the rate of 20 tons per acre. Soil, sand and black deposit.

Cabbages, Savoy, planted June 17th, 3 feet square apart; produce at the rate of 29 tons per acre. Soil, black deposit and sand.

Potatoes, Early Ash Leaved, Kidney, planted May 9th, 3 feet square apart in hills, 3 seeds; produce, at the rate of 144 bushels per acre. Soil, very light.

Potatoes, Mechanics, planted May 10th, in lines 2½ feet apart, single sets 1 foot apart in the line; produce, at the rate of 260 bushels per acre. Soil, light sand.

Potatoes, Early June's, planted May 9th, 3 feet square apart, in hills, 3 seeds; produce, at the rate of 184 bushels per acre. Soil light.

Potatoes, Flat Pink Eyes, planted May 12th, in lines 2½ feet apart, single sets 1 foot apart in the line; produce, at the rate of 380 bushels per acre. Sandy soil.

Potatoes, Irish Cups, planted May 12th, in lines 2½ feet apart, single sets 1 foot apart in the line; produce, at the rate of 410 bushels per acre. Light soil.

Potatoes, Round Pink Eyes, planted May 13 h, in lines 2 feet apart, single sets 1 foot apart in the line; produce, at the rate of 300 bushels per acre. Sandy soil.

Potatoes, Early Regents, planted May 9th, in lines 2½ feet apart, single sets 1 foot 3 inches apart in line; produce, at the rate of 304 bushels per acre. Light soil.

Carrot, Early Dutch, Horn, sown May 7th, lines 2 feet apart, thinned to 5 inches in line; weight of produce, at the rate of 31½ tons per acre. Sandy soil.

Carrot, Altingham, sown May 7th, lines 2½ feet apart; thinned to 6 inches in line; weight of produce, at the rate of 36 tons per acre. Light soil.

Carrots, White Field, sown May 7th, lines 3 feet apart, thinned to 8 inches in the line; weight of produce, at the rate of 43½ tons per acre. Light soil.

Blood Beet, sown May 7th, lines 3½ feet apart, thinned to 8 inches, in lines; produce, at the rate of 42½ tons per acre. Soil, light sand and black deposit.

Mangel Wurzel, sown May 7th, lines 3 feet apart, thinned to 9 inches in lines; produce, at the rate of 55 tons per acre. Soil light, mixed with deposit.

Sugar Beet, sown May 7th, lines 2½ feet apart, thinned to 9 inches in line; produce, at the rate of 28½ tons per acre. Soil light, mixed with deposit.

Dutch Parsnip, sown May 7th, lines 2½ feet apart, thinned to 7 inches in line; produce, at the rate of 20 tons per acre. Soil sandy.

Nutmeg Melon, sown May 10th, in open air, about from 10 to 12 fruit to each plant; average weight of fruit, 6 lbs.

Citron Gourd, a promiscuous plant in a border, which produced 104 fruit of the finest I ever saw; weight of the whole, 754 lbs. on a single plant.

Double Husk Indian Corn, grows most luxuriantly, and bears an ordinary crop of ears, adapted for cold, late districts, as it comes from the mountain country.

Ditto, Hybrid of the same, with a common yellow corn. Seeds much larger, and in every way improved, yet retaining enough of the husk for protection.

The most general observation to be noticed in the foregoing details is, that, almost in every instance, thin sowing and wide planting produced the greatest quantity and the best samples of all the crops, and when there is good cultivation, that principle may be carried out in almost every instance with success, as it allows the soil to be more freely stirred and cultivated, which cannot be overdone, in that it acts in the same manner as rubbing or brushing does to some people who do not take much exercise.

The above I certify to be as nearly correct as calculation and the size of the portions cultivated will admit.

And I remain, Sir, with respect,  
Your most obedient servant,

WILLIAM MUNDIE,  
*Superintendent of the Normal School Grounds.*

Toronto, October 24th, 1853.

#### UNIVERSITY COLLEGE, TORONTO.

Within the last month, four new Professors of University College have arrived from England, and they delivered their inaugural lectures to large and respectable audiences, on the evenings of the 21st and 22d October, in the Assembly Room of the Parliament Buildings. The names of the new Professors and Chairs in the College are as follows:—

The Rev. WM. HINCKS F.L.S. (late Professor of Natural History in Queen's College, Cork), Chair of Natural History.

