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## EDUCATION.

### Address to Young Teachers (1)

I respond to the call, made by your esteemed and able rector, to say a few words of advice to the students leaving Moray

(1) Delivered, before the students of Moray House Free Church Training College, at their parting soiree, by Dr. Ferguson of the Edinburgh Institution.

House. I do so, not from any sense of my ability to say anything valuable, but from my desire to renew my acquaintance with an institution in which I spent many of the most profitable and valuable years of my educational life. To say anything new, or even unusual, to young men and women who have been ransacking works on method, or on mental or moral training, who have been the special objects of exhaustive lectures on such subjects for the last two years, and who have just risen from a Government examination, well up in all details, is a hopeless task. In fact, I very much fear that if I were to be examined by my audience on these matters, they would have little difficulty in concluding that I had a slender claim to authority in regard to them. Still, I know the students of Moray House from several years' acquaintance with them. It is somewhat over ten years since I left Moray House, and I had then been some years in the Normal Department. I must confess that I never dealt with students who had a keener relish for knowledge, or who were more prepared to sacrifice ease and enjoyment to acquire it. And the subsequent career of many of them has more than borne out the promise they then gave. I have no doubt the qualities of those now before me fully maintain this former reputation, and give as ample promise for the future. I feel, however, a disadvantage on the present occasion, as compared with my former position. I then allowed no one to differ from me; and if a student did not say as I said, or did not prove as I proved, he was cut down fearfully in his examination papers. Now, in the few remarks I make at present, I do not wish to occupy the lofty dogmatical position I then held; I do not now play the lecturer, and no evil consequences, either in respect of examinations or any thing else, can follow those who differ from me. I would only speak conversationally, as I would do to a young friend of my own who was beginning his career as a teacher, being at the same time convinced that his own judgment and experience might be as good as mine. I feel sure that you will be prepared to listen to me in this light.

In the first place, I would congratulate you on your entrance into a really pleasant, useful, and honourable profession. You will have to discharge functions of the utmost value to the community, which to the kindred mind is fraught with many and lasting pleasures. To see the young mind growing under your care, acquiring its marvellous powers under your direction, and

perhaps taking a bent that it will keep for life, is both gratifying and rewarding. In what other profession or occupation have you such noble work? With the exception of the preaching of the blessed word, there is no position in life where you can have higher aims or purer motives. But you may say, Does society generally hold it in this light? Is not the teacher's task an ill-requited and ill-remunerated one? There may be, and there is no doubt truth in this objection; but I venture to say that, in the opinion of all those whose opinion is worth respecting, it holds the esteem it ought to hold. Besides, if a profession is in itself eminently respectable, its not being fully recognized, or fully remunerated, is merely a temporary drawback, and its essential worth will inevitably place it, in the long run, in its right place in the social fabric. It is better to belong to a profession that is lightly esteemed, but is destined to obtain the highest repute, than to belong to one of high estimation, with little ground for its being so. In our own day, the position and emoluments of the schoolmaster have been immensely enhanced, and we have by no means come to the end. In foreign countries, the schoolmaster of even an elementary school is a man of acknowledged respectability. I lately took up a French A-B-C book, whose author had been decorated by the cross of the legion of honour for what by some may be considered his humble authorship. The French Government thereby acknowledge that the man who writes an excellent primer, stands on the same level in the useful social scale with one who storms a battery, or who administers law or medicine. The old maxim that to be respected you must be yourself respectable, holds in our profession with great force; and if you are respectable, you will have little cause to complain of want of respect.

I am one of those who consider that there are only two requisites for a teacher,—to know what he has to teach, and to be possessed of common sense. This last is considered essential to the successful dealing with our fellow-men, and I do not see that it can be otherwise in our dealings with the younger members of our race. To know when to cajole or to threaten, when to induce or to force, when to denounce or to praise, when to stand firm or to give way, when to pity or to punish, and when to be patient or to resent, is pretty much what makes the successful men of the world, and the same discernment cannot fail in our dealings with the young. To fancy, as some practically do, that they have a divine right to teach, independent of their personal merits and sensible behaviour, is to occupy a ridiculous and impossible position. The Normal Schools give the knowledge you require, and most valuable hints as to the best and easiest way of communicating it, but they cannot make you sensible, if you are not so already. A man who is not as careful, as just, as reasonable, and as kind in his dealings with the most inconsiderable of his pupils as he is with his fellow-man, will not make a good teacher. Without the requisite knowledge and attainments, the would-be teacher is an empiric; without the requisite common sense, he is a bungler.

But common sense, as applied to teaching, is a very vague term, and under it might be included all kinds of possibles. One or two instances taken from practice may illustrate what this common sense is. I would not, for instance, have any arrangement in a class or school that was not in itself reasonable, and commended itself to the pupils themselves. They observe it, because they think it proper and right, as well as commanded by the teacher. The course of study is manifestly entirely at the judgment of the master, and pupils will have no hesitation in implicitly following what he requires; it is only in parts of it that they can discover the design of the instructor. But what I refer to is the regulations for carrying out this course, the length of the lessons, and the injunctions as to order, which are quite within their judgment. Nowhere is the distinction between the real master and the would-be one more palpable than in the absence of endless petty and really ineffectual regulations. The order is perfect, and yet scarcely a word is said about it. The half-order man legislates as follows: "No speaking," and then he frames a long list

of punishments according to the frequency of the offence; "No trifling with pencils and knives, or other things, and then an equally complicated arrangement; "You must look at me, or a stated misfortune will befall you; If you laugh, I'll flog you," and such like regulations, which one would think, from the result, were intended more to suggest than to cure the evils complained of. Then follows a long list of expostulations: "Did I not tell you so and so? if you do it again, I'll punish you." In the midst of a perfect uproar, the loud but ineffectual deliverance is given, "The next boy I find speaking, I'll do so and so to him," but the noise is thereby not a whit abated. Now, common sense would tell us that if a master has earnestly impressed his class with the importance of the work, and of his determination to do it, all these petty rules might be dispensed with. Boys are as good judges as the master as to what will hinder it, and will, without specification, avoid all such. The mention of them is almost a confession that the master expects them, and cannot prevent them, and that as the spirit of order is wanting, he will endeavour to make up by the letter of it. The power to impress a class with the necessity, pleasure, or importance of work, is the *sine qua non* of a teacher, and if he lacks it, he has manifestly mistaken his profession, for no amount of regulation and expostulation, or even of flogging, will supply its place.

Judging from my recollection of myself when I began teaching I should say that young teachers have an exaggerated notion of their own importance and dignity. They are always falling foul of this bit of mischief and that bit of carelessness, as an indignity specially aimed at them, and they must resent it with a high hand. The somewhat undignified, but very expressive phrase, "Grin and bear it," does not enter into their philosophy, but to each offence, real or imaginary, must be meted out its condign punishment. I can fancy such a scene as this in my early experience. A boy might say somewhat ill-naturedly, "It is not fair," at which I flared up and asked, "Do you know who I am? How dare you speak in that way? I'll teach you, sir, to show proper respect?" Observe the word sir, it is a grand monosyllable when a man is in the heroics. The end of the matter was that I vented my superfluous energy on his unfortunate palms, and after all he may have been right. Now if I had to deal with such a case, I should smile and ask how he thought so, listen patiently to what he said, shew him how it was fair if it was so, or apologize and rectify matters if it was not. I venture to say, that though the latter treatment is not so heroic, it is much more sensible, and the expression is less likely to occur again, from improvement on both sides. The fact is, that the less of such fiery dignity the master has, the safer is the dignity that he really has. If the boys have to deal with a man who asks nothing but would be given to the most unpretending, rebellion is impossible and unreasonable, and can excite no sympathy among their companions. A good-natured laugh, or a smart repartee, can do more to maintain a teacher's real dignity and usefulness, than getting into high-flown heroics. By such treatment of even genuine impudence, he shews himself a man far above the weakness and frivolity of the young; whereas, when he is thin-skinned, he places himself on the same platform.

