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Devoted to Education, Literature, Science, and the Arts.

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## EDUCATION.

## On Infant Education.

In a former paper we sketched the leading features of what an infant school ought to be, and the kind of a person who, in our opinion, ought only to be chosen as the teacher of one. At present
we propose to go through, in detail, the various subjects which should form the programme of an infant school.

A Love of Truth.-The forming of the youthful mind, in so far as it can be formed under the maternal eye, is one of the first duties of an infant schoolmistress. It is not always an easy task to succeed satisfactorily in this. With some children it is easy enough. The child who has at home a mother who instils into its mind a love of truth, is gentle and docile in the school. The teacher must endeavor by every means in his or her power to instil a high principle of morality. This must be commenced by making the child love the truth for the sake of the thing itself. Allow no opportunity to pass of pointing out the value of truth. On no account punish a child for a fault which it candidly and without evasion admits. As we said in our last paper, if we would inflict corporal punishment at all (and the benefit to be derived from it under any circumstances is very problematical) it would be for a breach of truth. Whatever is the most severe punishment inflicted in the school, let it be for this fault. The enormity of it will then be understood, and an impression formed as to the value of truth, which will remain in the child's mind till the day of its death. Make it difficult for the untruthful child to win your favour, but not impossible. Keep it at a distance for a time and bestow on it no smiles, but do not act harshly by it. It will think in its own way, and after some days, if its home associations are not altogether depraved, a proper moral tone will begin to appear. Let your reserve then disappear. We once knew two children in a school -a little boy and a little girl-who were constant companions. The little girl was remarkable for a love of truth, but the boy had only an indifferent character in this respect. One day, on their way to school, they committed a trivial fault, viz,-pulling some flowers which hung over the paling of a garden. The owner of the flowers thought it a heinous crime, and complained to the teacher who took the very view we would take of it-that the fault was a very natural one. The little girl was asked did she pull the flowers, and at once acknowledged that she did. The boy stoutly denied that he did so. The punishment the judicious teacher inflicted on him was to prohibit him speaking to, or walking home, with his little companion. This so affected him, that in a few days he went to the mistress, acknowledged his fault, and was ever after known to be the most truthful boy in
the school. We give this as an example of how a teacher may find far more effectual expedients than the rod to win a child back to the right path.

Rradina.-Though we place this subject here, it by no means follows that it should be the first thing taught to a child. A wise teacher will exercise her discretion as to when she should commence to teach a child to read. All children should not be set down to the alphabet the moment they enter the school. In fact we would allow the infant to commence that task just when its natural curiosity had been excited by seeing its playmates engaged in giving a name to these symbols. The greater portion of the alphabet children pick up from one another without the intervention of the teacher at all, provided they are not disgusted in the outset by making a task of what can be turned into a source of enjoyment. Various plans have been put forth for teaching the alphabet, all differing, except on one very material pointtheir utter impracticability. The practical teacher needs none of those artificial aids. The only one of them we ever knew to be of the slightest advantage was a plan we saw in an infant school, conducted by an experienced mistress. She never asked a child to learn more than the names of three letters at a time-giving to each child a separate lesson-then examined them on the black board by making the letter with a piece of chalk in a style that would do credit to a professional engrosser. She never found any difficulty in this way in making the children learn the alphabet.

There is one thing we would suggest to the chiefs of inspection, to recommend at once; it would aid the teacher very much if the child had the alphabet constantly before it ; and for this purpose we would recommend that it should be printed in medium type by itself, on a slip about the sizé of a page of the first book. The teacher could have this pasted on a strong pasteboard, a piece of leather, or a square of wood, and make each child who had not thoroughly learnt the alphabet, have one in its hand. Teachers will not give books to small children, for they are sure to be torn or lost in a day or two ; and, except when at lessons, the tablets are inaccessible to the children. We trust that in case the inspectors do not see the necessity for adopting our suggestion that the proprietor of the Teachrrs' journal will print some of those slips. They would be a great boon to every teacher; and we venture to say that if they came into general use, the alphabet would be learned in about one-third of the time it at present occupies. The advantage would be that the children during their leisure minutes would be examining each other to see which knew the most letters. They could also, when lost or defaced, be replaced much easier than books. Besides, the child having only before it exactly what it requires to learn, would not be distracted by turning over the leaves of a book. In fact we believe the same sy tem would be found useful with all the lessons in the first section of the first book. As the child progresses we would be very much inclined to follow the plan indicated in the article, -"Individual versus Class Teaching." We have seen it succesfully practised in more than one school, and these were schools which were noted for the good readers they produced. Never allow a child to leave a lesson till it is thoroughly conquered. It is a great mistake to imagine that because a child can read the greater portion of a lesson it should be encouraged by giving it a new one. In fact you are discouraging it, for you make its after progress the more difficult. Do not be satisfied with having a ohild read one sentence of the lessou, and the next child another sentence, and so on. Make each child read the lesson (which should be very short) through. Some of the lessons in our first book might be conveniently broken up into parts. Encourage by every means the attentive child, and the child who seems to have prepared its lesson, but do not by any means cast a slur on the backward ones. Make them promise to be better next day, and when they improve have a kind word for them. They will soon find out that it is much easier, and more pleasant, to be attentive than idle. Never permit the pupil to get into the sing-song when
reading. The best way to avoid this is to make each child keep its eye fixed on the word it is uttering. Of course natural reading with a proper regard to the meaning, cannot be acquired at this stage, but a bad habit should not be allowed. Make the child spell every word in the lesson. We do not believe that while in the first book clause-spelling, or spelling several words at a time, is of much service ; but as soon as the first book is conquered it should be introduced. It is a very amusing thing, and one that interests the children very much, for the teacher to put one of the infants to examine the others on the spelling, she herself of course standing by. There should be four reading lessons every day while children remain in the first book, each of not more than twenty minutes' duration. As little of the teaching of those lessons as possible should be left to monitors, not that we by any means decry their usefulness in the school, but that we look upon the teaching of reading as the most important portion of the business in every school. It should not therefore be left in inexperienced hands.
As soon as the children reach the second book, their progress from lesson to lesson will be much more rapid. They may now be left more to monitors, but the principal teacher should hear them read as often as possible. Three reading lessons in the day will now be quite enough, each of twenty-five minutes' duration. The lessons, until they have gone orer half the book, should, as a rule, consist of only one page or thereabouts. A long reading lesson is a great mistake, and the compilers of the Irish National School books have fallen into the error of making nearly all their lessons too long. Young teachers imagine that when a lesson is of 2 certain length in the book that they are bound to give the whole of it to the child. By so doing they aim at too much, and to their chagrin often fail altogether. Spelling should be more attended to now than ever, and when the reading is over at the last reading lesson in the day, the teacher should put a few judicious questions on the subject matter. They should be such questions as would interest the children and would cost a little thought, but not much, to answer.
If the first and serond be properly taught, the child's progress in reading is afterwards all plain sailing; and this is the reason why we have dwelt so long on them. Spare therefore no pains to make those books be thoroughly conquered.

Sinerina.-We assign to singing the place after reading in the infant-school curriculum, and we are doubtful but we should have placed it first. Nothing enlivens a crowd of little people so much as a song. You will see the infant toddling a whole street after a ballad singer, and going into raptures when it hears a fiddt, or that pest of our cities,-a barrel-organ. The taste for music is natural in most Irish-born children. Whether it is a peculiarity of our climate, or from whatever cause it proceeds, we are a musical people. The tender plaintiveness of the music of Ireland has passed into a proverb. In fact nature has done as much for us in that way as art has for the Italians. This taste therefore should be developed, and it is with reluctance we say that the school-teachers of Ireland have not done their part in doing so. We may allude to this more fully in a separate paper, but now we have only to do with the infant-school. It is a pleasure to go into the infant departments attached to our district model-schools, and hear the little voices all joining in chorus. Of course the musig is not always the most accurate. The teacher of an infant-school should be a good singer, and there should be songs sung at various intervals during the day. Little marches are very popular with children. They at once take the ear, and are admirably suited to the time of changing from floor to gallery. Pains should of course be taken to have then sing in time, and a very little pains will have this effect. We have seen in some infant-schools formidable rollers printed over with "Hullah's System," and the mistress busily engaged teaching the "notes" to the poor bewildered children. This was making a task of a pleasure with a vengeance. We felt very strongly tempted to throw the whole machinery
into the fire, and would undoubtedly do so could we afford to put up with the consequences. To begin and teach infants to sing by note is simple nonsense. Banish "Hullah" and "Wilheim" and all the rest of the "Doctors" out of your infantschool, and cultivate the ear. Leave the notes till they reach the boys or the girls' school. Try also and teach them to sing some of our old Irish airs. They are not so difficult, and after a short time the children will feel a pleasure in them which they never can feel in the greater number of the things they sing, which, by way of courtesy, are called music. Mr. Keenan, Chief of Inspection, has done a great deal to popularise the Irish airs in our schools, but the mistresses of the infants-school, and of the ordinary national schools can do a vast deal more, if they will but try. It is in the infant-school it must be begun-the task will be comparatively easy afterwards.

But we find that the matter of our paper has grown on us, and we must therefore hold over our hints on other subjects for another number.-Irish Teachers' Journal.

## Phyical Education.

It is a sad reflection, forced upon us by evidence too strong to be resisted, that the very progress of civilization is frequently purchased at the cost of evils only a trifle less grave than those which it removes. The most wholesome distrust in rose-colored views of the olden time cannot protect us from occasionally being rudely reminded that we are still a good way from the Golden Age, and that in this or that particular point our " benighted ancestors" had clearly the advantage of us.
In some lines of adrancement modern science and co-operation have achieved such bewildering marvels, that sobering reflections of this sort are necessary to keep the slightly over-confident spirit of the present age in a modest frame of mind. Our triumphs are unquestionably immense. But we need to be reminded that our defeats and losses tend to be on a commensurate scale. In numberless trades and occupations, all having for their object the good of society at large, the lives, health, and happiness of the human beings who follow them are one steady, continued sacrifice for the benefit of others. And setting aside such essentially injurious trades, all the social body, it is beginning to be perceived, is paying a very considerable price for the mere convenience and rapidity of locomotion alone which it now enjoys, which is beyond question one of the greatest achievements of modern times. To this, in a very high degree, is owing that want of calmness and leisure, that high-pressure speed which makes life in the great centres of modern civilization more exhausting than old-fashioned oampaigning. In former days, people who had to go long distances either walked or rode on horseback, and, even if they availed themselves of the new fangled luxuries of the coach or the wagon, the whole proceeding was so slow and deliberate that it resembled rather a picnic than a journey, while the alternative was plenty of vigorous exercise and abundance of fresh air.
Travelling now is not exercise, but a process,- convenient and, with our modern requirements, indispensable no doubt, but as far as possible removed from exercise, and not necessarily connected with a mouthful of fresh air. Business or caprice causes us to resolve that this afternoon or to-morrow morning we will go 100 , 200,300 miles from our present position. No sooner thought than done. We are carried to the railway station, and then, after going though certain formalities, a process is commenced which rarely fails to deliver us at the spot we wish to appear at in the allotted time. Our energies have not been called forth, except, perhaps, for one brief momentary spasm of hurry, if we happened to be late at the ticket office. Not a muscle has been used and strengthened, not one deep draught of oxygen has been inhaled; we have had a nightmare vision of fields, trees, and earth-cuttings, broken occasionally by the sulphurous twilight of the tuunels, and having for a period wearied and blunted our eyes with attempting to read a book or a paper, we await, with cold feet or
dust-begrimed skins, according to the season, the moment of deliverance.

No one will suppose us ill-advised enough to be querulous over this; but the point which we wish to emphasise is that modern times, by the mere progress of discovery in locomotion, have lost one of the chief sources of health and strength. All animals get their sufficient exercise by the necessity they are under of moving about in search of food, and domestic animals are less vigorous and healthy than their wild congeners, simply because this exercise is curtailed by the services they receive from man. But, further, men are not only under the necessity of exercising their bodies much less, but by the conditions of modern life they are under the necessity of exercising their minds a great deal more than ever they did before. The battle of life has now to be fought with brains, and with brains too often lodged in flaccid and feeble bodies. No doubt there have been at all times persons who worked their minds and nerves too much and their muscles too little. But, by the nature of the case, they were the exceptions, not the rule. The misfortune of our day is, that what was the exception is becoming the rule. In proportion as people "get on," as it is called, in any walk or profession, are they, for the most part, introduced to a sedentary, nerve-exhausting form of life,- a form of life from which every conception of old-fakhioned hardships or privations has been triumphantly excluded by modern science, but which now shows itself none the less dreadful and destructive. How to combat these destructive influences has long engaged the attention of thoughtful men, who have solved the problem as to how artificial evils could best be met by artificial remedies. The science of physical education professes, in a great measure, to supply the remedy required.
It is to be regretted that on this point many are by no means duly informed, and that a considereble mass of prejudice still reigns on the subject. People still exist who hold decided and hostile views to physical training pursued on a system. We do not allude to the feeble folk of former days, who considered delicacy genteel and poetical, and strength of body a coarse en-dowment,-" the pale, melancholy, and interesting school" who spoke by preference of a poet's "pale and fevered brow," and thought that if pretty women had good appetites, they at least should not indulge them before company. A well-known reaction was led against these persons some years ago, and they are comparatively rare and unimportant now.