D. WILSON, LL.D. (of Edinburgh), Chair of History and English Literature.

E. J. CHAPMAN, Esq. (late Professor of Mineralogy in University College, London), Chair of Geology and Mineralogy.

J. FORNERI, LL.D., Chair of Modern Languages.

These Chairs embrace branches of science and literature which had not before been introduced into our Provincial College, and which are of the highest importance to the country. The inaugural lectures (which have been published in several newspapers) fulfilled the highest expectations entertained as to the attainments and abilities of the distinguished gentlemen who had been selected from a great number of candidates, to fill these Chairs. We hope, hereafter, to give some extracts from these valuable lectures, as also from the eloquent and practical address of the distinguished President, Dr. McCaul.

Professor Hincks, who had attended the recent half-yearly examinations of the Provincial Model School, made the following allusion to it in the introductory part of his lecture:—

"It is because the appointment of late years of Professors of Natural Science in the ancient universities, and the introduction of these subjects as prescribed and essential parts of study in the new universities of England and Ireland, which have been especially conformed to the wants of the age—have been clearly seen to be sound and judicious measures, that a similar course has been pursued here; and society in general here has too quick and lively a sympathy with every movement in the great centre of civilization for such improvements to be received by the great majority otherwise than with favor. It is even remarkable that what would seem an ulterior and less easy step has already been taken here in the introduction of instruction in Natural History into the preliminary stage of education, which has been done so successfully that the knowledge displayed at the recent examination at the Model School greatly exceeds what is often found in College students, and proves that if they would not be left behind by those around them, our young men must diligently avail themselves of the opportunities which are provided for them."

#### EDUCATIONAL GRANT IN ENGLAND.

The Parliamentary Educational Grant for this year, was an increase on former grants of £100,000 sterling. One object in

which these extra funds will be employed, is in providing sets of chemical apparatus for ordinary schools and training institution at one third of their value.

### PROVINCIAL CERTIFICATES GRANTED BY THE CHIEF SUPERINTENDENT OF SCHOOLS.

DEPARTMENT OF PUBLIC INSTRUCTION FOR UPPER CANADA.  
EDUCATION OFFICE, TORONTO, 18th October, 1853.

THE CHIEF SUPERINTENDENT OF SCHOOLS, under the authority of the 44th Section of the Upper Canada School Act of 1850, has granted the undermentioned Students of the Normal School, at the close of the Tenth Session, Provincial Certificates of Qualification as Common School Teachers in any part of Upper Canada.

The Certificates are divided into three classes, in accordance with the Programme prescribed by the Council of Public Instruction, as contained in the General Regulations, and according to which all Teachers in Upper Canada are required to be examined and classified. The First and Second Classes are valid until revoked, and the Third Class until the First day of November, 1854.

[N. B.—Each Certificate is numbered and recorded in the Register of the Department in the following order; but the order does not indicate any distinction of merit in the Teachers:]