I would say, also, that the young teacher is apt to punish too much and too severely; he has yet to learn that things will come right if he will only wait a bit. Understanding everything clearly himself, and giving what he considers a perfectly clear explanation of the various difficulties, he is apt to regard the boy who does not pick them up at once, as guilty of culpable stupidity and negligence. Now, such an accusation should be entertained with the greatest caution. It is not until you have given explanation after explanation, and illustration, that you can reasonably act on it. The fairness of such conduct is illustrated by what we find among those of larger growth. I remember when I was attending the late Dr. George Wilson's classes, a story illustrating this was told by that distinguished professor. He had been delivering a lecture on the diamond at the Philosophical Institution, which was illustrated, as all his lectures were, with a

wealth of experimental and literary illustration. He was certainly the clearest and happiest lecturer of our time. He possessed, in fact, the very genius of exposition. A night or two afterwards, in one of the drawing-rooms in town, an interesting knot of ladies, young and old, were discussing the merits of the lecture. Delightful lecture; a most brilliant lecture; a dear man is Dr. George, was echoed on all sides. "Did he not explain so clearly," said a bright-eyed Miss, "the singular properties of that wonderful mineral." "What stupid you are!" was shouted by several voices, "Why the object of his lecture was to shew that the diamond was a vegetable substance;" and as the discussion was proceeding in a lively way among the younger members of the party, an aged dowager broke in with, "Why, my dears, if he proved anything at all, it was that the diamond was an animal substance." Now, suppose the Professor had here made his appearance, would he have spoken as I am certain I should have done in my earlier days? "Now ladies this is intolerable, it is really shocking, after all the pains I have taken, you know nothing, I won't stand it any longer." Such certainly would not have been his voice on the subject. From what I know of him, and of the spirit in which he took the joke, he would have spoken thus: "Ladies, I am delighted to find you so interested in my lecture, possibly I may not have made one important point clear enough. The diamond as we find it, must be classed among minerals, but there is a great diversity of opinion in regard to its origin. Some maintain that it has been formed by a vegetable; and some even account for it by an animal origin." You can easily fancy that after such a speech, the ladies would inwardly set down the genial professor as a dear clever little man. Now, if we find such misunderstanding with a perfect master of exposition, and with those who have finished their education, as the phrase goes, what allowance must be made with ordinary expounding powers, and with minds having all the feebleness and ignorance of childhood?

The vexed question of corporal punishment, is one constantly agitated. For my own part, I lean to the side of total abolition, and I never inflict it myself. At the same time, it must be admitted, that an aid to training the young so old and so sanctified by use, must have something valuable in it, and cannot be lightly thrown aside. "He that spareth the rod hateth the child," is the expression of Holy writ, but the limitation is also given, "a rod for the fool's back." I have often seen a careless little fellow, a little fool in fact, brought to his senses by such an application, and whenever vice or wickedness is displayed, corporal punishment may not only be justifiable, but highly effective. In such a case, I would not hesitate to apply it myself, disagreeable as the task would be, but one should endeavour to save a boy even by a means distasteful to himself. But while I make this admission, I must say that I altogether disapprove of the promiscuous use of the taws as part and parcel of the daily discipline of the school, in which case they are a cruel and undignified and ineffectual weapon. There is such a temptation to the teacher to make the taws a substitute for patience, skill, and tact, and to make up for his own imperfections by the liberal use of them. I have often seen a teacher, for instance, needlessly late for his class, and when he entered the room, make a vigorous use of them upon all those who had been improving the passing minutes in jumping, shouting, and other unscholarly actions; but if justice had been meted out, the master should have got the taws and not the boys. The taws are too often administered where the offence that incurred them was but the reflection of the listlessness or carelessness of the master. The punishments of ordinary work should be extremely light and of easy application. The turning down a place or two sharply done, a pena of a few lines, and keeping in for five or ten minutes, are amply sufficient.

In our treatment of boobies we should be considerate. Thrashing and opprobrious epithets are utterly thrown away on them. They only make them worse boobies than ever. I remember when I began to teach here with the second division of the highest class, some half a dozen boys at the bottom of the class got

their daily dollop of palmies, and bad names; and well thrashed, and well maligned as they were, they never got a bit better. Now I have changed all that. My boobies lead an easy life of it. I am quite contented with the least I can get from them, and praise them, and encourage them, whenever I can get the slightest reason, and I generally find that in the end, the boobies begin slowly to do something. I do not expect the full shilling from them as from the rest, but if they pay their penny it is better than nothing, and if they can pay that, they will never be satisfied till they pay more. Genuine boobies are rare phenomena. God in his goodness gives almost all rational men enough to do their turn in this world, and what we call boobies are only those whose springs of knowing we are unable to unlock, and which are prepared to work if we could only set them free. If we thoroughly fail, and it is rarely that the earnest teacher will, he should recommend the booby to be sent elsewhere; and it is nothing derogatory to do so, as one may be able to solve many a similar problem which another cannot. Look kindly therefore on your boobies. When they meet you in after life, they will like you better than many of your duxes. The latter have sometimes such conceit of themselves, that they have no regard left for you, while the boobies, alive to their former deficiencies and to your considerate kindness, will be inclined to cherish towards you the liveliest esteem.

Before concluding, allow me to say a word or two as to our conduct in general society. Many a young teacher, and sometimes even an old one, is nervously anxious that no inaccuracy or even familiarism should creep into promiscuous conversation. If any thing does not accurately square with the strict rules of grammar or of logic, it is instantly pounced upon and made the subject of criticism. Should a date, a year or two wrong come above board, our educational friend, with mistaken earnestness, puts it right. A garbled quotation he is great upon, and he gives the true version, with all its proper antecedents and consequents. He becomes general censor and instructor without any call, and he seems to fancy that any error committed in his presence, is a challenge for him to display superior knowledge. Now, it is only sometimes that people like to be put right; and at all times, they hate to be put right in a captious way. Men in other walks of life are quite contented to leave their business behind them. Accuracy is our business, but let us ply it only when it is wanted. The doctor does not give his advice gratis, nor does the lawyer communicate of his experience without fee; and why should we be so liberal of our gifts? We should be contented like other folks to take a second rate, or any position, in a promiscuous company. The advice given by an old minister to his son, might not inaptly be given to some of our school and college men. It is told that the minister's son came into the church one day a little after the service had begun, and fussed about before finding his seat. "Now, John," said the minister, "we have all seen your new coat, and ye can just sit down like other folk." So, also, when the young teacher has sufficiently aired his Literature, his Algebra, and his Latin, he must be prepared to sit quietly down among his neighbours in other walks of life.

The temptation to the young teacher to be pedantic and censorious is but a minor one in his career. He may be positive, captious, and a little vain of his knowledge, and withal be a thoroughly useful and respectable member of society. There is another temptation to which sometimes even the more generous spirits are exposed, which is indefinitely more dangerous. The talented and discerning young man is inclined to laugh at the foibles of education, and, if possible, to affect the very opposite. He is anxious to shine in society by his natural wit, and this will be all the more enhanced by the neglect of dominical littleness and prudery. He wishes, in fact, to earn the reputation of a jolly fellow. Now, of all valueless and dangerous reputations, this is what the young man has most to guard against. Of what consequence is it to you in life to be the admired centre of a circle who appreciate you, not for your worth and usefulness, but for your power to raise a laugh or say smart things. Such is not the standard of excellence with your school managers or your

patrons. It is your sober earnestness, your pains-taking devotion to your work, your general intelligence and attainment, that they regard; and it is on these you have to build your hopes of future success. Not unfrequently do you see a young man begin life with a Normal School or College reputation, a most able and interesting teacher, and the very life of a company. He works admirably in his school, and he is a great attraction at an evening party or a jovial supper. And if he could only stop there, it would be all very well. He might still spend many a quiet evening in healthful and improving study. By-and-bye, however, the excitement of the jovial board, and the insidious influence of social drinking, seduce him wholly from his quiet evenings, and his keen relish for knowledge yields in enjoyment to the funny story or tid-bit of gossip. He may stop here, and get no worse; but he is no longer an advancing man. Too frequently, however, he abandons himself to jollity. His work may be done at school, one might say well, but still it has lost the spring which it once had. The teacher gets occasionally absent-minded, his thoughts and his pleasures are elsewhere. Late hours, and the effects of liquor, perhaps never indulged in to brutal excess, conjoined with the tear-and-wear of school work, render him listless or undermine his constitution; and too frequently such a career closes with an utter wreck of worldly prospects, or possibly with an untimely death, and all for the bubble reputation of the supper table or the tavern. Social intercourse and social enjoyment are gifts of a good and kind Providence, but none require to be more discreetly handled. We should never forget that pleasures are kept sweet and fresh by self-denial, and that self-restraint to-day is only postponing enjoyment till to-morrow.