There are very robust and healthy people who, having done without any particular attention to physical training themselves, rather inconsiderately condemn attention to it on the part of others. They have a rooted idea that all the reported good results of a physical training are " mere theory," and will compliment you on your faith, if you maintain that at any rate they are stubborn facts. They like exercise, and will take it themselves, provided it is of a natural kind. Field sports, cricket, and the like are unobjectionable. There is nothing new-fangled and theoretical about them ; what they do, with their whole hearts, object to, is the silly illusion that wrenching the arms out of the sockets by means of pulleys and ropes can possibly do any body any good least of all any weak or young person. Was it ever contended, it is asked, that the children of respectable parents should swing by the arms and turn upside down like monkeys or acrobats? In a word, they have not patience with such nonsense.

However, all this is nothing more than might have been expected. The changed conditions of modern life demand a change of domestic habits and education, and it is no wonder if the latter change lags considerably belind the former. Moreover, no friend to physical education can have a moment's doubt concerning its ultimate, or rather its speedy triumph. The " mere theories " have already become so widely realized in concrete facts and healthy, vigorous bodies, to be met in all localities, preaching more eloquently than any words what physical education has done for them, and what it does every day of their lives that it is impossible to feel otherwise than good-humored with
objections. The healthy mind in a healthy body is not easily ruffled even by unintelligent opposition.

While exercise is certainly not more important than food, clothing, and fresh air, it is as important; while it is capable of being overlooked and neglected in a way of which none of the other sources of life and health at all admit. A man who goes without his dinner is soon made aware that there is something amiss ; an insufficiency of clothing, again, soon makes itself felt : intentional faults in these particulars are not often committed; but an insufficiency of exercise, although the punishment is as severe, is not always as clearly traceable to the transgression. Error here, in a great majority of cases, may arise from actual want of knowledge. A vague feeling may be entertained that exercise is a thing to be taken; but to what extent, at what time, or in what manner, are points on which few really consider it necessary to possess any adequate information. The regular urgent reminders which follow on the neglect of the other agents are missing here, or if they do occur, it is only as they affect some one of them. For want of exercise, appetite fails; comfortable bodily warmth is not sustained ; refreshing sleep is not obtained; but these, reminders though they be, come indirectly, and, as it were, incidentally only.

All the tonics, beef-tea, and good food in the world will not add a half-inch to the narrow chest of a sickly boy. All the "airing" he may get from morning to night in southern climes will not infuse stamina and real improvement into him, unless intentionally or otherwise exercise happens to be combined with them. No marvels are pretendend to. The weakly offspring of unhealthy parents will never, under any training, become an athlete; nor does he want to become one. But it is simply certain that if he takes proper exe:cise in the proper way he will become a healthy, serviceable man, instead of passing through a delicate youth into a valetudinarian manhood.

What modern men in civilized countries want is not strength but health, which is indeed a general and equally diffused strength over all the organs and functions of the body. Disproportioned strength, whether centred in the arms, or the legs, or the trunk, or generally in the muscular as compared with the other systems, is to be held in reprobation, though regarded by many as the highest result of gymnastics.": Men go about fancying they are strong because they have big biceps, whereas, taken as a whole, they are as feeble as infants. It is tone, stamina, endurance, which modern conditions attack most, and these it should be our chief aim to maintain or increase. From the rursery to the school from the school to the college, or to the world beyond, the brain and the nerve strain goes on continuous, augmenting, intensifying. These are the exigencies of the canpaizn of life for the great bulk of our youths, to be encountered in the school-room, in the study, in the court of law, in the hospital, in the asylum, in the day and night visitations in court and alley and lane; and the hardships encountered in these fields of warfare hit as hard and as suddenly, sap as insidiously, and destroy as mercilessly as the night-mare, the scanty ration, the toil, the struggle, or the weapons of a warlike enemy. It is not the power to travel great distances, carry great burdens, lift great weights, or overcome great material obstructions, which we now require; but simply that condition of body and that amount of vital capacity which shall enable each man in his place to pursue his calling and work on in his working life with the greatest amount of comfort to himself and usefulness to his fellow-men.-Educational Gazette.

## The Educational Importance of History.

A child, reared in some "happy valley" beyond whose boundary his infantile footsteps have never been permitted to wander, and, unlike Rasselas, deriving no knowledge of the outer world from books or instruction, would be apt, as far as he may be supposed to reason at all, unconsciously to conclude that those rocky summits and verdant slopes which circumscribe his vision,
are the limits of the actual world; that the impassable circle of cloud-piercing mountains on which he has gazed from infancy, include within their inpenetrable zone all that is to be seen, felt, or enjoyed; that the trees, plants, flowers, and animals of his narrow world are of vegetable or animated nature that creation has produced; that the people amongst whom he finds himself piaced, with their toils and their pleasures, their wants and their luxuries, their loves and their hates, and all their small ambitions and petty interests, circumscribed by, and centred in, this narrow spot of earth, form the sum total of that great human society for whom the sun and moon were made to shine, and for whose benefit rains are sent in due season. Here, in short, is his universe; and confined within its narrow bounds, his intelligence can scarcely be expected to attain to much higher development than that of the animals which he tends or with which he gambols. But when adrancing years have given strength to his limbs and vigour to his frame, and impelled by growing curiosity, he on some happy day climbs to the summit of one of those giant peaks surrounding his childhood's world, almost fearing to complete his venturous task, in dread of the scene of blank vacuity or wild desolation that is to meet his bewildered gaze; how he stands entranced at the prospect that presents itself to his enraptured view! Other valleys teeming with busy life and a different people ; immense and fertile plains stretching out and abounding in cultivation and industry as far as his gaze can pierce; magnificent cities, nurseries of the arts and elegancies of life; the blue oeean spreading away in the distance like the crystal floor, and bearing on its glittering surface those white and vision-like objects, which he is told, flee on their snowy wings across that vast deep as mediums of communication between the land and people on which he looks, and other lands and peoples far away beyond the rising or the setting sun. What a different being is that youth descending from his lofty eminence! Morally and intellectually he is changed, and like Plato's captive returning to his dungeon after having gazed on the realities of the glorious world, his mind can never again return to the contemplation of shadows, or be again circumscribed within the narrow limits to which ignorance, prejudice, or selfishness would confine it.
And such an awakening and expansion does an extensive and judicious study of history exercise on the human mind; for if, as the poet sings,
"The proper study for mankind is man,"
history must be regarded, at least in the moral sense, as the most pregnant of all the sciences in the elements of such study, as being the exhibition of man and the display of human life in all the ages that have rolled by and under all the diverse circumstances through which our race has passed. The study of history enlarges the mind, expands the ideas and eradicates those narrow and illiberal prejudices which dim and warp the understanding. By developing the causes which influence and direct the opinions and conduct of men in the several ages and countries, and under the different social and political circumstances that have existed, it tends to inspire liberality of sentiment and to foster a spirit of toleration and universal benevolence. In perusing the history of nations we have an opportunity of investigating the circumstances which gave rise to their existence, conduced to their grandeur, or precipitated their fall. But the most rational entertainment and valuable instruction afforded by the study of history, are to be drawn from the opportunity it affords of tracing through succeeding ages the origin, progress, and influence of arts and sciences, literature and commerce, and the progressive advancement of man from a savage state to the culminating points of learning and civilization; as also the frequent instances of retrogression in these respects which history discloses, with the remote or immediate operating causes of such advancement or retrogression. History is so essential a part of a good education that no literary or in many cases even scientific acquirements can be complete without it ; the orator, the poet, the divine, and the professor,
make frequent allusion to historical subjects, so that a person ignorant of history, must, in many instances, miss the full force and point of what he reads and hears. Besides, without a knowledge of history, the reader or hearer is often at the mercy of the sophist, who, in support of whatever view he is endeavouring to impress, may introduce some historical fact, true, perhaps in itself but which a knowledge of the state of society, the political institutions, and the literature, science, and philosophy of the period referred to, would deprive of all its force as an argument.
A knowledge of history is calculated on the one hand to abate much of our pride in the superiority of our own over former ages, and on the other to moderate the gloomy anticipations of those who are ever expatiating on modern degeneracy. A Codrus or a Decius, devoting himself to certain destruction; a Lycurgus voluntarily expatriating himself for life from a country for whose welfare alone he existed; a Brutus triumphing over one of the strongest principles of our nature; a Regulus returning to a death of excruciating torture; are examples of patriotism, the knowledge of which should not be confined to the age or region in which they were enacted, nor be left the exclusive property of college halls. In arts and science we have the splendid example of that remarkable people, the ancient Egyptians, in the stupendous works undertaken and achieved by them for the distribution of the waters of the Nile, and in those magniffcent structures of theirs which still exist, and to this day sublimely indicate, in that far back age, the struggles of the human mind after the infinite in grandeur and duration. To a later, but still ancient people, we trace the elements of our school philosophy which we have improved upon just so far as to clothe some of its most important principles in different terms; their literature has furnished the standard on which that of all succeeding generations has been modelled; and of their triumphs in architecture, sculpture, and the plastic art, the most beautiful and splendid efforts of modern times have been but mere reproductions. Later still the astonishing defence of a city by the genius of a single philosopher against the forces of the greatest military power the world had ever seen, demonstrates the extent to which natural science had been cultivated more than two thousand years ago. We have set down, in fact at mere random, those examples out of multitudes that occur to us, all tending to show that in arts, sciences, literature, and philosophy, we are but the heritors of the ages and peoples that have gone before us; and if, like thrifty heirs, we have added something to the patrimony bequeathed to us, we should not be ungrateful for, nor ignorant of, the splendid capital we had to commence with.

The man who is ignorant of history is ignorant of himself; for he is a component unit of society which is but a continuation, a development, of that which existed thousands of years ago, and to which the present owes not only its existence, but, in greater or less perfection, all the principles, arts, sciences, conveniences and embellishments which render that existence tolerable ; and a man might as well endeavour to establish a moral identity with his former self, with all the years and incidents of his life previous to his last birth day totally obliterated from his memory, as to assume association with a race that has a history of thousands of years of which he is completely ignorant. Savage nations have no history ; their traditions extend back hardly a couple of generations, in some instances not so far ;-therefore, wherever the civilized man establishes himself the savage disappears. The Hindoo has been conquered times o'er; both Moslem and Christian have in turn dominated his fertile plains; in succeeding waves-at times all three together-famine, pestilence, and the sword, with desolating force have swept the land; but the Hindoo had a history, its records were engraven on his memory, and he is there still, more numerous than when the victorious Mogul assumed dominion over the conquered soil. The little state of Greece,-at its most glorious period not numbering over half a million free men, deprived of its liberty, crushed successively under the heel of the Roman, the Saracen, and the Turk,-we have seen in our own days, after two thousand years of degrading subjection, restored to political life and autonomy by the mere force and influence of
its ancient history. It is not the preservation of its language so much as its history that influences a nation's destiny in its struggles with the misfortunes and vicissitudes it may have to undergo; language is continually changing; the poetry of Virgil is as unintelligible to an ordinary Italian as is that of Homer to an average Greek ; and how many Englishmen can now read Chaucer's

## ' Well of English undefiled?'

If then, the preservation of its history be of such vital importance to a state, how great is the duty of every member of the community to be well acquainted with its leading facts! Nor is it the history of one's own country alone that should absorb all his attention : the printing-press, the steam-engine, and the telegraph are every day bringing distant countries into such close proximity, and their commercial and even social relations are becoming so intimate, that a knowledge of each other's historical antecedents is every day becoming to each a matter of the liveliest interest and importance.

In another paper we shall enter further into this sulject and endeavour to point out to young readers preparing for the teaching profession the best course and method that occur to us to recommend them to pursue in their historical studies, with a view to their professional advancement and intellectual profit.-Irish Teachers' Journal.

## Learning a Trade.

It is stated in the report of the Prison Association, lately issued, that of 14,596 prisoners confined in the penitentiaries of thirty States, in 1867 , seventy-seven per cent, or over ten thousand of the number, had never learned a trade. The fact conveys a lesson of profound interest to those who have in charge the training of boys, and girls too, for the active duties of life.

Why is it that there is such a repugnance, on the part of parents, to putting their sons to a trade? A skilled mechanic is an independent man. Go where he will, his craft will bring him support. He needs ask favors of none. He has, literally, his fortune in his own hands. Yet foolish parents, ambitious that their sons should 'rise in the world,' as they say, are more willing that they should study for a profession, with the chances of even moderate success heavily against them, or run the risk of spending their manhood in the ignoble task of retailing drygoods or of toiling laboriously at the accountant's desk, than learn a trade which would bring them manly strength, health, and independence. In point of fact, the method they choose is the one least likely to achieve the advancement aimed at; for the supply of candidates for positions as 'errand-boys, 'drygoods clerks, and kindred occupations is notoriously overstocked, while, on the other hand, the demand for really skilled mechanics, of every description, is as notoriously beyond the supply. The crying need of this country to-day is for skilled labor; and that father who neglects to provide his son with a useful trade, and to see that he thoroughly masters it, does him a grievous wrong, and runs the risk of helping, by so much, to increase the stock of idle and dependent, if not vicious, members of society.