FIRST CLASS.	SECOND CLASS.—(Continued.)
73. Michael Joseph Kelly, (granted during the Session.)	112. Jacob Choate Maguire.
74. John Gilmore Malcolm.	113. Thomas Hume.
75. Lachlan Kennedy.	114. Joseph Warren.
76. Robert McGee.	115. William Montgomery.
77. William Smith.	116. Charles Hankinson.
78. George Murray.	117. James Evans.
79. Abraham W. Lawder.	118. Charles Clark.
80. Samuel Robins.	119. Richard Hill.
81. Lydia Louisa Lyon.	120. Joseph Ede.
82. Mary McCracken.	121. Thomas Connell.
83. Lydia Anne Appleton.	122. David Kelly.
84. Elizabeth Coote.	123. Margaret Sweeney.
85. Jane Foster.	124. Sarah Birch Quinn.
	125. Ellen Hoig.
SECOND CLASS.	THIRD CLASS.
86. Timothy Newman.	126. Caroline Augusta Masters.
87. David Misener.	127. Delia Andrews Masters.
88. Robert Wilson.	128. Julia Ann Robinson.
89. David Ludgate Williams.	129. Helen Campbell.
90. Phineas Will.	130. Sophrona Andevon Mills.
91. Asa Beverly Danard.	131. Lydia Eleanor Howard.
92. Robert Gibbs.	132. Fanny Higgins.
93. William Stewart.	133. Sarah Bowes.
94. John Roberts.	134. William McMullen.
95. John Jessop.	135. Joseph Edmonds.
96. William Abercrombie.	136. Isaac Turner.
97. Augustine McDonell.	137. Alfred Turner.
98. Hugh McDougall.	138. Charles Edward Fallow.
99. William Henry Bly.	139. William Curry.
100. William Carlyle.	140. Richard Coe.
101. James Draper.	141. Alexander Stafford.
102. Martin Phillips.	142. John Dixon.
103. Angus McDonald.	143. Edmund Peter Costello.
104. James Moriarty.	144. Wilbur Fisk Adams.
105. Ichabod Smith Bowerman.	145. Ellen Campbell.
106. Thomas Morgan Bowerman.	146. Tryphena Sophia Carter.
107. James Martin.	147. Mary Marlatt.
108. Robert Hay.	148. Adeline Stone.
109. William McKay.	149. Mary Bearss.
110. Robert Hellyer.	150. Jane Amelia Howard.
111. Robert Logan.	

E. RYERSON,  
Chief Superintendent of Schools.

### DISCOVERY OF THE NORTH WEST PASSAGE.

The North West passage, around which the many theories, speculations and discoveries of scientific men and travellers have thrown so much romance during the last half century, has at length been discovered by Captain McClure, of Her Majesty's ship *Investigator*, and the connection of the Atlantic and Pacific in those latitudes fully established. The hitherto mysterious channel which has so long baffled the efforts of our navigators, occurs, as was expected by Barrow, in the direction of the strait which bears his name, and is proved by the line of discovery from the west being brought to the point where it had broken off from the east, under Sir Edward Parry. The discovery was made on the 26th of October, 1850, and is thus recorded by Captain McClure: "Discovered the western entrance into Barrow's Strait in lat. 73° 30' N., long. 114° 14' W., which establishes the existence of a North West Passage." We regret to say that none of the vessels have obtained any tidings of the gallant Sir John Franklin or his expedition; and we may gather what their fate must be from the heroic language with which Captain McClure refers to his intention to break through the ice in the Polar basin to complete the passage:—

"Should no intimation be found at Whaler's Point of my having reached and quitted Port Leopold, then it may be at once surmised that some fatal catastrophe has happened, either from being carried into the Polar Sea or smashed in Barrow's Strait, and no survivors left. If such should be the case which, however, I will not anticipate, it will then be quite unnecessary to penetrate further westward for our relief, as by the period that any vessel could reach that part we must, from want of provisions, all have perished; in such a case I would submit that the officer may be directed to return, and by no means incur the danger of losing other lives in quest of those who will then be no more."

### ERRORS IN TEACHING.

To the Editor of the *Journal of Education*.

Thorold, August 13th, 1853.

SIR,—In accordance with a liberty granted to Teachers by the *Journal of Education* I forward you the following sketch of my experience, which you are at liberty to publish, should you deem it worthy, either in part or in full.

There appears to me to be no fault more common among Teachers, no error more prevalent in our public schools, yet seldom pointed at by educationists—than that of advancing scholars too fast, or crowding them ahead in their studies, *faster* than they are able to *understand* them. Seven years' experience in teaching has convinced me of this fact—a fault of which I have not always been able to say "not guilty." How sadly has this maxim been overlooked or forgotten by those entrusted with the instruction of youth—"Whatever is worth doing at all is worth doing well." They seem to regard the *quantity* rather than the *quality* of what is done in school. E. G. In reading I have found pupils in the Fifth Book that were not capable of understanding half that is contained in the Fourth. I have seen them in the Fourth, when merely able to repeat the words, not able to comprehend fully the lessons in the Third: and have known them to be in the Third, when positively they could not read correctly half a dozen lessons in the Second—not to say anything of answering the questions that should be asked upon them. The error is here—they are allowed to pass over a lesson before they have thoroughly learned it; a course decidedly wrong in my opinion. There are many things to tempt the Teacher to do this; the children are fond of going through the books rapidly; the parents are pleased with it, too, in many instances—taking it for granted that they understand it well as far as they go, or rather not taking it into consideration at all. No Teacher should allow his reputation to rest upon his deceiving either parents or children, and making them believe they know more than they really do. The effect of such a course of instruction upon children can be easily seen. They are stupid; their countenances wear the marks of discouragement; they conclude they are deficient, and therefore sink down upon the stool of despair, and consequently never arrive at that eminence and usefulness in life which they might have done under a different