In conclusion, I would only say that you may think my remarks somewhat censorious. I have acted on the principle, however, that the exuberance of youth needs more to be pruned than to be forced. If my memory does not fail me, the severest of my remarks are mildness itself, compared with what you have heard from your rector and masters. Possibly, if I had had the advantage before I began that you have now of special instruction in the work of teaching, many of the experiences I have made would have been prevented. From the instruction you get here, you can begin as young men with all the wisdom of those who have grown wise in their profession through years of practice. Still, from what I found in my own case, and in that of many young teachers, much that I have said is well worthy of your consideration; and if I have only given a good parting knock to drive it still further into your memory, my few rambling words will not be in vain.

Beginning life as you do, with all the confidence of talent, well trained and carefully cultivated, you should never forget that the race is not always to the swift, nor the battle to the strong. The disposal of your lot is in the hands of the Lord. You should temper, therefore, your high hopes and noble self-reliance with the modesty and trust of the Christian, and ever reverently praying, "Thy will be done on earth it is in heaven," be prepared to run with moderation or with courage the career appointed you.—*The Museum.*

### Habit Stronger Than Principle.

We have some where read the paradox "Good principles are a good thing, but good, strong, well-grounded habits are a better"; and, as we have thought upon it, it has appeared to us more and more as involving a valuable truth, and one especially worthy the attention of teachers. In one point of view principles are of the highest importance: looking God-ward, or even to the highest earthly development of character, they are the essential foundation and ground-work; but looking rather to the average man and woman of society, it may well be questioned whether such are not governed more by habit than by firm, fixed principle.

Habit's iron bonds hold us all firmer than we are aware, and they are not easily broken. All men know better than they do, and often, when wishing and earnestly desiring to do otherwise,

they are led captive by habits that they cannot break away from. No drunkard ever justifies the use of the intoxicating cup; no user of tobacco desires his child to use it also; and yet, in both cases, the habit formed is the master of the weak will.

To the great law of habit, undoubtedly, Solomon refers when he says "Train up a child in the way he should go," etc. Theoretically, as teachers, we know all this: practically, we apply it very little.

How many teachers even—we blush to say it—can we find, who can talk eloquently to their boys against the use of tobacco, and yet do not refrain from it themselves! How many can 'analyze and parse' the most uncouth and intricate sentences, who yet, from the force of life-long habit, violate all the rules of grammar in their ordinary daily conversation! How many can descant long and learnedly upon the laws of health, physiology and hygiene, ventilation, and the influence of bad postures upon the young and growing body, who still transgress all hygienic laws, neglect all ventilation, and take no note of the postures of the children before them! Intellectual training is all they propose to themselves, forgetting that this is, after all, but a part, and it may be a very small part, of their duty as teachers,—their highest duty being to make the best and noblest and most perfect men and women possible out of the material intrusted to their care.

It is of comparatively small moment whether a man knows that a verb agrees with its nominative case in number and person, but it is of great moment that he does not in his conversation say 'they is' or 'I are'; but little to be able to give the rules for the use of auxiliary verbs and participles, but much whether he say 'I done it' or 'I have n't saw it'.

To name all the bones in the body is well, but it is far better to keep that body upright and all its powers under command. It is very desirable that a child should be a proficient in his arithmetic, but much more that he have health and strength, a sound body and a sound mind, wherewith to fight the battles of life.

—*Illinois Teacher.*

### Little Ignorances.

A few boys and girls acquire the art by some process which seems intuitive, and spell perfectly years before they can by possibility have read half the words they are ultimately required to use..... Printers all know how very little the spelling even of the best educated is to be trusted, and we have reason to believe that if English journalists were weeded by an examination in which etymological accuracy was the *sine qua non*, the profession would lose some very competent members. One occasional contributor to this journal, a man whose education has been of a singularly perfect kind, and who is a true scholar in his way, never sends in a contribution without half a dozen etymological errors, and there are double-firsts who would rather trust themselves to Greek than English without a pocket dictionary. It is a curious proof of the accuracy of this view, that the commercial schools, which profess to teach, and do teach, spelling, do not turn out spellers half as accurate as the public schools, which profess to teach nothing of the kind, and that hundreds of persons learn to spell, or rather begin to spell well habitually, only in manhood, that is, when the attention has at last been aroused. Whether the extreme case, that of a man of high culture, who absolutely *could* not learn to spell ever happened, we are uncertain; but almost all men who have to read much manuscript believe it, and a kindred inability, that of recollecting dates and figures, certainly does exist. But an inability to spell, arising from a certain failure of interest in words, is a distinct characteristic of English minds, and one which it requires extraordinary effort to eradicate, more especially among women.

Spelling, however, is not the only deficiency of this kind, though it is, of course, the one most observed, and owing to the curious caste feeling mentioned above, a feeling entirely absent a hundred years ago, it is the one most resented. The ignorance of

many cultivated men of Arithmetic is frequently astounding. We feel sure, from our own experience, that hundreds of what are called well-educated men, and thousands of accomplished women, could not do a Rule-of-Three sum if their fortunes depended upon it; while a number, presumably less, but still very large, cannot do any calculation on paper at all. We venture to say the majority of middle and upper class women are worried by the simplest question about interest, and to a very large proportion the simple adding-up of household accounts is a wearisome labour very inaccurately performed, while if the calculation is in foreign money they are hopelessly bewildered. They do not understand compound addition, while as to compound division, or any problem of any sort involving fractions, they frankly decline to make the attempt. We have personally known a lady, mistress not only of four languages, but of their literatures, give up the effort to discover what the fourth of a seventh was as something wholly beyond her capacity, and ten minutes after discuss a foreign budget with keen intelligence; and that is not an extreme case. The most extreme we ever knew was that of an Oxford M.A., Head-Master of a Grammar-School, and an almost unrivalled master of Greek lyrical poetry, who was honestly unable, and confessed himself unable, to do the simplest sum in simple addition—who, to get an account right, would put the actual coins on the table, and always called a boy to verify the weekly statistics of the school. There must have been some odd loathing for figures in him, as well as want of interest, resembling the loathing some lads have for Euclid; but we should like to try the House of Peers with a stiff bit of notation. Not one in six would put down the figures right, and of their wives, not one in sixty; yet they and all those we have mentioned have, at some time or other, learned these things, and are ignorant of them only because their interest has never been excited. It is just the same with geography, of which educated and competent men often do not know the simplest facts, though they have all learned them in a way, as one usually learns things of no interest, that is, without learning them. They have to learn them again when they want them, and meanwhile are just as ignorant as medical students are of spelling. We should just like to make the English members in the House of Commons draw each for himself a skeleton map of Ireland, and see how many of the maps bore a fair resemblance to the truth. Yet they were taught about Ireland as well as England, and at the same time. No doubt, the English method of teaching geography, even in the very best schools, is ludicrously bad, very few masters ever thinking that distances and areas ought to enter into their teaching, and leaving pupils under a happy belief that they know all about Arabia if they can draw its outline, though they do not know whether it is as big as Yorkshire or as Europe. But still, most educated men once knew much more of geography as lads than they do as men, the reason being want of interest in the subject. To test them on it would not be fair to the schools, wretchedly bad as their system is, any more than it would be to test most girls' schools by their old pupils' knowledge of figures. They may have been taught them fairly enough, but the memory, unstimulated by any interest, refuses to retain its loads. The real failure is not in these things, but in the entire absence of any attempt to secure the main end of teaching, which is not the communication of knowledge, but the development of the powers of the mind. Half an hour's chat by a shrewd, good-tempered arithmetician with a lad on the Rule of Three, its principle and its management, will give the student a more perfect control of that invaluable machine than years of "sums" done by cram rules without the smallest notion why those rules yield accurate results. We know a child of eight, a girl, whose acquaintance with geography is far greater than that of most men, whose study of the subject was induced by the accidental awakening of an interest in the shapes of the different countries on the map, arising originally from some grotesque remark about the likeness of Britain to an old lady dandling Ireland on her lap. The teachers even in commercial schools are not such bad machines as they are described; but then they usually are machines, and we need intelligent teachers instead. Mere practice will not