And the same is true of the other sex. It is said that there are thirty or forty thousand poor women in New-York cily who are starving for want of work. Why is this? It is just because, in the vast majority of cases, they do not know how to do any thing well. They have no knowledge beyond the simplest rudiments of plain sewing. They were taught nothing when young -perhaps their parents thought it not 'respectable' for their daughters to learn a trade--and here they are, dragging out a miserable existence in semi-starvation, or going to perdition for food and raiment, when housekeepers are crying out for help, and the land teems with opportunities for healthful, pleasant, remunorative employment, suitable for the most 'respectable' woman. In the case of most of these poor creatures, but little can be done to lift them out of their hard fate; for their own false pride, confirmed carelessness, and lack of energy are their worst enemies. But their condition preaches loudly against the folly of leaving
children, in this " work-a-day world," without knowledge of any useful art.

It is the solemn duty of every parent, to his child and to the state, to provide the son or daughter with the means of earning an honest livelihood. The false and pernicious idea that it is more respectable to measure tape than to drive a plane, to live in a garret and make shirts at twenty-five cents a day, than to cook in a clean, bright kitchen at two or three dollars a week, with board and lodging, ought to be thoroughly exploded. Let fathers consider this point, and hesitate long before launching their sons and daughters upon the world with unskilled hands, to join the vast army of starving scramblers for places demanding the minimum of knowledge, for work yielding barely enough to keep soul and body together. Alas! for the vanquished in such a contest. With starvation at the door, and nothing to do / No wonder that, of the criminals in our prisons, seventy-seven per cent were those who had never learned a trade. It is not the skilful mechanic who is a burden or a pest to society, but the man who knows no trade and must 'live by his wits.' - Examiner and Chronicle, N.. $Y$.

## A Word to Boys.

My young friend, did you ever know - can you call to mind a single case of a person, who having his own way to make in the world, spent his time in the street, in billiard saloons, around hotels, or in any form of dissipation or idleness, to succeed in an eminent degree in any enterprise? Look over your list of friends and acquaintances and note their course. Do you not find upon examination that those who to-day are men of influence and honor were the youths who made the most valuable time, turning it to good account, and on the other hand do you not find those who stood at the corners with a cigar or pipe in their mouths went from bad to worse, from worse to ruin? Sadly must the answer be made-oh, that it were not so-they have failed. Will you not profit by the experience of others? Go not that way. Never be idle. Every moment of your time is a golden one, use it as such; improve the mind; fix your eyes on some noble object; be men. The call is for men, will you not be one of that number who can say-" I am a man."-Exchange.

## LITERATURE.

## POIEMERT <br> CHILDREN.

BY H. W. LONGTELLOW.
Come to me, 0 ye children
For I hear you at your play,
And the questions that perplexed me Have vanished quite away.

Ye open the eastern windows, That look toward the sun, Where thoughts are singing swallows, And the brooks of morning run.

In your hearts are the birds and the sunshine, In your thoughts the brooklets flow, But in mine the winds of Autumn, And the first fall of the snow.

Ah! what would the world be to us If the children were no more?
We should dread the desert behind us Worse than the dark before.

What the leaves are to the forest, With light and air for food,
Ere their sweet and tender juices Have been hardened into wood.

That to the world are children ;
Through them it feels the glow
Of a brighter and sunnier clime.
Than reaches the trunks below.
Come to me, 0 ye children!
And whisper in my ear
What the birds and the wind are singing In your sunny atmosphere.

For what are all our contrivings And the wisdom of our books,
When compared with young caresses And the gladness of your looks?
Ye are better than all the ballads That ever were sung or said;
For yeare living poems, And all the rest are dead.

## I'M GROWING OLD.

## BY JOHN G. SAXE.

My days pass pleasantly away,
My nights are blessed with sweetest sleep,
I feel no symptom of decay,
I have no cause to mourn or weep ;
My foes are impotent and shy,
My friends are neither false or cold ;
And yet, of late, I often sigh-
I'm growing old 1
My growing talk of olden times,
ily growing thirst for early news,
My growing apathy to rhymes, My growing love of easy shoes, My growing hate of crowds and noise, My growing fear of catching cold,
All tell me, in the plainest voice-
I'm growing old!
I'm growing fonder of my staff,
I'm growing dimmer in the eyes,
I'm growing fainter in my laugh,
I'm growing deeper in my sighs,
I'm growing careless of my dress,
I'm growing frugal of my gold,
I'm growing wise, I'm growing-yes-
I'm growing old !
I feel it in my changing taste, I see it in my changing hair,
I see it in my growing waist,
I see it in my growing heir;
A thousand hints proclaim the truth, As plain as truth was ever told,
That even in my haunted youth
I'm growing old !
Ah mel my very laurels breathe
The tale in my reluctant ears;
And every boon the hours bequeath
But makes me debtor to the years ;
E'en Flattery's honeyed words declare
The secret she would fain withhold,
And tell me in "How young you are!"
I'm growing old !
Thanks for the year whose rapid flight My sombre muse too gladly sings;
Thanks for the gleams of golden light That tint the darkness of their wings; The light that beams from out the sky,
Those heavenly mansions to unfold,
Where all are blest, and none may sigh :
"I am growing old!"

## Our English Dictionarien.

Bailey's "Universal Etymological English Dictionary" was the first worthy attempt at the making of a word-book of our language; and a very creditable attempt it was for the time of its publication, 1726. For those who care to do more about language than to see how "the dictionary" says a word should be spelled or what it
means, Bailey's work has never been entirely superseded. There was some reason that the compiler should say that he had enriched his book with "several thousand English words and phrases in no English dictionary before extant;" for the English dictionaries that preceded his were so small and deficient that as representatives of the vocabulary of our language they were of little worth. But the boasting of subsequent dictionary-makers is, like most other boasting, empty and ridiculous in proportion to the magnitude of its pretensions. When we are told that Webster's Dictionary contans sixteen thousand words not found in any similar preceding work, and then that the Imperial Dictionary contains fifteen thousand more words than Webster's, and yet again that the Supplement to the Imperial Dictionary contains twenty thousand more words than the body of the work, we might well believe that our language spawns words as herrings eggs, and that a mere catalogue of its component parts would soon fill a shelf in an ordinary library, were it not that when we come to examine these additions of thousands and tens of thousands of words thus set forth as made in each new dictionary, and in each new edition of each dictionary, we find that not one in a hundred of the added words, hardly one in a thousand, is really an item unnoticed before of the English vocabulary. Our estimate of the worth of an addition that proceeds by columns of four figures is further lowered by the discovery that these dictionaries, with all their ponderous bulk and verbal multitudinousness, do not fully represent the English of literature or of common life; that they give no aid to the reading of some of our standard authors ; that, while they set forth with wearisome superfluity and puerile iteration, that upon which every one who has sense and knowledge enough to use a dictionary at all needs no information, they pass by as obsolete, or vulgar, or colloquial, or what not, that upon which people of intelligence and education do need instruction from the special students of language; and that while they spot their pages with foreign words and phrases, the use of which by some writers has shown, if their knowledge of other tongues, their ignorance of their own, they neglect home-born words that have been in use since English was a language. That works to which the foregoing objections can be justly madeand they will apply in a greater or less degree to every existing English dictionary-can have no real authorits is too plain to need insisting upon with much particularity. As to dictionaries of the present day, that swell every few years by the thousand items, the presence of a word in one of them shows merely that its compiler had found that word in some dictionary older than his own, or in some not indecent publication of the day; the absence of a word from one of these dictionaries shows merely that it has not thus been met with by the dictionary-maker. Its presence or its absence has this significance and nothing more. Word-books thus compiled have the value which always pertains to a large collection of things of one kind, even although they may be intrinsically and individually of little worth ; but the source of any authority in such word collections it would be difficult to discover.-Galaxy.

## Birds of the Guano Isiands.

A writer in the New York Times, who in a letter of several columns tells the story of "Life on a Guano Island," thus speaks of the feathered population in the country of his exile :-Among the chief o bjects of interest on Baker's Island to a visitor are the birds, and they are well worthy of study. During the first night of my stay on this forlorn spot it seemed at times as if the house were besieged by innumerable tom-cats; then the tumult resembled the suppressed bleating of goats, and I heard noises as of bats grinding their teeth in rage; again it was the querulous cooing of doves; and soon the chorus was strengthened by unearthly screams, as of ghouls and demons in mortal agony. But on going forth into the darkness to learn the cause of this infernal serenade, all was apparently calm and serene, and the radiant constellation of the Southern Cross, with the nei ohbouring clouds of Magellan, looked me peacefully in the face, while from another quarter of the heavens the Pleiades shed their "sweet influence" over the scene. The most quiet time of night with the birds is about day break, when they seem to subside into "cat-naps," preparatory to the labours of the day. By day many of the birds range on tireless wing over leagues of ocean in quest of fish. But still the number of those that remain about the island is so great as to defy computation ; and as you pass through their haunts, in some places they rise in such clouds as actually to darken the air above jou. The eggs of some of the birds are of fine quality, and are much esteemed by the Americans, as well as the Hawaiians on the island. Those of a bird called the nu-e-ko are the most valued. This name is an imitative word, derived from the cry of this restless creature, and is applied to it by the Hawaiians, who have quick intuitions
in onomatopoetic matters. In regard to moral character, the birds of Baker's Island may be divided into two classes-those which make an honest living, and those which are robbers. The gannet stands af the head of the respectable birds, and is a thrifty and honest citizen of the air. The representative of the thievish class is the frigate-pelicau, or man-of-war hawk (Tachypetes aquilus). This bird has a dense plumage of gloomy black, a light, wiry body, that seems made for tleetness, and wings of even greater spread than the gannet's. Its tail is deeply forked, its bill is long, sharp, and viciously hooked. Audubon regards the frigate-bird as superior, perhaps, in power of flight to any other. It never dives into the ocean after fish, but will sometimes catch them while they are leaping out of the water to escape pursuit. It is often content to glut itself with the dead fish that float on the water, but it depends mostly for a subsistence upon robbing other birds. It is interesting to watch them thus occupied. As evening comes on, these pirates may be seen lying in wait about the islands for the return of the heavily-laden fishing birds. The smaller ones they easily overtake, and compel them to disgorge their spoils; but to waylay and levy blackmail upon those powerful galleons, the gannets, is an achievement requiring strategy and address. As the richly-laden gannet approaches the coast of his island bome, he lifts himself to a great height, and steadily oars himself along with his mighty pinions, until he sees his native sands extending to dazzling whiteness below. Now sloping downward in his flight, he descends with incredible velocity. In a moment more he will be safe with his affectionate mate, who is awaiting his return to the nest. But all this time he is watched by the keen eye of the man-of-war hawk, who has stationed himself so as to intercept the gannet in his swift course. With the quickness of thought, the hawk darts upon him, and, not daring to attack boldly in front, he plucks him by the tail and threatens to upset him, or he seizes him by the back of the neck ard lashes him with his long wings. When the poor gannet, who cannot manœuvre so quickly as his opponent, finds himself pursued, he tries to buy his ransom by surrendering a portion of his fishy cargo, which the hawk, swooping down, catches before it has had time to reach the earth. If there is but one hawk, this may be sufficient toll; but if the unwieldy gannet is set upon by a number of these pirates, he utters a cry of real terror and woe, and, rushing through the air with a sound like a rocket, in his rapid descent, he seeks to alight on the nearest point of land, well knowing that when once he has a footing on terra firma not even the man-of-war hawk dares come near him. The man-of-war hawk is provided about its neck and chest with a dilatable sack, of a blood-red colour, which it seems to be able to inflate at pleasure. On calm days, about noon, when the trade-wind lulls, giving place to a sea breeze that gently fans the torrid island, these light, feathery birds may sometimes be seen at an immense height balancing themselves for whole hours without apparent motion on their outstretched vans. Whether they are able to increase their specific levity by inflating their pouches with a gas lighter than the atmosphere, or whether they are sustained by the uprising column of heated air that comes in on all sides from the ocean, is a question I am unable to answer. While floating thus, this bird has its pouch puffed out about its neck, giving it the same appearance as thongh it had its throat muffled in red flannel.

## SCIENCE.

## The.Tidal Wave.

The approach of one of the highest Tides which the combined attraction of the sun and moon can possibly raise has made many of us look up our acquaintance with the laws of Tidal Motion. Every one has satisfied himself why the coming spring tide will be higher than usual. We know that the moon will be near the equinoctial when new, and also near her perigee; and that the combination of these circumstances at a season of the year when the tidal wave raised by the sun is unusually high, must necessarily result in causing a very remarkable tide, even though the winds should be unfavorable. For if we do not have a particularly high tide, owing to the influence of the winds being opposed to the progress of the tidal wave, there will be the equally significant phenomenon of a singular withdrawal of the water at the time of low tide. A few years ago, when a very high tide was expected on the shores of France, the winds drove back the sea, and many who had come from far inland to witness the great influx of water returned disappointed. But had they waited for six hours or so, they would have been well rewarded for their journey, since at the time of low tide the water withdrew far within the usual limita, and
strange sights were revealed to the wondering fishermen who lived along that shore.