course of training in their youth. Never should they be allowed to pass over a lesson or rule until it is deeply and permanently fixed in the mind. The application of this principle would have a very different effect upon the intellectual faculties of the young; for certainly "A few things well known are of more use than many things superficially glanced at." By learning one lesson well, the next becomes easier; and *vice versa*. This will make the learner's progress seem slow; and such, indeed, it should be, especially at first. But when more advanced, we should insist upon every lesson being so perfectly learned, that it can be recited without the least hesitation. Going over too much ground is the same with the Teacher as with the farmer—both are less able to employ themselves profitably than if they observed a proper medium; do no more than they are able to do well, and commence no more than they will be able to finish.

GILBERT WM. COOK.

### Literary and Scientific Intelligence.

**MENSURATION OF THE EARTH.**—The Russian Government is about to have measured the degrees of the meridian from the North Cape, in 72 1-4 deg. north latitude, to the mouth of the Danube, in 45 1-2 deg. of the same latitude—that is, on a line which traverses Europe in its whole length, and forms a fourteenth part of the entire circumference of the earth. This measurement will exceed by three degrees the largest ever before executed—that which the English carried from the Himalaya to the southern point of British India.

**HARVARD COLLEGE MUSEUM.**—The valuable cabinet of many thousand specimens in comparative anatomy, mineralogy, and other sciences, collected by that distinguished naturalist Professor Agassiz, has been purchased for *Harvard College*, at the price, as is said, of \$12,500; the greater part of which was obtained by private subscription.

**INVENTION FOR THE B. IND.**—Mr. George Hughes, of 192, Tottenham-court-road, has invented a portable running-hand apparatus, which enables a blind person to join letters together, and write with clearness, straightness, and uniformity, without needing the aid of others.

**THE SCIENCE OF CANDLE BURNING.**—Before you put your candle out look at it. It has been burning some time unsnuffed, and gives little or no light; the wick is long, and is topped by a heavy black clot—a lump of unconsumed carbon. Take the candlestick in your hand, and move gently from side to side; the superfluous wick burns away, and the candle is again bright.

When you ask yourself why this is, you learn that flame is hollow, and as it admits no oxygen, which is necessary for combustion, the wick which it surrounds remains unconsumed and diminishes the light. When the flame, by motion, leaves the wick exposed at intervals to the oxygen of the atmosphere, it speedily burns away.

Note this valuable deduction from this fact—the formation of a wick which constantly turns outward, and reaches the exterior air, and so gives us a candle requiring no snuffing.

There is much philosophy in the burning of a candle. The wick, you may think, is intended to burn and give light; but this is not exactly the fact. The wick is simply to bring the melted tallow, or oil, if in a lamp, into that finely divided state in which it is best fitted for combustion. The heat applied to "light" the candle decomposes into its constituents the small quantity of tallow next the wick, heat and light are produced in the operation, and the heat so produced carries on the decomposition.—*The Builder*.

**TO OBTAIN SKELETONS OF SMALL ANIMALS.**—Put any subject—such as a mouse or frog (if a bird, strip of its feathers) into a box perforated with a number of holes. Let it be properly distended, to prevent the parts from collapsing, or being crushed together by the pressure of the earth. Then place the box with its contents in an ant-hole, and in a few days it will have become an exquisitely beautiful and perfect skeleton. The ants will have consumed every part of it except the bones and ligaments. The tadpole acts the same part with fish that ants do with birds; and through the agency of this little reptile, perfect skeletons, even of the smallest fishes, may be obtained. To produce this, it is but necessary to suspend the fish by threads attached to the head and tail, in a horizontal position, in a jar of water, such as is found in a pond, and change it often, till the tadpoles have finished their work. Two or three tadpoles will perfectly dissect a fish in twenty-four hours.—