even enable boys to spell, and it is practice only which is required of them—*Spectator*.

### Phases of Intellectual Discussion.

A dispute is being at present carried on between two opposite sets of opinions in the intellectual world, which has agitated it from the remotest ages, and which it is probable will continue to agitate it to the end of time. The extremes of these opinions may be represented on the one part by that which asserts that intellectual culture should be carried on for its own sake alone, and that any utility which follows therefrom is rather to be despised than commended; on the other by the one which maintains that mental improvement is, *per se*, of no value, and that those branches of instruction only should be attended to which produce money or money's worth, or at least some physical or material advantage. In the time of Plato and Aristotle these opinions, though in many instances not openly expressed, or perhaps understood, were pretty evenly matched. The hard and rigorous catechism of Socrates, his perpetual *cui bono*, were powerful weapons in the hands of the utilitarians of that age; while their excesses met the best refutation in the lofty speculations and glowing language of his brilliant disciple. Plato, in fact, both by word and example, gave such an impulse to the intellectual energies of his age that they retained the one direction for nearly twenty centuries. Buried for a time by the barbarism of the middle ages, his works and those of his disciples or imitators, when at length resuscitated by the dawning intelligence of a modern epoch, gave the stamp and impress of his nature to the tone of thought which characterized the writers of that period; and the same impulse which moulded and directed the cultivated intellects of Athens and of Rome exerted a still stronger influence upon the minds of their less polished successors. Like all things human, however, when pushed to extremes it did not fail to produce a large proportion of evil; and the subtle and trivial disputations of the schoolmen, exaggerated as their character has been by unscrupulous opponents, remain at once a monument of perverted ingenuity and a standing argument for triumphant materialists. In obedience to the never-failing laws of nature, reaction succeeded the excess of mental speculation; and first Ramus, and afterwards Bacon, gave a new direction to the spirit of mental and physical investigation. The characteristics which distinguished the latter we need not stop to enumerate; but we may say that while his example and his writings oppose strongly all merely intellectual displays, they by no means bear out the assertion of his would be lauders, viz., that the father of modern philosophy was nothing but an advanced utilitarian. The old opinions, in spite of what was supposed to be his teaching, still held their ground, as they ever will; and the old battle was fought, sometimes in regular campaigns, more frequently in incidental skirmishes, with varying success; and the combatants turn up at the present day almost in the same array as when the conflict was waged in the walks of the Academy or the halls of the Sorbonne. Utilitarianism, or rather the opinions which arrogate to themselves that title, partly on account of the advantages attendant on that assumption, and partly on account of the unscrupulous and shallow assertions of its advocates, seems to the unthinking mind to have much the best of the warfare. Rampant in the mouths of platform orators, or from the pens of sophistical writers, careless as to the solidity of the arguments they advance, and merely wishing to have a flashy article, which their fond admirers term brilliant, appearing under their hands from week to week, or from month to month, it seems to reign triumphant. At one end of the educational scale, it endeavours to exclude the study of classics, or of any other merely intellectual branch, from colleges or high class academies; and, at the other, it seeks to enforce what is termed "payment by results" in our primary schools. "I pay a carpenter so much for making me one table; and double that amount if he manufacture two; I treat my tailor and my shoemaker in the same manner; why should not you, O

schoolmaster, work according to the same method, and depend for your wages on the same result? Teach me one scholar; instruct him well in the three "R.'s," and I'll pay you so much; turn out two or three in the same manner, and I'll pay you double or treble that amount. Can anything be fairer?" So far Mr. Bounderby and his admirers; and then, with an approving slap to the breeches pocket, they triumphantly appeal to all "practical men," (taking care, of course, to limit that denomination to those of their own way of thinking and treating the opinions of all others as mere rubbish) whether they have not finally settled the question. In the meantime their intellectual equals—somewhat superior in education—cry aloud "What is the use of this nonsense of Greek, and Latin, and poetry? What good is your University curriculum, except to turn out specious idlers, book-worms, or declaimers? Give us geometry and trigonometry; I can thus have my land surveyor up to his business; and let us have mechanics or hydrostatics, because they are of use to our artisans or engineers." Optics, because of its utility in navigation, they barely tolerate: any reference to the ideas which should be excited by the contemplation of the wonders of the heavens being received with a contemptuous shrug. And the cause of both classes is served by the errors of some of their opponents. For example: Instead of merely asserting that Greek and Latin versification is an elegant accomplishment, and a proof of scholarship as regards these languages, they shudder at a false quantity, and imagine the turning out a set of good alcaics should have the principal weight in deciding the merits of the Tripos examination. Lower down we find some primary teachers holding equally absurd opinions. They believe that grammar and geography should form integral portions of the programmes of first and second classes; and that education is of no avail unless rules and exceptions regarding all manner of things can be repeated with literal exactness. Meanwhile most educational bodies, with the exception of some government departments, proceed in their course, undisturbed by the din, and avoiding both kinds of error. The examining bodies for degrees or licenses to practice physic, surgery, or law in either of its branches, require from all candidates proof that, besides being proficient in the technical portions of their respective subjects, they are also well grounded in the elements of a liberal education; properly recognizing the fact that each branch of study serves, in its own degree, to expand the intellect, and that the cultivation of each, when kept in due subordination to the main business of the profession, tends to give better effect to the knowledge of the technical portions of that profession. The Civil Service Commissioners, likewise, expunge or degrade no branch of education; and even the Committee of Council, finding their nostrum of the three R.'s to fail, in to them an unaccountable manner, add grammar, geography, and history to their programme of examination. Believing the source of all the errors, practical and theoretical, which attend the consideration of educational questions at the present day to proceed from a want of duly estimating the exact effect of each branch of study upon the mental powers and tastes, we intend in a future paper to dwell upon a few salient points regarding them. And we believe we can render their discussion more intelligible by taking in turn those two subjects which are generally considered to be, if not opposed, at least most remote from each other in the educational scale, namely, literature and science, and considering at some length the effect of each upon the human intellect.—*Irish Teachers' Journal*.