Wrecks of forgotten ships were to be seen half buried in the ooze and slime of a bottom which had remained sea-covered for cen turies. Old anchors were disclosed to view, with the broken cables attached to them, on which the lives of many gallant men had once depended, so that every parted strand seemed the record of a lost life. And crawling things and stranded fish showed how far the great sea had retreated within its ordinary bounds. We may, therefore, expect that results well worth noting will under any circumstances accompany the tidal action of October 6th, on which day the effects of the conjunction of the sun and moon on October 5 th will be most strikingly manifested.

But our object at present is less to consider the effects of the great tidal wave of October 6th, than to dwell upon some interesting effects and peculiarities of tidal motion. When we learn that astronomers for the most part recognize in the tidal wave a cause which will one day reduce the eartb's rotation so effectually that instead of twenty-four hours our day will last a lunar month-while many astronomers believe that the same wave will at a yet more distant day bring the moon into collision with our globe-it will be seen that the laws of the tides have a cosmical as well as a local interest. They involve more important considerations than whether the water in the Thames will rise a foot or two higher than usual at Vauxhall Bridge on any particular day. And though many thousands of years must elapse before either of the events looked forward to by astronomers shall have happened, yet we cannot but look with deep interest into the long vista of the coming centuries. To the astronomer, at any rate, the study of what will be, or of what has been, is as interesting even as the study of what is.

But at the very threshhold of the inquiry we are met by the question, "do any of us know the law of the tides?" The reader may be disposed to smile at such a question. Does not every book of geography, every popular treatise on astronomy teach us all about the tides? Cannot every person of average education and intelligence run through the simple explanation of the tidal wave?

Certainly it is so. Most of us suppose we know in a general way (and that is all that we at present want), how the moon or sun draws a tidal wave after it. The explanation which nine hundred and ninetynine (at least) out of every thousand would give runs much in this wise. Being nearer to the water immediately under her than to the earth's centre the moon draws that water somewhat away from the earth ; and again, being nearer to the earth's centre than to the water directly beyond, the moon draws the earth away from that water. Thus, underneath the moon a heap of water is raised, and at the directly opposite point a heap of water is left (so to speak). So that were it not for the effects of friction, the water would assume a sort of egg-shaped figure, whose longest diameter would point directly towards the moon.

And not only is this the explanation which is invariably given in popular treatises, but scientific men of the utmost eminence have adopted it, as correctly exhibiting the general facts of the case. Recently, for example, when Mr . Adams had published his proof that the moon's motion is gradually becoming accelerated in a way which the lunar theory cannot account for Mr. Delaunay, a leading French astronomer, endeavored to prove that in reality it is the earth's rotation which is diminishing instead of the moon's motion which is increasing. He thought the tidal wave, continually checked by the earth's friction as it travels against the direction of her rotation, would act as a sort of 'break,' since its friction must, in turn, check the earth. And in discussing this matter, he took, as his fundamental axioms, the law of tidal motion commonly given in our books of geography and astronomy. This presently called up the Astronomer Royal, who gave a very clear and convincing demonstration that there would always be low water under the moon, if there were no friction.

But this is not all, nor is it even the most remarkable part of the case. Eminent as the Astronomer Royal deservedly is, and especially skilful as we know him to be in questions such as the one we are considering, yet if he 'were solus contra mundum, we might readily believe that there was some flaw in his reasoning since, as every one knows, the most eminent mathematicians have sometimes miscon. ceived the bearings of a perplexing problem.

But, as Mr. Airy himself pointed out, Newton and Laplace were both with him.

How is it that the views of Newton and Laplace, admittedly the very highest authorities which could be quoted, have found no place in our treatises of astronomy? Their views have never been disproved. In fact, as we have seen, one of the most eminent of our mathematicians, in re-examining the question, has come to precisely the same conclusion. Can it be that the explanation actually given is preferred on account of its greater smiplicity? That would be reasonable, if the
two explanations were accordant, but they happen unfortunately to be wholly opposed to each other, and therefore one of them must be false. Those who teach us our geography and astronomy ought to look to this.
The worst of it is, that the most of consequences which astronomers ascribe to the action of the tidal wave depend on the choice we make between the rival theories. If the ordinary view is right, the moon's motion is continually being hastened by the attraction of the bulging tidal wave, and this hastening will bring the moon into a smaller and smaller orbit until at last she will be brought into contact with the earth, unless, as Professor Alexander Herschel suggests, she should crumble under the increased effects of the earth's action, and so come to form a ring of fragments around our globe. If, however the other view is right, the moon's motion will be continually retarded, her orbit will gradually widen out, and some day, presumably, we shall lose her altogether. This retarding and hastening refer to the rate at which the moon completes her revolutions round the earth. As a matter of fact, paradoxical as it sounds, it is a continual process of retarding which eventually hastens the moon's motion. Every check on the moon's motion gives the earth an increased pull on her, and this pull adds more to her velocity than she lost by the check. And vice versa.

Again, if the views commonly given are just, the earth's friction should cause the tidal wave to lag behind its true place. But if Newton, Laplace, and Airy are right, then, to use the words of the lastnamed astronomer, ' the effect of friction will be to accelerate the time of each individual tide.'

We apprehend that there is room for improvement in the current account of the tides. Many eminent men, as Whewell, Lubbock, and Haughton, have discussed in the most elaborate and skilful mauner the laws according to which the actual tidal wave travels along the great sea-paths. But as yet no one has tried to reconcile the theory of Newton, which may be called the dynamical theory of the tides, with that commonly given in our books, which may be called the statical theory.-London Spectator.

## Weather Wisdom.

The theory of the circulation of the atmosphere recognises two grand currents of air, blowing respectively from the equatorial and the polar regions of the earth. Hadley was the propounder of this theory, which has stood the test of all subsequent research and observation. It explains why equatorial winds come from the south-west, and polar winds from the south-east, in the northern hemisphere; why the equatorial come from north-west and the polar from south-south-east in the southern hemisphere. The polar current, having a region geographically cold, and advancing into warmer latitudes, always feels cold, and is usually dry and heavy; while the equatorial current, having a reverse course, is warm and often moist, and light with vapour. These characteristics of the two primary wind currents are experienced generally over all the world. In the temperate zones, sometimes called also the zones of variable winds, the polar current at times prevails at the earth's surface, and, at other times, the equatorial, and one or the other may be superposed at any given region. The place of contact, whither these currents flow side by side or one above the other, is not well defined, but is the seat of veering winds and the birthplace of storms. Regarding the north-east and the southwest as the normal winds of the north temperate zone, winds from all intermediate directions are found to bear characteristics more or less common to both normals. The place of contact or intermingling is usually marked by precipitation of rain, hail, fog or snow, resulting from the cold of the polar current condensing the vapour borne by the equatorial current. The weather features of the polar current are generally high barometer, low thermometer for the season, dryness and clear sky; those of the equatorial are a more frequent low state of the barometer, high thermometer, rain or humidity, and overcast sky. Thus Bacon's sayings-"Every wind has its weather," and " North wind cold, east wind dry, south wind warm and often wet, west wind generally rainy "-have been confirmed by subsequent philosophy. The chief motor of the air is undoubtedly heat, but it is not easy to trace its connection with the changes of wind in regard to direction and force, although a direct estimate of the statical forces which control the dynamical force of the wind is very much needed. Such an estimate in the present state of science is best obtained by means of barometers at places about 100 miles or so apart. Whenever, from any cause, a gradual lightening of the atmosphere occurs over an area of some hundreds or thousands of miles of the earth's surface, shown by barometers there falling gradually, an influx of air must of course take place to restore equilibrium. Now it is a remarkable fact that the direction of this flow is indicated by the motion of
the mercury in the barometers, and the relation between the wind and the atmospheric pressure is such that the wind comes nearly at right angles (with tendency towards the place of deficiency) to the line joining the place of highest and the place of lowest barometer, the place of least pressure being on the left of the wind's course. This comprehensive law for the winds of the northern hemisphere (left having to be altered to right for the southern) was first proved to be generally applicable to all winds by Dr. Ballot, of Utrecht. The intermingling of polar and tropical winds causes condensation of vapour, and also electrical action. These processes set free sensible heat. On the other hand evaporation renders heat latent, and therefore causes chilliness. Heat thus rendered alternately latent and active is virtually a statical force, and must affect the dynamical condition of the air. Thus the moving force of wind must result from disturbed equilibrium of atmospheric pressure, from evaporation of water, condensation of vapour, electrical action; and besides the direct influence of solar heat, there may be other agents active beyond our earth, as the attraction of the sun, moon, \&c., of which, however, nothing definite is known. The polar current when uppermost may produce a chilling effect, and cause the lower and warmer current to part with some of its moisture; and, where the tropical curreat is thrown into the higher and colder region of the atmosphere there rain must happen. Thunder storms are always the result of the conflict of two dissimilar currents of air. The contact may take place vertically, horizontally, or more or less so. When it occurs under the former circumstance, the progress of the storm marks very closely the advance of the predominant wind. Under the latter circumstances the battle cannot be charted down, and we are left to conjecture the state of affairs. The presence of the upper current is shown only by the motion and visible features of clouds, most notably so by the cirrus and cirro-cumulus. The necessity for the existence of opposing winds for the concurrence of thunder storms has been strangely overlooked, although it is recognised even in the, Psalms :-"He causeth the vapours to ascend from the ends of the earth, He maketh lightnings for the rain, He bringeth the wind out of His treasures." Mr. Glashier, the veteran meteorologist, observed during a balloon ascent, made in the middle of January, a strong current of airfrom the south-west over our country, having a depth of nearly one mile. This tropical current continued many days. "The south-westerly current thus observed," says Mr. Glashier, "is of the highest importance, as bearing upon the very high mean temperature we experience during the winter, so much higher than is due to our position on the earth's surface ; and it is highly probable that to its fluctuations the variations of our winters are due.... So long as these winds blow we have no frosts or intense colds; but the moment the wind changes during the winter to an easterly, north-easterly, or northerly direction, we have hoth frost and snow, and more or less intense cold. The south-west winds in their course meet with no obstruction in coming to us, but they blow directly to us and to Norway over the Atlantic ; and hence we enjoy a much milder climate during winter than any other lands not similarly situated with regard to such winds."-Mechanics' Magazine.

## ART.

Music cultivates the taste and refines and elevates the moral feelings.-Tate

## Czerny's Letters to a Young Lady.

## first rudiments of the piano.

The first principles, namely, a knowledge of the keys and the notes, are the only really tedious and unpleasant points in learning music. When you have once conquered them, you will every day experience more and more amusement and delight in continuing your studies.

Consider the matter as if you were for a time compelled to wend your way among somewhat tangled and thorny bushes, in order to arrive at last at a charming prospect and a spot always blooming in vernal beauty.

The best remedy against this disagreeable necessity is, to endeavor to fix these preliminary subjects on your memory as firmly and quickly as posssible. Such pupils as manifest, from the very outset, a desire and love for the thing, and who strongly and rationally apply their memories to the matter, will acquire a perfect knowledge of the keys and notes in a few weeks; while others, frightened at the apparent tediousness of the acquisition, often lose several months in attaining the same object. Which, then, of these two ways is the better?

Before any thing else, I earnestly entreat you to acquire a graceful
and appropriate position, when sitting at the piano-forte. The seat which you use must be just so high that the elbows, when hanging down freely, may be a very little less elevated than the upper surface of the keys; and if your feet should not reach the ground, have a dwarf stool, or ottoman, made of a proper height; upon which to place them. You must always seat yourself exactly facing the middle of the key board, and at such a distance from it that the tips of the elbows may be a little nearer to the keys than the shoulders.

Equally important is a graceful position and carriage of the head and upper part of the chest ; it must neither be stiff nor bent. Some of my former little pupils, whom I used to tease with the reproach of making a cat's back-that is, sitting with their backs bent and oblique -have, in later days, thanked me for the strictness which I showed in this particular.

It is not merely that an awkward position is disagreeable and ridiculous, but it also impedes, if not prevents, the development of a free and elegant style of playing.

The fore-part of the arm (from the elbows to the fingers) should form a perfectly straight, horizontal line; for the hand must neither rise upward like a ball nor be bent so as to slope downward.

The fingers are to be so bent that the tips of them, together with that of the thumb, when extended outward, may form one right line : and so that the keys may always be struck with the soft and fleshy tips of the fingers, and that neither the nails nor the flat surface of the fingers shall touch the keys. In striking the black keys, the fingers must be stretched out a little more ; but even in this case they must always remain sufficiently bent.

The percussion on the keys is effected solely by the fingers, which, without any actual blow, must press each key firmly down; and in doing this, neither the hand nor the arm must be allowed to make any unnecessary movements. The thumb should always strike the key with the external narrow surface, and in so doing, it must be but very little bent.