**WATER-SPOUTS ON LAKE ONTARIO.**—Several of these remarkable phenomena have recently been seen upon Lake Ontario, two of which are visible at Sodus Point. They are dense, conical-shaped columns, and form a continuous line from the earth to the clouds. One of them, the largest, which was nearly thirty feet in diameter, was precipitated against the bluffs, and broke with a deafening noise upon the rocks below, causing so great a commotion of the waters that a large quantity of logs and lumber was torn from their moorings and washed far out into the lake.

**DEPTH OF THE NIAGARA RIVER.**—An English gentleman, who has been endeavouring to ascertain the depth of the Niagara river at the suspension bridge, has at length succeeded. At one point he finds the depth to be one hundred and twenty-five feet.

**A SUBSTITUTE FOR STEREOTYPING.**—Fillme, & Co., of New York have adopted with success, a system of electrotyping moulds taken of type in wax, which is said to have a decided advantage over ordinary stereotyping. Their process is as follows:—Having taken a mould of the type in wax, they put it into a solution of copper, and apply to it a powerful galvanic battery which causes the copper to be deposited with such accuracy upon the mould as to make a copper face, which will last much longer than the ordinary metal face, without costing any more. The process occupies about twelve hours. We understand that the Messrs. Harper employ this process exclusively in their establishment.—*Quebec Gazette*.

**TRANSFERRING DESIGNS.**—A process has been patented in England for transferring designs. In carrying the invention into effect, the inventor takes a lithographic stone or zinc plate, and covers its surface with a thin film of bitumen (by preference that from Judæa), dissolved in either, or with some other preparation fulfilling the conditions before mentioned. This operation, of course to be performed without exposure to light. He then lays on the prepared surface a photographic negative picture, and having covered it with a plate of glass, exposes it to the action of the light of the sun, when the parts of the surface left uncovered by the dark portions of the photograph, will be acted on by the light, and the film of bitumen thereon, rendered insoluble, whilst the film on those parts which are protected from the light, will not be effected and may be washed off by means of the solvent used, leaving the plate or stone in a fit condition for use.

#### SCIENCE ANSWERING SIMPLE QUESTIONS.

Why is rain water soft? Because it is not impregnated with earth and minerals.

Why is it more easy to wash with soft water than with hard? Because soft water unites freely with soap, and desolves it instead of decomposing it, as hard water does.

Why do wood ashes make hard water soft? 1st. Because the carbonic acid of wood ashes combines with the sulphate lime in the hard water, and converts it into chalk; 2nd. Wood ashes converts some of the soluble salts of water into insoluble, and throws them down as a sediment, by which the water remains more pure.

Why has rain water an unpleasant smell when it is collected in a rain tub or tank? Because it is impregnated with decomposed organic matters, washed from roofs, trees, or the casks in which it is collected.

Why does water smell salt? Because very minute particles of water insinuate themselves into the pores of the salt, by capillary attraction, and force the crystals apart from each other.

How does blowing hot food make it cool? It causes the air which has been heated by the food to change rapidly, and to give place to fresh cool air.

Why do ladies fan themselves in hot weather? The fresh particles of air may be brought in contact with their face, by the action of the fan; and as every fresh particle of air absorbs some heat from the skin, this constant change makes them cool.

Does a fan cool the air? No, it makes the air hotter by imparting to it the heat of our face, but cools our face by transferring its heat to the air.

Why is there always a draft through key holes and window crevices? Because the external air, being colder than the air of the room we occupy rushes through the window crevices to supply the deficiency caused by the escape of warm air up the chimney.

If you open the lower sash of a window, there is more draft than if you open the upper sash. Explain the reason of this? If the lower sash be open, cold external air will rush freely into the room and cause a great draft inward; but if the upper sash be open the heated air of the room will rush out, and of course there will be less draft inward.

By which means is a room better ventilated. By opening the upper sash,

because the hot vitiated air, which always ascends towards the ceiling, can escape more easily.