#### Professor Fawcett, M. P., On Education.

Professor Fawcett, in the course of a speech at a meeting held on May 14, at Brighton, to witness the distribution of the prizes and certificates gained at the last University Local Examinations, said:—There is a school growing up—if more prominently represented by one man than other it is by the present Chancellor of the Exchequer—whose tone of thought is to esteem knowledge by its practical worth; and I know it is sometimes said to a boy or a young man who distinguishes himself in ma-

thematics, in Greek or in Latin, what will be the use of mathematics, or of Greek, or of Latin to you in after life? Now I think it is most important to keep steadily in view the practical use of knowledge; but what I should venture to say would be this, that after all the highest and the greatest aim of education is to train the mind. You cannot say that this boy ought to be taught certain things, and another boy ought to be taught the same things. But the great mistake that is made in education—it has been made by the universities—is to make every boy and every young man go through the same stereotyped system, based on the assumption that what is good for some must be good for all. Now it seems to me that the great end and aim of the teacher should be to discover the mental character and the intellectual capacity of the boy and the girl, and then to devote his chief attention to teaching that boy or girl those branches of knowledge which will develop the reasoning powers of the mind, and give a completeness and harmony to the mental faculties. Do not ever commit the fatal mistake of estimating knowledge by simply what is said to be its practical use. I remember the speech which was made by Mr. Lowe at Edinburgh. It was one of the most dangerous and mischievous speeches I ever read in my life. Mr. Lowe is an accomplished man; he is a learned man; and when he spoke to an audience of working men who had not enjoyed the same blessings of mental cultivation that he had, he ought to have raised them up to the desire of obtaining mental cultivation and obtaining more knowledge; but instead of doing this, he tried to sneer at knowledge and throw contempt upon it. He said, 'What is the use of mathematics?' or he said, 'How very few there are who use mathematics in after life.' He said, 'What is the use of Greek and Latin? How very few people in after life will be required to translate Greek or Latin, or read Greek and Latin prose.' That is perfectly true; but, then, he ought to have mentioned this further fact, that to some minds there is no branch of knowledge that acts one quarter so effectively in training the mental faculty as mathematics, and Greek and Latin. Then, again, although they have no practical use—perhaps you cannot turn them to pounds, shillings, and pence—they have this practical advantage, that they give you an amount of pleasure and happiness in after life that no amount of wealth can possibly secure. How can you place a pecuniary estimate upon that knowledge, which is derived from mathematics, which will enable you to contemplate some of the hidden mysteries and marvels of the heavenly bodies? How can you place a pecuniary price upon having your mind cultivated to such an extent as to enable you to comprehend the exquisite beauty of those laws by which the motion of every star and every planet is governed? How can you set a monetary value upon that knowledge of a language which will bring you in contact with the life of one of the most remarkable civilizations that ever existed in the world, and bring you into intellectual harmony and unison with the thoughts and words of some of the greatest writers, poets, and orators who ever thought or spoke? No; all knowledge has a practical value. If you are brought up so some trade, you may not be able to use that particular knowledge. But whatever may be your future walk in life, you cannot occupy a position in which a well-trained mind and a development of the reasoning powers are not of the utmost possible advantage to you. Again, I would say when you are going through the drudgery of learning the rudiments of some branch of knowledge, you may think you shall never be adequately repaid for your trouble; but however great a man's wealth may be in after life, however deeply he may have drunk of all worldly enjoyments, if he is an honest man he will tell you that the greatest pleasure which he has ever enjoyed is the pleasure which he has derived from intellectual cultivation. It will bring you an amount of pleasure which it is impossible now adequately to estimate; and you will find, year after year as you live, that one of the greatest truths to keep steadily in view is this—that knowledge ought to be loved for knowledge' sake.—*Papers for the Schoolmaster*.

### Physical Geography.

#### DISTRIBUTION OF FOREST-REGIONS, PRAIRIES, AND DESERTS.

The laws of the winds are the basis of the distribution of sterility and fertility.

1. The warm tropical winds, or trades, are moist winds ; and blowing against cooler land, or meeting cooler currents of air, they drop the moisture in rain or snow. Consequently, the sides of the continents or of an island struck by them, that is the eastern, is the moister side.
2. The cool extra tropical winds from the westward and high latitudes are only moderately moist (for the capacity for moisture depends on the temperature) ; blowing against a coast, and bending towards the equator, they become warmer, and continue to take up more moisture as they heat up ; and hence they are drying winds. Consequently, the side of a continent struck by these westerly currents, that is the western, is the drier side.

There is, therefore, double reason for the difference in moisture between the opposite sides of a continent.

Consequently, the annual amount of rain falling in tropical South America is 116 inches, while on the opposite side of the Atlantic it is 76 inches. In the temperate zone of the United States east of the Mississippi, the average fall is about 44 inches, in Europe only 32. America is hence, as styled by Professor Guyot, the Forest Continent ; and where the moisture is not quite sufficient for forests, she has her great prairies or pampas.

For particular latitudes of western coasts most affected by the drying westerly winds, those between  $28^{\circ}$  and  $32^{\circ}$  are sometimes excessively arid, and sometimes true deserts.

The desert of Atacama, between Chili and Peru, the semi-desert of California, the desert of Sahara, and the arid plains of Australia lie in these latitudes. The aridity on the North American coast is felt even beyond Oregon through half the year. The snowy peak of Mount St. Helen's, 16,000 feet high, in latitude  $43^{\circ}$ , stands for weeks together without a cloud. The region of the Sacramento has rain ordinarily only during three or four months of the year.

As the first high lands struck by moist winds usually take away the moisture, these winds afterwards have little or none for the lands beyond. Here is the second great source of desert regions. For this reason, the region of the eastern Rocky Mountains' slope and the summits of these mountains are dry and barren ; and, on the same principle, an island like Hawaii has its wet side and its excessively dry side.

Under the influence of the two causes, Sahara is continued in an arid country across from Africa over Arabia and Persia to Mongolia, or the Desert of Gobi, in Central Asia.

It is well for America that her great mountains stand in the far west, instead of on her eastern borders, to intercept the atmospheric moisture and pour it immediately back into the ocean. The waters of the great Gulf of Mexico (which has almost the area of the United States east of the Mississippi), and those of the Mediterranean, are a provision against drought for the continents adjoining. It is bad for Africa that her loftiest mountains are on her eastern border.

It is thus seen that prairies, forest regions, and deserts are located by the winds and temperature in connection with the general configuration of the land.

The movements of the atmosphere and oceans' waters, and the surface arrangements of heat and cold, drought and moisture, sand plains, and verdure, have a comprehensive disposing cause in the simple rotation of the earth. Besides giving an east and west to the globe, and zones from the poles to the equator, this rotation has made an east and west to the atmospheric and oceanic movements, and thence to the continents, causing the eastern borders of the oceans and land to differ in various ways from the western, and producing corresponding peculiarities over their broad surface. The continents, though in nearly the same lati-

tudes on the same sphere, have thence derived many of those diversities of climate and surface which, through all epochs to the present, have impressed on each an individual character, an individuality apparent even in its plants and animals. The study of the existing fauna and flora of the earth brings out this distinctive character of each with great force ; but the review of geological history makes it still more evident, by exhibiting the truth in a continued succession of faunas and floras, giving this individuality a history looking back to ' the beginning.'

The great truth is taught by the air and waters, as well as by the lands, that the diversity about us, which seems endless and without order, is an exhibition of perfect system under law. If the earth has its barren ice fields about the poles, and its deserts, no less barren, towards the equator, they are not accidents in the making, but results involved in the scheme from its foundation. — *Dana's Manual of Geology.*

## LITERATURE.

### POETRY.

#### YOUR MISSION.

BY ELLEN H. GATES.

If you are too weak to journey  
Up the mountain, steep and high,  
You can stand within the valley,  
While the multitudes go by.  
You can chant in happy measure,  
As they slowly pass along ;  
Though they may forget the singer,  
They will not forget the song.

If you have not gold and silver  
Ever ready to command ;  
If you cannot toward the needy  
Reach an ever open hand ;  
You can visit the afflicted,  
O'er the erring you can weep,  
You can be a true disciple  
Sitting at the Saviour's feet.

If you cannot in the harvest  
Garner up the richest sheaves,  
Many a grain both ripe and golden  
Will the careless reapers leave.  
Go and glean among the briars,  
Growing rank against the wall,  
For it may be that their shadow  
Hides the heaviest of all.

If you cannot in the conflict  
Prove yourself, a soldier true—  
If where fire and smoke are thickest,  
There's no work for you to do ;  
When the battle-field is silent,  
You can go with careful tread,  
You can bear away the wounded,  
You can cover up the dead.