The white keys are to be struck on the middle of their anterior broad surfaces, and the black keys pretty close to their nearest extremities or ends.

You must take great care that you do not strike any key sidewise or obliquely ; as otherwise a contiguous and wrong key may chance to be touched, and in music nothing is worse than playing wrong notes.

While one finger strikes, the other fingers must be kept close to the keys, but always bent, and poised quite freely in the air; for we must not touch any key before the moment in which it is to be struck.
The most important of the fingers is the thumb; it must never be allowed to hang down below the key board; but, on the contrary, it should always be held over the keys in such a way that its tip may be elevated a little higher than the upper surface of the black keys; and it must strike from this position.

To observe all these rules exactly, it is requisite that the elbows should never be too distant from the body; and that the arms, from the shoulder downward, should hang freely, without being pressed against the body.
The necessity of all these rules jou will not be able to comprehend till a future period.

The knowledge of the notes is a mere affair of memory ; and for for every note you must endeavor to find and strike the proper key, on the instant, and without the least hesitation. In music, this constitutes what is called reading the notes; and when you shall have acquired this readiness, you will have overcome the most difficult thing which elementary objects in music will be likely to present to you.

At first you will naturally learn only the notes in the treble clef; and for this purpose, we may employ the following means :-

First,-When you look at a note, you must name it aloud, and then seek for and strike the key which belongs to it.

Secondly,-When you strike at hazard any white key on the treble side of the key-board, you must name it aloud, and seek directly for the note belonging to it.

Thirdly,—After having struck any white key at hazard, you must describe aloud, in words, on what line or in what space the note belonging to it must be written.

Fourthly,-You must often play through, slowly, some of the easiest pieces for beginners, note by note, and with great attention, naming each note as you proceed.
$\boldsymbol{F}^{\prime}$ ifthly,-I must also recommend you to adopt the following expedient : since you are already much advanced in writing, as it becomes a young female of education to be, you must learn to write music, The little trouble that this will cost, you will find amply recompensed by great advantages. Notes are much easier to write than letters; and, if you daily devote a short quarter of an hour to this task, in a couple of weeks, you will become sufficiently expert at it.
Your teacher will give you the instructions requisite for this
purpose ; and when you have been in this way accustomed to place the notes as they come, exactly on or between the lines, copy out daily one of the easiest elementary lessons, and then write in letters over each note its proper denomination ; after which, play the piece over.

When, in this way, you have learned to know perfectly all the notes in the treble clef, and are able to play slowly but correctly, with both hands, all those little pieces in my School which are written for both hands, in the treble clef, then take the base notes, and proceed with them just in the same manner.

You must practise each piece, paying the strictest attention to the fingering indicated, till you are able to execute it without stopping or stumbling. Each day, you should read through a couple of fresh little pieces to accustom the eye and the fingers to the various and ever new passages which are formed by means of the notes.

At first, after each note, we must also look at the key which is to be struck; but afterward, when we have attained a tolerable certainty in finding the keys, it is better to fix the ejes on the notes, rather on the keys.

And now, allow me in this letter to offer this last very important remark : the best knowledge of the notes avails us very little, if, at the same time, the fingers do not begin to develope that degree of flexibility which is requisite for striking the keys, and for playing in general. I therefore most earnestly recommend you to practice daily, with untiring diligence and the greatest attention, all the five-finger exercises, in both hands, which you will find at the beginning of my Piano Forte School, and which jour instructor will explain to yon, in order that your small and delicate, though still sufticiently powerful fingers, may speedily acquire that pliability, independence and volubility which are absolutely necesssary to playing.

Do not be alarmed at the little trouble and application that this may require ; try three or four times every day, for at least a quarter of an hour each time, to play through the exercises with attention. In fact, it is as impossible to play the piano-forte well with stiff and untractable fingers, as to dance well with stiff and untractable feet.
Volubility of finger is one of the chiefrequisites in piano-forte playing.
It is very proper that your teacher gives you an hour's lesson every day. If, in addition to this, you daily dedicate another hour-or, if possible, two hours-to practising by gourself, you will in a few months have forever conquered all that is difficult or tedious in the elementary branches of playing; and you will each day see augmented the pleasure which the delightful art of music so richly bestows on its votaries.-Peters' Musical Monthly.

## What is a Singer?

A person with a rich musical voice, who can give an artistic rendering to any song he may attempt to sing. He should be able to impress his hearers, and rivet their attention, no matter what his subject may be. If sad, then must he use pathos and tender feeling ; if gay, he must himself be cheerful, joyous, and lively; if the strain be martial, he must also be martial in look, word, and action, full of fire and brilliancy. He must be able to declaim in a clear and masterly style; too much attention can not be paid to this; for if he merely sing in tune and the words are not heard, he.but does that which an instrument is capable of. The soul of the singer must rise with every emergency; and if he be clever, he will sway the minds of his hearers as the wind plays with the leaves. At one moment his audience will be roused to the highest pitch of enthusiasm, the next may see them melted even unto tears. But to achieve this he must lose sight of himself aud for the time being become as it were the individual whose feelings he endeavors to portray; in short, he must feel and speak from the earth; and unless he does so, his labors are thrown away. What wonderful effects are created by merely paying attention to light and shade, or piano and forte! One person with a capital voice will sing a song without paying attention to the above, and ere it is finished, it becomes monotonous and even painful to the ear. Another, with not nearly so good an organ, will use it with judgment, one moment thrilling his heavers with soft plaintive utterings, and anon electrifying them with his stirring denunciation. This, let it be remembered, is the secret of our greatest singers; there must be life, soul, and contrast. Having a fine voice and using these aids, he may attain the highest position as a singer: but without them he is poor indeed.-Cottam's Advice to Young Singer's.

Wanted.- By a young lady accustomed to tuition, and having a Model School Diploma, an engagement as resident governess, or to take charge of a small school. She is qualified to teach English and the rudiments of French and Music.

Address, E. B., Post Office, Quebec, or Journal of Education, Ministry Address, E. B., Post
of Public Instruction.

## OFFICIAL NOTICES.

## Ministry of Public Instruction.

## APPOINTMENTS.

## SCHOOL COMMISSIONRRS.

The Lieutenant-Governor, by an Order in Council dated 19th of October last, was pleased to make the following appointments :

Paspebiac, County of Bonaventure: Mr. André de la Rosbille to replace Mr. Louis Denis.

Gaspé North, County of Gaspé : Messrs. Alexander Aska and Félix Miller to replace Messrs. William Miller and Robert Aska.
Grande Vallée, County of Gaspé: Mr. George Brousseau to replace Mr. Joseph Langlois.

Ashford, County of lislet: The Reverend Mr. Alph. Casgrain and Messrs. Eizéar Pelletier, Louis Fournier, François Levêque and JeauBaptiste Jean.
St. Grégoire, County of Nicolet: The Reverend M. Léandre Tourigny to replace the Reverend M. Jean Harper.
St. Roch (South), Co. of Quebec: Mr. George Pâquet to replace himself, and Mr. Joseph Leclerc to replace Mr. Francois Bélanger.
Tewkesbury No. 2, Co. of Quebec: Messrs. James Whalen, Alexander MeKee, James Cullen, Michael Whalen and James McKee.
The Lieutenant-Governor, by an Order in Council dated the 10 th inst., was pleased to appoint the following :-
St. Pierre de Broughton, County of Beavee: M. Laurent Paquet to replace the Revd. Nicolas Mathias Huot whe has removed from the Muni-cipality,-no election having taken place within the prescribed time.
St. Stanialas, County of Champlain: M. Pierre Trefflé Gouin, to replace the Rerd. George Louis Eusíbe Dubault, deceaseā,-no election having taken place within the legal time.

St. Pierre de Durham, County of Drummond : M. Ephraim Charpentier to replace Mr. William H. Miller who has declared himself a Dissen-tient,--no election having taken place within the leyal time.
St. Sylvestre (South), County of Lotbinière: Messrs Clément Payer and William Wilson, to replace themselves,-no election having taken place within the prescribed time.
Pointe sux Fsquimaux, County of Saguenay: Messrs. Julien Boudreault, Vital Vignon, André Vignon, Vital Boudreault and Charles Lebrun,- no election having been held since eighteen bundred and sixtythree.

North Ely, County of Shefford : M. Noah Brock, to replace Mr. George Hodgeson who has joined the I)issentients, - no election having taken place.
Belceil (village), County of Verchères: The Revd. L. H. Lassalle, to replace the Revd. J. P. Dupuy, retired from office,-no election having taken place within the legal time.

## sChOOL TREBTEE.

In virtue of the powers conferred upon him by the 20 th Victoria, Section 1st, Art. 3rd. the Lieutenant-Governor, on the 19 th ult., was pleased to appoint William Mead Pattison, Esq, to be Trustee for the Frelighsburg Grammar School, in the County of Missisquoi, to replace Jane Freligh.

## ERECTION, BOUNDARIES AND ANNEXATIONS OF SCHOOL MUNICIPALITIES.

The Lieutenant-Governor, by an Order in Council dated the 19 th of October last, was pleazed

1. To erect into a School Municipality the Township of Ashford, in the county of l'Islet, including therein the part of Ste. Louise, in the same county, known under the name of " Reste du quatrieme Rang."
2. To assign to the School Municipality of Ste. Louise, in the County of l'Islet, the limits such as described and set forth in the Canonical Decree, dated the twelfth November, one thousand eight hundred and fiftynine, to wit: 1. The line of the Grand Trunk Railway will form the separation between the waste lands of the Parish of St. Roch des Aulnets and that of the Parish of Ste. Louise, from the Parish of St Jean Port-Joli to the By-road leading from the church of the first to that of the second. 2. From the By-road above mentioned to the Parish of Ste. Anne Lapocatiere, the line of separation between both the waste lands will be the same as that separating the said Parishes of St. Roch and Ste. Louise, such as set forth in the said Decree, erecting the Parish of Ste. Louise aforessid except that the emplacements which are already or will be in future conceded, north of the By-road of the "Haute-Ville," will belong to the Parish ot Ste. Louise aforesaid.

The Lieutenant-Governor, by an Order in Council dated the 10th inst., has been further pleased
To annex, to the Parish of St. Medard de Warwick, County of Arthabaska, -the following lots, for School purposes, namely,-numbers, eleven, twelve, thirteen, fourteen, fifteen, sixteen, seventeen, and eighteen of the sixteenth Range of St. Albert de Warwick in the same County.

## DIPLOMAS GRANTED BY BOARDS OF EXAMINERS.

PONTIAC bOARD
Session of July 6th, 1869.
Flementary School Diploma, (Fi) 2nd Clase:-Miss Isabella Armstrong and Mr. John Baird.

## Ovide Leblanc, Secretary.

SHERBROOKI BOARD.
Session of November 2nd, 1869
Academy Diploma, (E) lst. Class:-Mr. Alonzo Lee Holmes.
Model School Diploma, (E) 1st. Class:-Miss Eliza A. Loring.
Elementary School Diplona, (E) 1st Class:- Miss Mary L. Munn Messrs. Robert Scholefield and William Robert Ward.

2nd Class:-Messrs. James Broughton and Henry Cunningham.
S. A. Herd,

Secretary.
Correction.-In our issue for August and September we inadvertently credited Misses Sarah L. Cuitter, Margaret Curran, Christina McLeod and Agnes Wilson with having obtained from this Board Second Class instead of First Class Elementary School Diplomas.

GABP血 BOABD.
Session of November 2nd, 1869.
Elementary School Diploma, (F) lat Class:-Miss Clémentine Bossé and Mr. François Xavier Blouin.
E. J. Flime, Secretary.
waterloo and aweetsburgh pbotertant board.
Session of November 2nd., 1869.
Elementary School Diploma (E.) 2nd Class:- Miss Mary J. Bridges, Messrs. Charles J. Chandler, Hiram G. Fay, George H. Hulburt and John McNeill.

William Gibson, Secretary.

## THE JOURNAL OF ROUGATMON.

QUEBEC, (PROVINCE OF QUEBEC,) NOVEMBER, 1869.

## Gilchrist Echolarship.

The following is a list of the candidates who have passed the recent matriculation examination for the University of London held in Canada.-June Matriculation.-Pass List.- Honours Division: John Logan. McKenzie (Gilchrist Scholar), High School and Morrin College, Quebec ; William Steward Macfarlane, University of New Brunswick; Robert Gregory Cox, Trinity College, Toronto. First Division: Samuel Ainsley Chesley, Wesleyan College, Sackville, N. B.-Illustrated London News.

## Report of the Minister of PublicInstruction of the Province of Quebec, for the year 1867, and in part for the y ear 1868.

## (Continued from our last.)

For the first time, the report of the Model Schools aided are published among the Statistics of Superior Education.