Why does the cold dry damp linen? Because dry wind, like a dry sponge, imbibes the particles of vapor from the surface of the linen as fast as they are found.

Which is the hottest place in a church or chapel? The gallery.

Why is the gallery of all public places hotter than the lower parts of the building? Because the heated air of the building ascends, and all the cold air which can enter through the doors and windows, keeps the floor till it has become heated.—*Dr. Brewer's Guide to science.*

## EDUCATION OF FARMERS.

[From the Rural New-Yorker.]

That education is not necessary to successful farming has long been a prevailing sentiment. It has been considered important for the professional man, but as useless, or a luxury at most, to the agriculturist. Industry—plodding, patient industry—qualified for success in carrying on a farm; but that boy whose aversion to work and love of mischief, made his parents at a loss how to employ his energies, must study some profession. Did one seem rather dull and stupid, he could never be qualified for anything but farming. Another, who seemed unusually bright—who thirsted for knowledge—must be a minister, physician or lawyer; the life of a farmer could furnish no facilities for improvement or the gratification of his desires.

Now, this is all wrong—for no good reason can be shown why every farmer should not be liberally educated—why he should not find use for a good education in carrying on the operations of his farm. If his knowledge need be of a different quality, it should not be less in quantity than that of the professional man. All general arguments in favor of the thorough culture of our mental powers, will apply with equal force to the particular education of those who till the soil. That knowledge is valuable for its own sake—that it furnishes a continual feast for the mind—that it qualifies its possessor for a large measure of enjoyment during the whole course of his being, are truths generally admitted. But leaving out of the account such axiomatic truths, we propose to offer some reasons for the acquisition of knowledge which we trust will commend themselves to the consideration of farmers.

First—it makes labor more productive. The great object of toil is not to wear away the weary hours, but to secure the greatest possible useful product. Knowledge enables a man to bestow his labor where it will be best rewarded. The farmer should know the nature of the soil he cultivates, what crops are best adapted to it, what succession of the same will yield most profit, what kind and quantity of manure it needs to keep it in proper condition; and this requires knowledge of Agricultural Chemistry. And, to understand Chemistry, other general knowledge is indispensable. How much labor is lost by this want of adaptation of crops to the soil on which they are attempted to be cultivated!

The facilities for improvement are constantly increasing, and educated enterprise already making use of Nature's powers and machinery to save labor. That millenium will never come, when the soil will yield abundant harvests without labor, but the improvements of the age will aid continually to diminish the amount required. And yet we need never fear we shall be out of employment—and enough of it, too.

Some protest against the introduction of the improvements referred to, simply because they interfere with manual labor.—When Railroads first began to take the place of the old stage routes, some men who never see but an inch ahead, cried out, "This will spoil our market for horses and oats,"—and yet horses and oats have been rising in value ever since. An amusing story is told of the first introduction of fanning mills into Scotland. A preacher denounced the new invention in no gentle terms. "We used to trust to Providence" said he, "for wind to fan our grain, and it is but wicked presumption thus to interfere with the Divine prerogatives and manufacture wind for ourselves!"

The general truth that knowledge saves labor is seen in every department of life.—In ancient times the grain for bread was pounded or ground by hand, but now we have single mills which will make more and better flour than ten thousand hands could prepare in the same time. So of a thousand operations connected with agriculture, mechanics, &c. "Knowledge is Power," and may be successfully used in every department of human industry and enterprise.

Second—the genius of our government makes it the privilege and duty of every farmer to be educated. As citizens, they owe to our common country certain duties. If the people of our country were divided as they are in Europe into two great classes, the laboring people and the aristocracy, the latter furnishing all the law makers, then farmers might have a better excuse for neglecting their own and their children's education. But here, where the great problem of

self-government is to be decided, every man is a sovereign, and a plowman may be called to fill the highest office of the nation. In Rome's best day she was indebted for her power to the general education of her laborers. "The most distinguished generals," says a late writer, "after a series of victories and triumphs, and illustrious statesmen after guiding for a time the helm of the Republic—disdaining the pomp and splendor of rank—did not hesitate to return to the plough, and pass the remainder of their days in the quiet enjoyment of rural life. It was held that the highest virtues were cherished amid rustic pursuits, and that for a censor to say of any one that he was a good husbandman and farmer was to confer the highest praise."