Do not, then, stand idly waiting  
For some great work to do ;  
Fortune is a lazy goddess—  
She will never come to you.  
Go and toil in any vineyard,  
Do not fear to do or dare ;  
If you want a field of labor,  
You can find it anywhere.

#### A HYMN OF PEACE.

(To the music of Keller's " American Hymn.")

Dr. Holmes wrote the following hymn for the Peace Jubilee in Boston :—

Angel of Peace, thou hast wandered too long !  
Spread thy white wings to the sunshine of love !  
Come while our voices are blended in song—  
Fly to our ark like the storm-beaten dove !

Fly to our ark on the wings of the dove,—  
Speed o'er the far sounding billows of song,  
Crowned with thine olive-leaf garland of love—  
Angel of Peace, thou hast waited too long!

Brothers we meet, on this altar of thine  
Mingling the gifts we have gather'd for thee,  
Sweet with the odors of myrtle and pine,  
Breeze of the prairie and breath of the sea,—  
Meadow and mountain and forest and sea!  
Sweet is the fragrance of myrtle and pine,  
Sweeter the incense we offer to thee,  
Brothers once more round this altar of thine!

Angels of Bethlehem, answer the strain!  
Hark! a new birth song is filling the sky!  
Loud as the storm-wind that tumbles the main  
Bid the full breath of the organ reply,—  
Let the loud tempest of voices reply,—  
Roll its long surge like the earth-shaking main  
Swell the vast song till it mounts to the sky!  
Angels of Bethlehem, echo the strain!

#### THE SISTER OF CHARITY.

Sister of Charity, gentle and dutiful,  
Loving as seraphim, tender, and mild;  
In humbleness strong and in purity beautiful,  
In spirit heroic, in manners a child;  
Ever thy love like an angel reposes,  
With hovering wings o'er the sufferer here.  
Till the arrows of death are half hidden in roses,  
And hope-speaking prophecy smiles on the bier.

When life, like a vapor, is slowly retiring,  
As clouds in the dawning to Heav'n uprolled,  
Thy prayer, like a herald, precedes him expiring,  
And the cross on thy bosom his last looks behold,  
And O! as the Spouse to thy words of love listens  
What hundred fold blessings descend on thee then—  
Thus the flower-absorbed dew in the bright iris glistens,  
And returns to the lilies more richly again.

Sister of Charity, child of the holiest,  
O, for thy loving soul, ardent as pure—  
Mother of orphans, and friend of the lowliest—  
Stay of the wretched, the guilty, the poor;  
The embrace of the Godhead so plainly enfolds thee,  
Sanctity's halo so shrines thee around,  
Daring the eye that unshrinking beholds thee,  
Nor droops in thy presence abashed to the ground.

Dim is the fire of the sunniest blushes,  
Burning the breast of the maidenly rose;  
To the exquisite bloom that thy pale beauty flushes  
When the incense ascend and the sanctuary glows;  
And the music, that seemed Heaven's language is pealing—  
Adoration has bowed him in silence and sighs.  
And man, intermingling with angels, is feeling  
The passionless rapture that comes from the skies.

O, that this heart, whose unspeakable treasure  
Of love hath been wasted so vainly on clay,  
Like thine, unallured by the phantom of pleasure,  
Could rend ev'ry earthly affection away.  
And, yet in thy presence, the billows subsiding  
Obey the strong effort of reason and will,  
And my soul in her pristine tranquillity gliding,  
Is calm as when God bade the ocean be still.

Thy soothing, how gentle! thy pity, how tender!  
Choir-music thy voice is—thy step angel grace,  
And thy union with deity shrines in a splendor  
Subdued, but unearthly, thy spiritual face.  
When the frail chains are broken,—a captive that bound thee  
Afar from thy home in the prison of clay,  
Bride of the Lamb, and earth's shadows around thee  
Disperse in the blaze of eternity's day.

Still mindful as now, of the sufferer's story,  
Arresting the thunders of wrath ere they roll,  
Intervene as a cloud between us and His glory  
And shield from His lightnings the shuddering soul.

As mild as the moonbeam in autumn descending  
That lightning extinguished by Mercy, shall fall;  
While He hears with the wail of a penitent blending  
Thy prayer, Holy Daughter of Vincent de Paul.

## CANADIAN HISTORY.

### Memoirs of the Richelieu.

(Concluded.)

No. IX.—ST. OURS.

The village of St. Ours reminds one of a European hamlet more than any other in the valley of the Richelieu. Its seigniorial manor, embowered in secular trees, its shady walks, its old-fashioned houses give it a peculiar air of antiquarian grace. It derives its name from the family of the St. Ours, which enjoyed a local celebrity in France though famed for no historical exploits. The offshoots of that family, as indeed all the aristocracy who came over to Canada in the early days of Champlain and Maisonneuve, did not belong to the *grande noblesse*. Hence, the affectation of certain parties claiming descent from the titled nobility of France, on the strength of the picturesque names which they bear, is very ridiculous to those who are acquainted with the facts of Canadian colonization. Canada is a country of hard-working men—of men who explored the wild, fought with Indians, traded in furs, and there is no aristocracy here, except that of character and soul. All men are equal, and it is gratifying to know that the degrading farce of seigniories so long tolerated in Canada, is at length done away with.

The village of St. Ours was often the scene of rendez-vous for parties of pioneers who were on the look-out for Indians. In the days of the Iroquois, it was made a kind of outpost by these savage warriors in their attacks on Sorel and the lower St. Lawrence.

During the American Revolution, it also figured as the headquarters of the Americans who were despatched by Montgomery to sow discontent and disloyalty among the Canadians, and invite as many of them as possible to take up arms against Great Britain. The celebrated Ethan Allen, renowned among our American neighbours—Vermonters more especially—as the hero of Ticonderoga, was at the head of the movement. He set out from St. Johns and scoured the Richelieu as far as St. Ours for recruits. In a short time, he had some two hundred and fifty Canadians under arms. With these he proposed to commence active operations, and even offered Montgomery to assist in the siege of St. Johns which was then progressing. He left St. Ours, crossed over to the east side of the St. Lawrence, and when midway between Longueuil and Laprairie fell in with Major Brown and a company of Canadians and Americans. With this officer, Allen concerted a sudden attack on Montreal. Brown was to cross above the town and attack it there, while, simultaneously, Allen would cross below. The adventurous Vermonter chose eighty of his Canadians and thirty Americans with whom he passed from the east to the west bank of the St. Lawrence during a stormy autumn night. At day-break he expected to hear the signal of Brown, but this failing, he tried to retreat across the river. But the canoes being few, he had not effected his purpose, when he was discovered. Forty British regulars, two hundred Canadians, and some Indians fell on him and overpowered him, after a fierce combat. Allen himself was taken prisoner and transported to England. This fool-hardy attack took place on September 24, 1775. It did much to break up the recruiting among Canadians.

During the rebellion of 1837, St. Ours was ardent in the insurgent interest, but the *patriotes* who had organized there did not take part in any of the engagements. When the fight came on at St. Denis, they were summoned for reinforcements, but refused to stir.—*St. Johns News*.

No. X.—SOREL.

The town of Sorel situate at the mouth of the Richelieu, derives its name from a French engineer who built a fort there in the primitive time of the Indian wars. It is sometimes, also, called William Henry, in honor of the English Prince of that title who visited the country after the conquest.

Sorel is connected with the earliest history of Canada. Champlain was the first white man who set his foot on its present site. In 1609, when he made his campaign against the Iroquois, as we have already described in the first paper of this series, he stopped there with his party, in order to hold a council of war and take in a supply of pro-

visions. On his return he stopped again, before descending to his head-quarters at Quebec.

In 1610, a battle took place there, or rather in an island opposite the mouth of the Richelieu. Champlain at the head of a party of Montagnais attacked a strong force of Iroquois. After a furious combat, in which the founder of Quebec was wounded by an arrow, the Iroquois were compelled to retire. A Frenchman, named DesPrairies, contributed to this victory by his almost superhuman courage.