These institutions, although naturally forming a part of the primary schools, are aided from the funds for Superior Education and transmit their reports in the same form as the Colleges and Academies. Nevertheless, although they are inserted as the fifth division of secondary schools in the table of superior instruction and of secondary
instruction, in the general recapitulation of the whole Statistics of Public Instruction, the Model Schools figure as they ought to do among the primary; they are, in effect, equivalent to those of the class styled in France "Superior Primary Schools," being merely one degree higher than the simple Elementary Schools.
The total number of scholars of these Model Schools is 22,461. A certain number of the charity schools in the cities have been classed among them, although the most of their scholars study only the subjects required for the Elementary Schools. The remark which I have made several times in my preceding reports on the subject of the lower forms in the colleges applies to these schools; the greater portion of their scholars ought to be included in the category of Elementary Schools. Of scholars attending the Model Schools receiving aid, (strictly speaking the Superior Primary Schools) there are 12,442 boys and 10,019 girls. Most of these schools are conducted by instructors belonging to the religious orders, or by teachers possessing the Model School Diploma granted by the Normal Schools or by the Boards of Examiners. The possession of a Diploma of this class, whether of the Normal School or of those Boards, is always required on the part of the lay teachers; the law exempts ministers of religion, ecclesiastics and persons of the religious orders. A large share of the most useful and profitable instruction which is given with the aid of government is attributable to these schools, distributed, to the number of 194, in all the counties of the Province. A more regular classification of these Institutions, and of the Academies for girls and for boys, and a special surveillance of the carrying out of a course of study more strict and less varied than that which has been pursued up to the present time would be very desirable.

The following table of the sums levied for scholastic contributions and of the voluntary contributions shews a considerable increase for the year, due principally to the increase of the supplementary taxes and of those for the construction of school-houses. Much of the increase has occurred in the new and distant parishes which have given proof of great zeal in behalf of public instruction.
Table of sums levied for Public Instruction in Lower Canada, from 1856 to 1867.

| Years. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1856 | $\$$ cts <br> 113884 87 | $\begin{array}{cc}\$ & \text { cts. } \\ 93897 & 90\end{array}$ | ${ }_{173488}$ cts. 98 | \$ ${ }_{2493}$ cts. | ${ }_{\text {\$ }}^{\text {\$ }}$ cts |
| 1857 | 11388708 | 7879117 | 208602 * 37 | 2292863 | 42420925 |
| 1858. | 11548509 | 8837269 | 23119265 | 2464622 | 45939665 |
| 1859 | 11579251 | 10915196 | 25140844 | 2208357 | 49843648 |
| 1860 | 11442476 | 12393964 | 24971710 | 1577823 | 50385973 |
| 1861. | 11396929 | 13056092 | 26408911 | 1700000 | 52621982 |
| 1862 . | 11096675 | 13403315 | 28193023 | 1579884 | 54272897 |
| 1863. | 11053425 | 13488850 | 30763814 | 1174976 | 56481065 |
| 1864 | 11215834 | 14451561 | 32103730 | 1555312 | 59326437 |
| 1865 | 11244709 | 14715823 | 32480187 | 1304157 | 59744876 |
| 1866 | 11365735 | 15373298 | 35669153 | 2298532 | 64706718 |
| 1867 | 11390964 | 19609858 | 391068 37 | 2441746 | 72849405 |

Table shewing the sources whence comes the difference of increase or decrease between 1.1864 and 1863, 2. 1865 and 1864, 3. 1866 and $1865,4.1867$ and 1866.

|  | - | - | - | - |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Increase of 1864 over | \$ cts | \$ cts. | \$ cts | \$ cts. | \$ cts. |
| 1863.............. | 162409 | 962711 | 1339916 | 380336 | 2845372 |
| Increase of 1865 over $1864 \ldots \ldots . . . . . .$. | 28875 |  | 376467 |  |  |
| Decrease of 1865 from $1864$ |  |  |  | 251155 | 418430 |
| Increase of 1866 over 1865. $\qquad$ | 121026 | 657470 | 3173336 | 994375 | 4961840 |
|  | 25229 | 4236584 | 3737684 | 143414 | 8142687 |

The Boards of Examiners continue their important task and there is reason to hope they will shew themselves more and more disposed towards a just strictness in regard to a large number of Candidates, and above all to those who armed with a too easily obtained Diploma
cause a deplorable competition with teachers really capable. A glance at the following table will shew that some of the Boards appear still to dispose a little too rapidly of the number of Candidates who present themselves for examination.

Anntal Statistical Summary of the Boards of Examiners of the Province of Quebec for 1867.


The following Table shews the number of Dissentient Schools in each District of Inspection. The Protestant Dissentient Schools have an increase of 8 and the Catholic a decrease of 15.

Table of Dissentient Schools and of their Scholars.

| $\begin{gathered} \dot{4} \\ \mathbf{C}_{1} \end{gathered}$ | Names of Inspectors of Schools. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | J. B. F. Painchaud. |  |  |  |  |
|  | Rev. R. G. Plees .. | 6 | 160 |  |  |
|  | L. Lucier.. | 2 | 84 | 2 | 75 |
|  | Th. Tremblay. | 2 | 64 |  |  |
|  | Vincent Martin |  |  |  |  |
|  | G. Tanguay . |  |  |  |  |
|  | S. Boivin ... |  |  |  |  |
| 8 | John Hume. | 5 | 229 | 1 | 15 |
|  | P. F. Béland | 1 | 45 |  |  |
|  | F. E. Juneau | 3 | 151 |  |  |
|  | J. Crépault. . |  |  |  |  |
|  | P. M. Bardy . | 3 | 122 |  |  |
|  | P. Hubert. | 4 | 145 |  |  |
|  | W. Alexander |  |  | 7 | 163 |
|  | B. Maurault. . |  |  |  |  |
|  | H. Hubbard | 7 | 204 |  |  |
|  | M. Stenson. |  |  | 9 | 270 |
|  | R. Parmelec | 15 | 386 | 11 | 363 |
|  | J. N. A. Archambault | 2 | 96 |  |  |
|  | Chs. Decazes. | 5 | 114 |  |  |
|  | Michel Caron | 18 | 545 |  |  |
|  | L. Grondin. | 13 | 521 |  |  |
|  | C. Thompson | 6 | 330 | 12 | 494 |
|  | F. X. Valade. | 22 | 775 |  |  |
|  | A. D. Dorval | 6 | 177 | 1 | 37 |
|  | C. Germain | 7 | 200 | 1 | 37 |
|  | C. B. Rouleau |  |  |  |  |
| 28 | Bolton McGrath | 19 | 670 |  |  |
|  |  | 146 | 5018 | 44 | 1463 |

The following Table shews the increase of the Fund for Superannuated Teachers since its establishment.

## Superannuated teachers' fund.

| Years. | Number of Teachers who subscribed each year. | Number of Pensioners each year. | Rate of pension for each year of teaching. | Total of pensions paid. |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  | \$ cts. | $\$ \mathrm{cts}$. |
| 1857.. | 150 | 63 | 400 | 88690 |
| 1858.. | 74 | 91 | 400 | 221174 |
| 1859.. | 17 | 128 | 400 | 311536 |
| 1860.. | 9 | 130 | 300 | 282157 |
| 1861. | 9 | 160 | 300 | 360358 |
| 1862.. | 10 | 164 | 175 | 252209 |
| 1863.. | 13 | 171 | 225 | 323700 |
| 1864. | 7 | 170 | 175 | 272700 |
| 1865. | 11 | 160 | 175 | 258700 |
| 1866. | 13 | 173 | 175 | 272400 |
| 1867. | 5 | 176 | 175 | 303600 |

I still entertain the hope that the Legislature will augment the aid accorded to this fund. There is reason to expect that such augmentation would lead a great number of teachers to subscribe.
In any case it is desirable that a some what higher pension should be afforded to aged teachers retired from teaching, who have contributed according to their ability, to the maintenance of their confreres and who have made this use of their small savings.
The clergy, school commissioners, and inspectors of schools would render a real service to teachers in acquainting them with the couditions of subscription to this fund. In spite of all the pains taken to do this in The Journal of Education and in the Journal de l'Instruction Publique, there seems to be an impression that, in order to have a right to a pension it is sufficient to have taught a certain number of years.

Among the subjects which should occupy the teachers at the meet ings of their associations, I take the liberty of indicating this as one of the most important.

I have here to express again my regret that so small a number of reachers attend meetings whose utility is so great, and, in behalf of which, a certain number among them, and especially the Principals and Professors of the Normal Schools, make such commendable efforts.

> The whole respectfully submitted,

Pierre J. O. Chauveac;
Minister of Public Instruction.
Quebec, 24th March, 1869.

## Report of the Sixth Aninual Convention of the Provincial Association of Protestant Teachers of the Province or Puebec.

(Concluded from our last.)<br>session of thursday.

The meeting, this morning, after discussing at some length questious of order, listened to a speech from Hon. Judge Day, Chancellor of the McGill Universisty.

## JUDGE DAY'S ADDRESS

Judge Day saic: These assemblages of the teachers of the Province, which ought to be extended to similar meetings for the Dominion should bring about important results. They should guide the legislator and the executive oflicer as well as the teacher. In order to attain practical usefulness, the Association should aim at being a substantial power, which would control Protestant education, and influence all the education of the country. All that it did should look forward to results in the legislature or otherwise, and it would lose the respect of the people, should it waste time in unavailing debates. He spoke with much regret with regard to those who ought to be here. The leaders of public opinion should be here. The universities should be represented here. This should be our educational parliament. This could be done by the honest efforts of intelligent and thoughtful men. This was an age of combinations. Combinations were to-day the power which ruled the world. Combinations, which resulted only in material advancement, might only lead men back to barbarism, without the co-operation of those which worked upon the mind. Material Rome had passed away, but the mind of ancient Rome exercised a wonderful power over the world to-day. Nothing remains of nations passed away but their recorded thoughts; and such was the capital which this Association worked, and its responsibility should be remembered.
The subject of Prof. Robins' paper on arithmetic was then taken up.-Inspector Hubbard urged the importance of oral teaching of simple calculations. Prof. Hicks, advised the use of paper in preference to the slate. Mr. McLaughlin of Sutton advocated the use of the slate. TEXT BOOKS.
The next question taken up was;"Is the Character of our Canadian Text-books all that could be desired?" The question was ably discussed by Mr. Williamson, Montreal ; Inspector Hubbard, of Saint Francis; Inspector Jones of Brockville ; Messrs. MeLaughlin and Watson, Rev. Mr. Slack, Prof. Robins of Montreal,-the weight of argument being to the effect that Canadian Text books are not all that could be desired. An essay was then read by Mr. Marsten of St. Johns.

## SCHOOL HOCRS

The question of the length of daily attendance in schools was next opened by Prof. Hicks, who said that when young he taught many of his scholars seven hours and a half per day. More modern views were in favor of a complete change, and three hours has been urged. He did not favor the change in all cases ; the system might suit for the children of educated persous who were in all circumstances learning. In some places, the longer you could keep the children from what they learned at home the better. Many now worked all sorts of new subjects-an arrangement which did not comport with the shortening of hours. Some thought a teacher might give his attention to leadin' the sports of the children in the afternoon, but this was impossible in towns, at least. Pof. Robins urged the shortening of the hours. School instruction was a very minute part of education-Physical education wonld be best carried on in the play ground, and even moral culture depended more on that than on the restraint of the schoolrooms, even the faculty of application and thought the schools could not form within its walls. In schools the business was following the thoughts of others, not the training of the mind to original thought.
Mr. Lay, of Waterloo, followed with a recommendation to grade the hours of school attendance to the power of the scholars. Mr. Doak
said this was tried in his part of the country but sometimes the boys early dimissed got into scrapes.
Mr. Watson, recommended only five hours' school, and every Saturday for a holiday.
Mr. Jones thought that the shortening of hours might be made the reward of application.

## afternuon of second day.

The meeting this afternoon commenced by choosing Montreal as the next place of meeting, and electing the following officers for the coming year:-President, Hon. Mr. Justice Torrance; Secretary, Mr. F. Hicks ; Treasurer, Mr. Jas. McGregor-all of Montreal.

Prof. Robins reported from a committee instructed to open communication with the Lower Provinces, with a view to the formation of a Dominion Association. He said that any formal action in the matter appeared to the committee to be premature. The committes was discharged.
Mr. Doak of Compton then read an essay on the best way of promoting attendance at schools. This could be done by parents giving to their children correct ideas of the attractions of school life, and the managers of schools could do much by embellishing the school house and grounds. The teacher could also do much do induce regular attendance. In the discussion of this question Messrs. Williamson, Hubbard, Marsten and Roberts, Mr. Hemming, M. P. P., Hon. L. S. Huntington, Rev. Messrs. Constable and Whitten took part.

Mr. Brown late of Durham Acadeny introduced a slate used in the Bostorn schools and pointed out its advantages.

ELoCUTION.
An animated discussion took place upon the Question "Should more time and attention be devoted to elocution in our schools?"
Mr. Hubbard opened the discussion and advocated the devotion of more time and attention to elocution. Rev. Mr. Fessenden of Bolton was opposed to the prevailing system declaring that Declamation was the best means of making children umuatural and theatrical. Prof. Duff, the Chairman and Hon. Mr. Huntington, also took part in the discussion.