The policy that has heretofore prevailed of selecting lawyers for our State Legislatures, is wrong from the foundation. The design of legislation is to subserve the interests of the masses: and who is so well acquainted with them as the farmer? Everybody knows that lawyers have made a thousand intricacies in the law, only—we naturally conclude—so they may be called upon to unravel them. There has in this respect been considerable improvement, but there is room for more. This state of things has arisen, in part, from the fact that it has been difficult to find men out of the professions, who have so familiarized themselves with our State and National polity as to be qualified for Legislators. Farmers have not felt the importance of these qualifications, and hence have not been called out into their active duties.

The great conservative power of this nation must ever lie with this class of our citizens, and that farmer who neglects the proper culture of his children is guilty of the double sin of wronging them and his country also.

## THE SABBATH A FRIEND.

1. To Education. Compare countries with and without the Sabbath. Its ministrations powerfully quicken and invigorate the human intellect, while a vast amount of knowledge is accumulated.

2. To Government. Where are honored Sabbaths and Despotism co-existent? It shows the nature of human rights—adapts laws to the actual wants and circumstances of men—creates a conscience that sustains laws and qualifies men to make as well as to obey laws.

3. To Health. By promoting cleanliness, by furnishing needful rest for the body and mind, by promoting cheerfulness and elasticity of spirits through its power to produce a peaceful conscience, and by its sublime influence over the hateful passions of men.

4. To Good Morals. By keeping in sight the character of God, by unfolding the claims of His holy law, by creating a distaste for unlawful pleasures, by creating a public sentiment that frowns upon immorality, and through that sentiment causing wise and effectual laws for the suppression of vice and crime.

5. To Piety. By causing a right view of God to prevail, by constantly pouring on men's minds those great elements of piety, the divine truths of Revelation, by thus generating all right affections towards God and man, by shadowing forth and pointing men to the Sabbath or Heaven.

Therefore the Sabbath is the Friend of the nation, the family, everybody's friend, and never fails to repay true and devoted friendship for it with the most precious blessings for time and eternity.

## LEARNING TO SPELL.

Bad spelling is discreditable. Every young man should be master of his native tongue. He that will not learn to spell the language that is on his tongue, and before his eyes every hour, shows no great aptitude for the duties of an intelligent, observing man. Bad spelling is therefore an unavoidable indication. It indicates a blundering man, a man that cannot see with his eyes open. Accordingly we have known the application of more than one young man, made with great display of penmanship, and parade of references, rejected for his bad spelling.

Bad spelling is very conspicuous, a bad indication. He who runs may read it. A bright school-boy, utterly incapable of appreciating your stories of science, art, and literature, can see your bad spelling at a glance, and crow over it. You will find it hard to inspire that boy with any greater respect for your attainments. Bad spelling is therefore a very mortifying and inconvenient defect. We have known men who occupied prominent positions so ashamed of their deficiency in this respect, that they never ventured to send a letter till it had been revised by a friend. This was, to say no more, sufficiently inconvenient.

We say again, learn to spell, young man. Keep your eyes open when you read, and if any word is spelled different from your mode, ascertain which is right. Keep your dictionary by you, and in writing, whenever you have the least misgiving about the spelling of a word, look it out at once; and remember it. Do not let your laziness get the better of you.



**PLAYING TRUANT.**

We never knew a boy who was in the habit of playing truant and wasting the golden hours of youth, to become a great or distinguished man. Most often the idler in life is the laggard in the world's race. Truly happy is the boy whom parental or friendly care saves from this alluring danger of youthful days.

The reason why truancy is so serious an evil, is not the loss of a day or two at school now and then, or any other immediate or direct consequence of it. It is because it is the beginning of a long course of sin, it leads to bad company, to deception, and to vicious habits; it stops the progress of preparation for the duties of life, and hardens the heart, and opens the door for every temptation and sin, which, if not closed, must bring the poor victim to ruin. These are what constitute its dangers.

These words written by a learned and good man, it would be wise for every child to ponder well. The fairest day would not then entice them, the merriest companion could not persuade them, nor the hardest lesson they might have to learn affright them from this path of duty.