In 1642, M. de Montmagny, at that time Governor of New France, appreciating the military importance of Sorel as a barrier against the terrible invasions of the Iroquois, built a fort there. On the 13th, August of that year, he arrived in person from Quebec with three boats bearing workmen, soldiers and cannon. Seven days later, as his men were setting up their palisades, a party of Mohawks prepared an ambuscade in the neighbouring forests. The French fled to arms, and the Governor whose vessel was still moored in the stream landed and headed the onslaught against the Indians. The enemy was not routed, however. They retreated in tolerably good order to a sheltered spot, some three miles above the fort.

In 1645, Fort Richelieu, as it was then called, was the scene of a bloody encounter between the Algonquins and the Iroquois. A party of the former came up from Three Rivers and in the dead of night attacked a band of the latter who were lying in wait around the fort. Victory declared in favor of the Algonquins.

Life at this fort was very precarious during these fierce Indian wars. Any one of the garrison who had the misfortune to stray away in the neighboring woods, either in search of game, or for the purpose of procuring fuel, was sure to be attacked by the prowling savages. Several were killed in this way; others taken prisoners.

In 1646, a missionary named De Noue perished within a few miles of the fort, while in the discharge of his official duties. He had left Three Rivers on snow-shoes for Fort Richelieu, accompanied by one Huron and two Frenchmen. His intention was to minister to the spiritual wants of the soldiers at the garrison. The first night, they slept in the snow, and early in the morning, by the favor of moonlight, the missionary pursued his way alone. He wandered right and left in the snow-drift and finally perished of cold. His body was discovered by a soldier and two Hurons at the mouth of a pit, which he had dug out with his snow-shoes. He was in a kneeling-posture and his hands were crossed upon his breast in the attitude of prayer.

Fort Richelieu was always kept garrisoned during the whole time of the French occupation of the country, but since the conquest by the English, it has lost somewhat of its importance. The fortresses of Chambly and St. Johns, as we have seen, were retained, but that of Sorel was not considered so necessary for frontier defence.

After the capture of St. Johns, in 1775, the American General, Montgomery, marched against Montreal, which he entered in triumph, without striking a blow. Carleton had evacuated the city and proposed to retreat with all his force to Quebec, to await the decisive engagement of the campaign. But Montgomery forestalled him. He despatched Col. Easton with a sufficient force of continental troops, cannon and armed gondolas or rafts to Sorel, with orders to intercept the British fleet at all hazards. Easton disposed of his squadron to such advantage that he succeeded in carrying out the order of his commander. General Prescott leader of the retreating expedition, several officers, members of the Canadian Council and one hundred and twenty private soldiers, with all the vessels, were obliged to capitulate. There were eleven sail of vessels. Their contents were 760 barrels of flour, 675 barrels of beef, 376 firkins of butter, 3 barrels of powder, 4 nine and six pounders, cartridges and ball, 2380 musket cartridges, 8 chests of arms, 200 pairs of shoes and a quantity of intrenching tools. Easton was very anxious to secure the person of Governor Carleton himself, whose talents and influence he dreaded very much, but the wily soldier, taking advantage of a dark night and secret way, escaped through the American lines at Sorel, with muffled oars and arrived in safety at Three Rivers.

Sorel is at present more distinguished as a commercial emporium than as a military station. Its shipping interest is very great, and is the centre of business of the prosperous Richelieu company. A large proportion of its inhabitants are watermen of some kind or other.

With this notice of Sorel, we close our series of historical sketches. Having descended the Richelieu from its rise to its mouth, we have noted the chief facts of interest and importance which connect it in any way with the annals of the country. We shall conclude by inviting any of our friends who have the documents at hand, to do for our neighboring counties and townships, what we have done for the whole valley of the Richelieu.—*Ib.*

## Why We Sleep.

It is related that a Chinese merchant, having been convicted of murdering his wife, the judges determined to punish him in such a manner as to inflict the utmost amount of suffering, and, at the same time, strike terror into the hearts of all those who might entertain the idea of following his example. He was, accordingly, condemned to die by being deprived of sleep. The prisoner was placed in confinement under the care of three of the police guard, who relieved each other every alternate hour, and were instructed to supply him with a full allowance of food and drink, but who prevented his falling asleep night or day. At first the condemned man congratulated himself on the mildness of his punishment, and was rather disposed to regard the whole matter as a joke. The excitement of his situation tended to keep him awake, and for a day or so his guards had little to do. By the third day, however, he began to feel uncomfortable. His eyes were red, his mouth parched, his skin dry and hot, and his head ached. These symptoms continued to increase in intensity, and at the commencement of the eighth day, his sufferings were so acute that he was at times delirious. In his moments of reason he begged the authorities to put an end to his torture. He implored them to grant him the blessed opportunity of being strangled, guillotined, burned to death, drowned, garroted, shot, quartered, blown up with gunpowder, cut into small pieces, or killed in any conceivable way their humanity or ferocity might suggest. All was in vain—his tormenters coolly did their work till there was no occasion for their interference. A period was reached at which he could not have slept even if let alone. The brain was feeding on the products of its own disintegration, and sleep was impossible. He was now entirely insane. Illusions of his sight and hearing were almost constant, and erroneous fancies filled his thoughts. At one moment he fought his guards with all the fury of a maniac; at the next he cowered with terror before some imaginary monster, and then, relapsing into calmness, would smile with delight at some enchanting vision which flitted through his mind. Finally, nature gave way altogether. He lay upon the floor of his prison, breathing slowly and heavily, stupor ensued, and on the nine-teenth day, death released him from his sufferings.

The story is probably founded on fact, for, of all the nations who have cultivated the subject of punishments as a science, the Chinese stand among the first.

And the question arises, Why should the mere deprivation of sleep be productive of such a degree of torture as to make the victim beg for some more speedy and apparently more horrible death? The answer involves certain facts connected with the physiology of sleep, which, if generally understood and acted upon by those who make much use of their brains, would do a great deal toward lessening the population of our insane asylums.

The brain is the organ which evolves the mind. To perform its function, it requires to be supplied with a sufficient quantity of good blood. In this respect it does not differ from any other organ of the body. If the liver be deprived of blood, the secretion of bile stops; if the vital fluid be cut off from the stomach, there will be no more gastric juice; if the renal vessels be tied or divided, the action of the kidneys is at once arrested.

Now, within certain limits, the more blood there is in the brain, the more energetically does it work in the production of mind. If the proper limit, however, be passed, and especially if the blood be "black" or non-aerated, the manifestations of mental action become abnormal, and may altogether cease through the stupor caused by congestion. In all these respects the brain is subjected to the same laws that govern the other organs. A moderate increase in the activity of the circulation in the gastric vessels leads to an augmentation in the quantity of gastric juice, and thus digestion is accelerated. A like cause acting upon the liver promotes the secretion of bile, and so on for the other organs. Let the Rubicon of healthy activity be passed, and the vessels become unduly overloaded, and we have had gastric juice or bile, as the case may be, and, perhaps, none at all.

Mankind have found out certain ways of increasing the amount of blood in their organs, and thus of producing results which they deem beneficial or necessary. Thus, to help digestion, we eat cayenne pepper, mustard, and other condiments, or follow Paul's advice to Timothy, and take a little wine for our stomach's sake. When the mother's breast fails in nourishment for her babe, we employ medicines which have the effect of reopening the fountains, simply by their influence on the circulation of the blood; where it is deemed necessary to increase the amount of saliva, and thus to eliminate certain poisons from the system, we "salivate" our patients with mercury,—or, rather, we did; few of us do so now. The glands become enlarged by the increased amount of blood in their tissues, and the saliva is poured out in torrents.