## evening session.

Mr. Jones of the Richmond Guardian, opened the proceedings with an able essay upon "Technical Education."

## how many stcdies?

Prof. Robins opened the discussion on the question. "How many studies could be wisely carried on at once? "He traced in an interesting manner the natural growth of the mind in youth. We should introduce first those studies which require the perceptive faculties then those which require the logical powers, and, lastly, those which educate the taste. Of course there were some subjects, such as reading writing, and arithmetic, which must be taught because needed, but outside of such the above order should be followed.
Prof. Hicks gave a list of what subjects were required now-a-days of a common-school pupil, and asked how it was to be managed. He thought good, easy, correct composition would be a good test of the efficiency of a common school, for those who had attained to this must have a foundation.

Mr. Doak of Compton read a paper on the causes which tend to retard the improvement of education. The first of these being a lack of permanent teachers.
religious instrection.
The next guestion adranced was,-" Ought religious instruction to be introduced into common schools?"
The Rev. Mr. Lindsay, Rector of Waterloo said that as a minister of the gospel he could not but desire that there should be some degree of religious education in public schools. Government money should not be spent in teaching anything of a sectarian nature, but the instruction should be as catholic as the scripture itself. Scripture history should always be taught. The managers of schools in one district had actually been bullied out of reading the Bible. This was not only required in Upper Canada, but a form of prayer was furnished. Some very simple text-books on religion might be introduced.
Mr. Roberts, of Philipsburgh, thought there was nothing in this question to awake pugnacity. He had not been able to find a tangible or sound argument in favor of religious instruction. If the question meant teaching the doctrines of the Bible, it could be no part of the duty of the teacher. Scripture history, or devotional exercises, did not come into the question at all. A text-book could not be devised that would not tread on somebody's toes.
Rev. Mr. Armstrong, of Waterloo, thought the Word of God was not denominational, and would itself teach religion.
Prof. Robins said the Bible was of all books the most important, either in the light of history or literature, and it was a book of which the people were lamentably ignorant. Neither the Churches nor Sun-
day schools had taught them. Leaving religion out of the question, this ignorancee was evidence of a national want.

Prof. Hicks thought religion should be taught and that largely.
Rev. Mr. Duff was amazed at the idea that this question should breed disquietude. In reply to Prof. Robins he thought that scripture was well taught in Sunday-schools, where the Protessor might ask almost any scripture question without failing to get an answer. The Bible was the secret of Britain's greatness. Religion was not taught in our district schools; as, what one would think the vital principtes of Christianity, another would conscientiously oppose. A teacher who was religious would however, teach in a religious spirit. Religious tests hatd all been abolished in the Scotch Universities, but, happily, those institutions had lost nothing in the piety of their instructors. The state had nothing to do witin religion.

The Hon. I. S. Huntington thought the question very difficult. We must look at the facts as they are. The question can only be applied to the Protestant population. Even in this the difficulty was great. All Christians agreed on some points, but how very few -and how was the teacher who should go the first step beyond simple reading of the Bible, to answer the questions of the inquiring mind? He had written and suffered much for the principle of non-sectarian education but it could not yet be generally carried out. Whatever was done, the question of education should be thrown much more directly on the shoulders of the people.

Rev. Mr. Fesseuden, of Bolton, was in favor of religious education. Sundays were, to a great extent, devoted to purely devotional training. There were uniou Sunday-schools and union question-books. This showed we could combine. It we could carry this out we might do much to heal the breaches of the Churches. Rev. Mr. Constable said there was a wide difference between elementary schools and higher seminaries. Thuse at the common school were under the parental eye, but in the higher schools they were separated trom their homes.

Rev. Mr. Montgomery, of Philipsburgh, recommended teaching the scriptures in every way, except doctrinally, where the school commissioners found it agreeable, aud that, left in this way, the question would regulate itself.
J. G. Robertson, M. P. P., spoke affirmatively, after which the Chairman summed up with much ability. No one would say religious instruction should be banished, but all would agree that no standard could be established for all. All would teach religion as largely as they could but that would go no further than the divided opinions of cominunities would allow. It would be equally wrong to require an irreligious teacher to teach religion, and to deny the right to one who felt constrained to do so.

The usual votes of thanks were then passed; the final minutes were read, and the meeting closed with the doxology and benediction.

## School Picnic-Shefford.

We take the following from the "Waterloo Advertiser" of the 2nd September.

The Fourth annual Picnic of the Common Schools of the Township of Shefford, was held here on Saturday last. Notwithstanding the unfavorable appearance of the weather, there was a large attondance of pupils as well as spectators. The proceedings opened in the grove by some introductory remarks by the Rev. Messrs. Lindsay and Phaneuf, and J. B. Lay, Esq. On account of the rain, the Picnic and examination were transferred to the new school house- the first being the disposal of dinner, - the examiners being provided for by Mr . O. Lincoln the indefatigable manager of the Village schools. After dinner, Dr. Erskine addressed the pupils dwelling upon the advantages of education and pointing out some who have risen to eminence both here and in the U.S. who received their education in the Common Schools of the Townships. Mr. J. Dougal of the Witness followed congratulating the School Commissioners of Shefford for their zeal in the cause of education in introducing gatherings of the kind before him as part of their system. He had before him men, women and children of different nationalities, and creeds as well as ministers of different denominations. Such a sight he never had the pleasure of witnessing before and he had no doubt that the example set by the people of Shefford would have a good effect on the surrounding country. This gathering showed that before all they loved theircountry and he hoped that their example would be followed throughout the Dominion. Prof. Duff followed in an able and eloquent speech encouraging parents, teachers and pupils in the work of education. The examination was then proceeded with, concluding with the distribution of prizes at about 5 P . M.

The prizes awarded were for English Reading, Spelling and Grammar, Arithmetic, Geography, Writing, French Keading,
Spelling and Grammar; History and Geography, and Punctuality.

After the distribution of the prizes, the Chairman called upon the Hon. $I_{4}$. S. Huntingdon to address the pupils.
Mr. Huntingdon, who was greeted with applause, addressed some words of advice and encouragement to the children and their teachers; and proceeded to call attention to the peculiar character of the meeting that day. He doubted if a similar gathering had ever occurred outside the good old Township of Shefford. It pointed a moral which ought to be proclaimed throughout the broad Dominion. The Township of Shefford lived up to the letter of the law. She had Commissioners to represent her Protestant majority ; and yet a large body of her citizens were represented by Dissentient Trustees. But they took no account of sects or denominations in their schools. The Chairman of the Protestant Board was his friend, Mr. Mahedy, an earnest and consistent member of the Roman Catholic Church. He had been for many years a popular officer, indefatigable in the discharge of his onerous duties-and having held office before the French inhabitants dissented -nominally on account of faith to meet the law, but really because their languare was different-Mr. Mahedy had been, year after year, elected by his Protestant constituents-and the Roman Catholics who spoke English had patronized the schools. Nobody thought of asking any questions about religion as a qualification for the choice, and nobody's religion had been interfered with; and every body felt that public gratitude was due to the worthy chairman for the intelligent interest he had manifested in the management of our Common Schools. Who did they think was the efficient Secretary-Treasurer of the Protestant Board? Why, that excellent Notary and staunch French Canadian Roman Catholic, Thomas Brassard, Esquire! Nobody had suffered ; good Protestants were as plenty as ever! The test that the people applied to their choice was good citizenship ; and all races and creeds within their confidence. But the Protestants were not alone in this noble rebuke which they had thus quietly and unconsciously administered to religious bigotry and intolerance. Their Roman Catholic fellow citizens were equally dispused towards toleration and good fellowship. There was a gathering of all the schools in the Municipality-French and English-Protestant and Catholicunder one roof-the large and commodious rooms of the French Catholic Model School. Parents of all religions were there with their children, encourasing them while they emulated to love and respect each other, no divided citizenship was cultivated there ; nor were the seeds of bitterness and estrangement sown there. The clergy of all creeds - the Catholics and Protestants were there, like neighbors and christians, to assist and cheer on the good work-to show how pleasant it was for brethren to dwell together in unity. They were laboring together, on common ground, leaving to other fields the work in which duty and opinion divided them. And the children within those walls, under an influence so benignant and harmonious, would grow up to respect and tolerate and love each other. Here was the practical christian solution of the great question which all over the world was puzzling priests and statesmen. This was the way to educate the children of our mixed populations. While others were building high partition walls and cultivating divisions and estrangenents among the youth of the land-they were affording the example of a wise and noble people, yielding none of their peculiar views, but training their children to occupy the common ground of citizenship in harmony and good will. The spectacle was rare but it was magnificent. He wished the whole country could see it as be saw it that day. He did not doubt but other communities, if the way were made plain to them, wo:ld follow the worthy example ; and he ventured to hope the nobic spirit they were displaying would permeate our old educational system, and that an era of peace and brotherhood, among all our religious communions, would, for all time, reign over the land.

## Books and Current Exchanges Recelved.

The Nutional Normal, for October, 1869.
Hearth and Home, for November 27, 1869.
Journal of Education, N. S, for October, 1869.
The Minnesota Teacher and Journal of Education, for November, 1869.
The Michigan Teacher, a Monthly Journal devoted to Educational Intelligence, to the Practical Work of the School-room, and to the Philosophy of Education, for October, 1869.
The Pennsylvania School Journal, Organ of the State Teachers' Association, and of the Department of Common Schools, for November, 1869. Ohio Educational Monthly, a Western School Journal, for November, 1869

New Dominion Monthly, for December, 1869.
The Illinois Teacher, D'evoted to Education, Science, and Free Schooll for October, 1869.
The Massachusetts Teacher, a Journal of School and Home Education, for November, 1869.

The Young Crusader, vol. I, No. 10, for October, 1869.
The Weekly Spirit of the Times and Northampton E'ducator, Bethlehem, Pa., October 2nd, 1869. We do not receive this, on the average, once a month. The Schoolmaster, a Journal of Education, Literature and News, for October, 1869.

The Maine Journal of Education, for November, 1869.
The California Teacher, for November, 1869.
Southern Illinois Teacher, for September 1869
The Cincinnati Medical Repertory, edited by J. A. Thacker, M.D., for November, 1869.
P'ackard's Monthly, for November, 1869. Contents varied and good.
Journal of E'ducation, Province of Ontario, for November, 1869.
The Phonic Advocate,-A Magazine of Spelling Reform, Vol. 1, No. 2.
Peters Musical Monthy, for November, $1 \geqslant 69$. An excellent number Rhode Island Schoolmaster, for October and November, 1869. We congratulate the readers of the Schoolmaster, and more particularly the Teachers of Rhode Island on the reappearance of their old and well tried friend, after a rest of six months. May it be long before it requires another siesta
What has befallen the Philadelphia E'ducutional Gazette? We have received no exchange since May last.
Leisure Hours, for November, 1869.
American Educational Monthly, for November, 186).
The Phalosophy of Teaching.-The Tracher, the I'upil, and the School, by Nathaniel Sands. New-York, Harper and Brothers. 8 ro. pp. 60.-Hear what Mr. Sands says upon Book teaching as commonly taught to the Young :-
"The true teacher does not seek to teach by simply putting books into the child's hands, and bidding it to learn; he addresses himself to those faculties and powers of the child's mind, which bring it in relation with the world in which it lives.
Sight, hearing, touch, taste, smell, and thence observation, judgment. perception, reason, memory, hope, imagination, and the love of the beautiful are appealed to, developed and strengthened by natural exercise, even as the organsand limbs of the body are developed and streng thened by gymnastic and other appropriate exercises."
First Anmual Report of the Board of Inspectors of Asylums, Prisons, \&c., for the Province of Quebec, for the years 1867 and 1868.
A Pamphlet on some causes of the excessive mortality of young children in the city of Montreal, by Philip P. Carpenter, B. A., Ph. D.

The Nursery, for December, 1869 Every page illustrated,-just the thing for the little ones.
From Dawson Bros., Montreal, Elements of the Greek Language, by James Hadley, Professor in Yale College, New York, D. Appleton \& Co., 1869 Upham's Mental Philosophy, N .Y., Haryer Bros., 1869, 2 vols.
The writings of Madume Suetchine, edited by Count de Falloux of the French Academy, translated by H. W. Preston, Boston, Roberts Bros. 1869

Mistory of Joseph Bonaparte, by John S. C. Abbott, N. Y., Harper Bros Meteors, Aerulites, \&cc., from the French of Zürcher and Margolle, by 1869
William Lackland, illustrated with wood cuts, by Lebreton, N. Y., Appleton \& Co., 1870.
Arms and Armour in Antiquity and the Middle Ages, also a descriptive notice of modern weapons, translated from the French, by Charles Boutell, M. A., N, Y , Appleton \& Co, 1870.
A Greek Grammar for Beginners, by W. H. Waddell, Professor in the University of Georgia, Harper Bros, N. Y, 1869.

Appleton's Illustrated Alinanach for 1870
Al,pleton's Juurnal Monthty I'art, No. 5.
Also. from the Literary and Historical Society of Quebec:

1. Transactions of the Society, Session of 1867-8 and 1868-9, New series, part 6.
2. Manuscripts relating to the early History of Canada, published under the auspice of the Literary an I Historical Society of Quebec, Middleton \& Dawson, 1866.