**IMPORTANCE OF A COMMA.**

We yesterday published an article on the importance of a correct punctuation. We have seen a letter from a gentleman in Ohio, to Mr. D. Bennett, which more fully illustrates the importance of a comma. The letter inquires about an advertisement which was inserted some years ago in the Observer, which stated that a legacy of several million of dollars was left to the heirs of Hugh, John, and Daniel Mosier; but another paper in copying the advertisement carelessly omitted the comma after Hugh, so that it read Hugh John. The descendants of a Mr. Hugh John reading the notice, supposed that they might be heirs to a large property, and went to a considerable expense to investigate the matter, when they found that in the original notice it read the heirs of three brothers of the name of Mosier—Hugh, John, and Daniel.—*Utica Observer.*

**RULES FOR THE YOUNG.**

If you wish to cultivate your mind and succeed in the pursuit of knowledge, observe the following rules:

1. Take care of your leisure moments as you would of gold.
  2. Do not spend more time than is necessary in sleep.
  3. Withdraw from all idle and silly companions.
  4. See that you have always some good reading on hand.
  5. Read not novels, but history, biography, and works of science.
  6. Always think, always observe, and always seek to learn.
  7. Think of the pleasure of knowledge and the disgrace of ignorance.
  8. Take as your motto, what has been done can be done again.
  9. If at first you don't succeed, try, try again.
  10. Remember the old maxim:—"Honesty is the best policy."
- Follow these rules and there is no such word as "fail."

**A BEAUTIFUL MIND.**—A beautiful mind is like a precious and prolific seed—the mother of loveliness—the fountain of bliss—the produce of many treasured and inestimable flowers—no canker can deface, nor time destroy. Even should there be those of its lovely produce that pass away, yet the source is there—the seed remains to revive, to modify—to place again on our bosom, and near our hearts, in renewed beauty—in the same deep interest and winning power as at first. We would gather it in as the richest possession—as well as the spring of the purest, most abundant and enduring joys—as our support, our comfort, and the cherished object, worthy of our highest admiration; and we would cling to it, thanking God that it is immortal—living for ever.

**BONAPARTE ON NOVEL READING.**—No works were read but those of real value. By common consent all novels were banished from the circle, as Napoleon inveterately abominated every thing of that kind. If he happened to find a novel in the hands of any of the attendants of the palace, he unhesitatingly tossed it into the fire, and soundly lectured the reader, upon her waste of time. If Josephine had been a novel reader, she never could have acquired that mental energy which enabled her to fill with dignity and with honor every position she was called to occupy.—*Abbott's History of Josephine.*

**WHAT MAKES A MAN.**—The longer I live the more certain I am that the great difference between men, the great and the insignificant, is energy—invincible determination—an honest purpose once fixed—and then victory. That quality will do any thing that can be done in the world; and no talents, no circumstanced, no opportunity will make a two-legged creature a man without it.—*Goethe.*

Women are the Corinthian pillars that adorn and support society; the institutions that protect women, throw a shield also around children; and when women and children are provided for, man must be secure in his rights.

**SWEARING.**—Profit or pleasure there is none in swearing, nor any thing in men's natural tempers to incite them to it. Though some men pour out oaths so freely as if they came naturally from them, yet surely no man was born of a swearing constitution.

**MAKE SURE,** first, and principally, of that knowledge which is necessary for you, as a man and as member of society. Next, of what is necessary in your particular way of life. Afterwards improve yourself in all useful and ornamental knowledge as far as your capacity, leisure and fortune will allow.

**LEARNING** will accumulate wonderfully if you add a little every day. Do not wait for a long period of leisure. Pick up the book and gain one idea, if no more. Save that one, and add another as soon as you can.

**THE REWARD IS SURE.**—Idleness is the hot-bed of temptation, the cradle of disease, and the canker-worm of felicity. Soon the idle man finds no novelty; and when novelty is laid in the grave, the funeral of comfort enters the heart.

What solid satisfaction does the man of industry enjoy! His limbs are strong; his understanding vigorous. With zest he relishes the refreshment of the day; with pleasure he seeks the bed of repose at night.

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