The Polar World, a popular description of man and nature in the Arctic and Antarctic regions of the Globe, by Dr. G. Hartwig, N. Y., Harper Bros., 1869

We have to thank E. Montague Grimké, Esq., Secretary to the Board of Commissioners of Freo Schools of the City of Charleston, S. C., for a copy of their Annual Report, for the year ending September 30th, 1868.

Our thanks are due to the Hon. Oramel Hosford, Sup't of Public Instruction, Michigan, for a copy of The School Laws of Michigan with Notes and Forms to which are added designs for School-Houses, and styles of furniture.

## Miscellaneons.

University of McGill College: Opening of the Museum.-An informal gathering of members and friends of McGill University took place at the buildings, Sherbrooke Street, Wednesday afternoon, to commemorate the opening of the new Museum, which contains, with others, the splendid

Addresses were made by Principal Dawson, Rev. Dr. Jenkins, Dr. Carpenter, and Judge Torrance.

The Museum is fire-proof, and cost $\$ 2,200$.
The following generous donations were received in its behalf :-Peter Redpath, Esq. 500 dollars; Wm. Molson, Esq, 500 do.; H. Stephens, Esq., 100 do.; Mrs. John Redpath, 100 do. ; R. J. Reekie, Esq., 100 do.; J. H. R. Molson, Esq, 100 do. ; Sir W. E. Logan, F. R. S., 100 do.; J. Molson, Esq., 100 do. : Thos. Workman, Esq, M. P., 100 do.; G. Frothingham Esq.. 100 do ; Wm. Duw, Esq., 100 do. ; Thos. Rimmer. Esq., 100 do. ; Beniah Gibb, Esq, 50 do.; Hon. John Rose, 30 do.

## Debating Society.

The election of officers of the Burnside Literary and Debating Society takes place this evening, in the Arts Faculty Building of McGill College.
The want of an efficient Debating Society in the University has long been felt. Nearly all the best educational institutions have encouraged and fostered such societies, and there is no reason why our University should dispense with so important an element in education.
The study of oratory is too much neglected in Montreal. There are not a few B. A.'s and B. C. L.'s who have never acquired the art of speaking well in public, whatever may be the honors they have taken at the University. This might be remedied to a great extent by taking part in the discussions of a good debating society, such as McGill might easily have, considering the ability and number of its graduates and students. Until the present want is supplied, the sudent will be without an almost indispensable part of his education, and the real value of a university course will be disparaged in the eyes of the public.
An attempt is now made to remedy this state of things, and all graduates and students who have an intcrest in "good old McGill," are requested to be present this evening
McGill University.-The Corporation of McGill University have pleasure in arknowledging the following donations to the Faculty of Arts during the quarter ending Oct. 27, 1869:

## 1. To the Litrary.

From Chas. Alexander, Esq.-221 volumes, comprising classical and philological standard works.
From Peter Redpath, Esq.-207 volunes, including valuable historical worke, and the continuation of the Public Records in the "Peter Redpalh Historical Collection."
From Messrs. MacMillau \& Co.-134 vols., comprising works on miscellaneous subjects.
From R. A. Ramsay, Esq.-104 volumes, comprisiig the Journals of Parliament of $L$ C. from 1792, and several works of a historical and literary character.
From the Norwegian University, Christiania-Morkinskinna, containing one of the most ancient collections of Norwegian sages, 8vo, pap. Materials for the History of the Symbol of Baptism and of the Rule of Faith, in German, pam , 8ro. Calendar of the Royal Norwegian University for 1867 pam. 8vo, with an Index Scholarum, pam 4to.
From the Minister of Public Instruction, Quebec-Report on Education for 1867 and in part for 1868 , pam. 8vo.
From the Philosophical Society, Philadelphia.-Proceedings of the A. P. Society, 5 pam. 8 vo. Report of the U. S. Commissionners at the Paris Universal Exposition, 1867, upon Wool and Manufacturers of Wool, pam.
8ro. 8ro.
From the Boston Society of Nalural History-Memoirs of the B. Society of Nat. Hist. New series, parts 1 and 2 vol. 1st. 4 to.
From the Provincial Government-Statutes of the Province of Quebec for $1869,8 \mathrm{vo}$.

From the executors of the late H . Christie, Esq.-Reliquiœ Aquitanicæ;
; and 9,4 to. parts 8 and 9, 4 to.
From the Superintendent of the U. S. Coast Survey-Report of the U, S. Coast Survey for the year 1866, 4to

From Messrs. Gilman, Cushing, Trenholme, Bullock, Welch, Holton and Davidson-Virgilii Maronis Bucolica et Georgica, fol.
From the American Academy of Arts and Sciences-Proceedings, June, 1867, to May, 1868, pam. 8vo.
From W. J. Patterson, Esq-Commercial Statistics of Canada, 1863 to
1869, 8vo.
From W. Stevens Perry, D. D.-_Journal of Proceedings at the General Convention of the Prot. Epis. Church in the United States, 1868, 8vo Journal of the General Convention, 1862, 8vo. pap.

## 2. To the Museum.

From G. Du Berger, Esq, Murray Bay-Specimens of Solaster and Alcyonium.

From Dr. W. J. Anderson, Quebec-Specimens of copper ores from Harvey Hill Mine.
From H. McKay, Esq, Montreal-Specimens of Copper Nickel from
rra Nova Mine, Newfoundland. From P Red Mine, Newfoundland.
From P. Redpath. Esq.-Trunk of Royal Palm from Cuba.
From Chas. Gibb, B. A.-Animals from Mammoth Cave, Kentucky.-

## METEOROLOGICAL INTELLIGENCE

-From the Records of the Montreal Observatory, lat. $45^{\circ} 31$ North ${ }^{\text {; }}$ Long. 4 h .54 m .11 sec . West of Greenwich, and 182 feet above mean sea level, for October, 1869,-By Chas. Smallwood, M.D., LL.D., D.C.L.

| $\begin{aligned} & \infty \\ & \dot{x} \\ & \underset{a}{n} \\ & \hline \end{aligned}$ | Barometer corrected at $32^{\circ}$ |  |  | Temperature of the Air. |  |  | Direction of Wind. |  |  | MiIes in 24 hours. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 7 a.m. | 2 p.m. | 9 p.m. | $7 \mathrm{a} . \mathrm{m}$. | 2 p.m. | 9 p.m. | 7 a.m. | $2 \mathrm{p} . \mathrm{m}$ | 9 p.m. |  |
| 1 | 30.199 | 30.177 | 30.099 | 57.0 | 73.0 | 63.1 | W | W | W | 9.24 |
| 2 | . 06 | 29.951 | 29.947 | 58.2 | 82.0 | 66.8 | W | W | W | 77.29 |
| 3 | 29.900 | . 871 | . 900 | 57.0 | 85.6 | 53.7 | 8 W | W | W | 114.00 |
| 4 | . 663 | .401 | . 349 | 53.3 | 84.6 | 50.0 | N E | N E | N E | 81.14 |
| 5 | . 600 | . 779 | . 851 | 45.0 | 52.9 | 44.0 | N E | wby N | nbye | 89.12 |
| 6 | 30.026 | 30.000 | 30.041 | 40.0 | 64.0 | 48.0 | W | W | W | 104.00 |
| 7 | . 151 | . 147 | . 123 | 44.0 | 64.7 | 53.0 | W | W | W | 67.77 |
| 8 | . 243 | . 901 | . 151 | 45.2 | 689 | 57.0 | W | W | W | 51.10 |
| 9 | . 199 | . 117 | . 034 | 490 | 78.3 | 63.0 | 8 W | 8 W | S W | 91.11 |
| 10 | 29.999 | 29.971 | 29.900 | 55.0 | 69.4 | 85.9 | S W | S W | 8 W | 101.44 |
| 11 | . 650 | . 600 | . 653 | 46.0 | 63.2 | 81.9 | W | W | W | 91.21 |
| 12 | . 842 | . 701 | . 710 | 49.0 | 57.0 | 48.1 | W | 8 W | $\mathrm{s}^{W}$ | 104.20 |
| 13 | . 662 | . 549 | . 500 | 45.0 | 45.3 | 43.0 | S W | N | W | 91.10 |
| 14 | . 682 | . 662 | . 697 | 36.1 | 48.9 | 43.0 | W | W | W | 10424 |
| 15 | .729 | . 800 | . 811 | 43.0 | 52.1 | 48.0 | W | W | W | 67.24 |
| 16 | . 801 | . 800 | . 800 | 42.3 | 53.1 | 44.1 | W | W | W | 109.10 |
| 17 | . 780 | . 614 | .770 | 38.1 | 57.9 | 41.0 | W | S W | W | 88.00 |
| 18 | . 775 | . 760 | 820 | 381 | 49.4 | 39.8 | W | W | W | 77.11 |
| 19 | . 911 | . 762 | . 781 | 57.0 | 40.0 | 35.7 | W | W | W | 64.10 |
| 20 | . 851 | . 800 | .752 | 31.0 | 53.0 | 41.0 | W | W | W | 77.29 |
| 21 | . 800 | .711 | . 751 | 39.3 | 49.2 | 41.1 | W | W | W | 97.20 |
| 22 | . 899 | . 911 | .950 | 41.2 | 54.9 | 45.7 | W | wbyn | W | 71.11 |
| 23 | . 871 | . 714 | . 495 | 41.0 | 42.0 | 42.0 | W | SW | 8W | 101.00 |
| 24 | . 772 | . 821 | . 840 | 40.2 | 43.7 | 35.8 | wby N | W | W | 219.10 |
| 25 | 30.152 | 30.193 | 30.249 | 31.0 | 50.3 | 34.4 | W | w | W | 104.24 |
| 26 | . 111 | . 054 | . 060 | 31.9 | 36.4 | 32.7 | W | W | W | 94.69 |
| 27 | . 049 | . 024 | . 000 | 27.0 | 36.0 | 28.1 | Nby w | Nby w | Nby w | 90.00 |
| 28 | 30.710 | 29.662 | 29.554 | 28.0 | 28.7 | 30.3 | W | W | W | 56.24 |
| 29 | . 852 | . 860 | . 700 | 32.1 | 37.2 | 33.0 | W | s W | S W | 29.24 |
| 30 | . 852 | .910 | 30.053 | 51.7 | 34.9 | 30.2 | N E | W | W | 69.00 |
| 31 | 30.150 | 30.101 | . 049 | 26.0 | 38.6 | 297 | W | w | w | 77.28 |

## REMARKS.

The highest reading of the Barometer was on the 9th day, and indicated 30.249 inches; the monthly range was 0.900 inches.

The highest temperature was $82 \circ$; the lowest $24 \circ 7$. The mean temperature of the month was $46^{\circ} 13$, which is a fraction of a degree higher than the Isotherm for Montreal for the month of October, deduced from observations during a long series of years.

Rain fell on ten days, amounting to 6.827 inches. Snow fell on five days, amounting to 6.49 inches, which is a very large amount for the month of October.

- Meteorological Observations taken at Quebec, during the month of October, 1869 ; Latitude $46^{\circ} 48^{\prime} 30^{\prime}$ North; Longitude $71^{\circ} 12^{\prime} 15$ West; Height above St. Lawrence 230 feet, by Sergt. John Thurling, A. H. C. Quebec.

| Barometer, | highest reading on the 8th.................. | 30.076 inches. |
| :---: | :---: | :---: |
| " | lowest " ، 4th. | 29.156 |
| " | range of pres | 0.920 |
| " | mean for month (Reduced to $32^{\circ}$ ). | 29.626 |
| Thermomet | er, highest reading on the 10th | 72.2 degrees. |
| , | lowest 6. "6 28th | 19.5 |
| " | range in month. | 52.7 |
| " | mean for month | 44.3 |
|  | Maximum in Sun's rays, mean of (black bulb.) | 69.2 |
| " | Minimum on Grass mean of. . . . . . . . . . . . . | 37.2 |
| Hygromete | r, mean of dry bulb. | 45.2 |
| " | " wet bulb. | 41.8 |
| " | " dew point | 37.9 |
| " | elastic force of vapour | . 228 inches. |
| " | vapour in a cubic foot of air. | 2.6 grains. |
| " | " required to saturate do | 0.8 |
| " | mean degree of humidity (Sat. 100) | 75 |
| " | average weight of a cubic foot of air.. | 543.4 grains. |
| Cloud, mea | an amount of (0-10). | 7.3 |
| Ozone, | " " | 1.4 |
| Wind, gene <br> " mean | eral dirsction. . . . . . . . . . . . . . . . . . . . . . . . . . <br> daily horizontal movement | S. W. <br> 127.8 miles. |
| Rain, numb | ber of days it fell........ | 12 |
| " Amo | ount collected on ground.... . . . . . . . . . . . . . | 6.33 inches. |
| Snow, num | aber of days it fell. . . . . . . . . . . . . . . . . . . . . . | 4 |

## ADVERTISEMENTS.

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