We know, too, how to increase the amount of blood in our brains,

and thus to add to the number and brilliancy of our thoughts. A glass of wine by its action upon the heart, causes it to beat with more force and frequency, and appears especially to act upon the cerebral circulation. Eugene Sue never wrote without a bottle of champagne by his side, from which he imbibed a great part of his genius. Others take opium for the same purpose; and others again resort to still more dangerous means. One of the most effectual and safest is a cup of strong coffee. Sydney Smith said, "If you want to improve your understanding, drink coffee;" and Sir James Mackintosh used to declare that he believed the difference between one man and another was produced by the quantity of coffee they drank.

Then, again, the quantity of blood in the brain is increased by those portions of the body which mechanically favor its entrance into the cranium, or retard its exit. Many persons have noticed the influence of position on the activity of thought. Pope used to lie awake at night thinking, and, when a particularly brilliant thought occurred, would ring for pens, ink, and paper, in order that he might record it ere it was lost. The engineer Brindley used to retire to bed for a day or two, when he was reflecting on a grand or scientific project. Sir Walter Scott has said that the half hour passed in bed, after waking in the morning, was the part of the day during which he conceived his best thoughts. Tissot states that a gentleman, remarkable for his accuracy in calculation, for a wager, lay down in a bed and wrought by mere strength of memory a question in geometrical progression, while another person in another apartment performed the same operation with pen and ink. When both had finished, the one who had worked it mentally repeated his product, which amounted to sixteen figures, and, insisting that the other gentleman was wrong, desired him to read over his different products. On this being done, he pointed out the place where the first mistake lay, and which had run through the whole. He paid very dearly, however, for gaining his wager, as for a considerable time he had swimming in his head, pains in his eyes, and severe headaches upon attempting any mathematical labor. A gentleman has recently told the author that, whenever he is at a loss for ideas in his literary compositions, he lies down on a lounge, and always with good results.

But the blood in the brain may be increased by its own action. Intense and long-continued thought, anxiety, grief, and other emotions, have this effect. It may be laid down as a law admitting of no exception, that, when an organ is kept in a condition of great activity, there is an augmented flow of blood to its substance; and the organ, whatever it is, increases somewhat in size when an increase is possible. Take, for example, the arm of a blacksmith, the leg of a ballet-dancer. Here the excessive use to which the muscles are put causes an increased flow of blood to the part, and the consequent formation of new matter in greater proportion than it is consumed.

There can be no muscular action, except as the consequence of the disintegration of a certain amount of muscular tissue. No gland can act without its substance becoming decomposed to some extent, and no thought can be conceived by the brain without the destruction of a definite amount of the cerebral matter.

During wakefulness, the brain is constantly in action. There is not a moment during which it is entirely quiescent. If our thoughts are active, or if strong emotions act upon us, the blood flows in increased amount to the head, in order that new matter may be deposited to take the place of that which has been used. For all new substance, whether of the heart or the lungs, or the brain, or the nerves, comes from the blood.

In the ordinary course of our lives the supply is equal to the demand. But it is possible so to use our brains that the substance is destroyed in a greater proportion than the blood can supply. Men engaged in the feverish and anxious occupations of life rarely stop to think that they are using their brain capital, instead of merely consuming the interest, as they ought to do. The end for all such is not far distant. It is as certain as the result of spending a pecuniary capital instead of living upon the income. The one will inevitably lead to insanity or a lunatic asylum; the other to pauperism and the alms-house.

Now, what has all this to do with the question, Why do we sleep? Simply this: sleep is the rest of the body, and especially of the brain. During this condition, the brain is at its minimum of activity. Certain faculties, such as the imagination, appear to be in full operation, but it is in appearance only, for those faculties which regulate it when we are awake have their action suspended. All other organs have their periods of rest during wakefulness, except the brain. Sleep is essentially the condition in which the noblest organ of the body reposes from its labors. It is then that the blood deposits new cerebral matter faster than it is used, and thus prepares the brain for its new duties when we awake.

If we take the hours which should be devoted to sleep and use them in mental activity, we are robbing our brains of the opportunity for regeneration which the condition of sleep affords. We are surely

consuming our capital, brain—and intellectual bankruptcy is the certain result. If we persevere, the time is reached when we cannot sleep. For the cerebral vessels become so permanently distended that sleep is an impossibility.

It used to be thought that during sleep there was an increase in the quantity of blood circulating through the brain, but very exact observations have satisfied us that the reverse is the case. Wakefulness, therefore, keeps the cerebral vessels distended, a state of congestion is thus induced, the blood is not rich enough in the substances the brain requires to supply its wants, and this organ accordingly consumes its tissue for the restoration of mind, without the possibility of sufficient deposits being made to compensate for the loss.

Is it a matter for surprise that, under such circumstances, the brain should act badly, and that the manifestations of mental action should exhibit irregularity and disorder? Is it a wonder that a man who has passed a sleepless night should be unable to transact his business properly the next day, or even to add up a column of figures correctly? Is it strange that his head should feel dull and heavy, that he cannot collect his thoughts, or even concentrate his attention upon matters requiring deliberation? Let this go on night after night, and organic diseases of the brain, such as insanity, inflammation, or softening, are certain to result. We sleep, therefore, mainly to give the brain rest. One-third of our lives should be devoted to this purpose. If this is done, it matters not how constantly or intensely we employ the organ which, in its noblest proportions and in its fullest vigor, makes man what he is.—*Appleton's Journal*.

### Reading and Writing.

A British author of considerable fame has furnished his readers with the following advice upon the kindred subjects of reading and writing:

"Reading without purpose is sauntering, not exercise. More is got from one book on which the thought settles for a definite end in knowledge, than from libraries skimmed over by a wandering eye. A cottage flower gives honey to the bee, a king's garden none to the butterfly.

Youths who are destined for active careers, or ambitious of distinction in such forms of literature as require freshness of invention or originality of thought, should avoid the habit of intense study for many hours at a stretch. There is a point in all tension of the intellect beyond which effort is only waste of strength. Fresh ideas do not readily spring up within a weary brain; and whatever exhausts the mind not only enfeebles its power, but narrows its scope. We often see men who have over-read at college entering upon life as languidly as if they were to leave it. They have not the vigor to cope with their own generation; for their own generation is young, and they have wasted their nervous energy which supplies the sinews of war to youth in its contests for fame or fortune.

Study with regularity, at settled hours. Those in the forenoon are the best, if they can be secured. The man who has acquired the habit of study, though for only one hour every day in the year, and keeps to the one thing studied till it is mastered, will be startled to see the way he has made at the end of a twelve month.

He is seldom overworked who can contrive to be in advance of his work. If you have three weeks before you to learn something which a man of average quickness could learn in a week, learn it in the first week and not the third. Business despatched is business well done, but business hurried is business ill done.

In learning what others have thought, it is well to keep in practice the power to think for one's self; when an author has added to your knowledge, pause and consider if you can add nothing to his.

Be not contented to have learned a problem by heart; try and deduce from it a corollary not in the book.

Spare no pains in collecting details before you generalize; but it is only when details are generalized that a truth is grasped. The tendency to generalize is universal with all men who achieve great success, whether in art, literature, or action. The habit of generalizing, though at first gained with care and caution, secures by practice, a comprehensiveness of judgement and a promptitude of decision which seem to the crowd like the intuition of genius. And, indeed, nothing more distinguishes the man of genius from the mere man of talent than the facility of generalizing the various details, each of which demands the aptitude of a special talent, but all of which can be only gathered into a single whole by the grasp of a mind which may have no special aptitude for any.

Invention implies the power of generalization, for an invention is but the combining of many details known before into a new whole, and for new results.

Upon any given point, contradictory evidence seldom puzzles the

man who has mastered the laws of evidence, but he knows little of the laws of evidence who has not studied the unwritten law of the human heart; and without this last knowledge, a man of action will not attain to the practical, nor will a poet achieve the ideal.

He who has no sympathy never knows the human heart; but the obtrusive parade of sympathy is incompatible with dignity of style in a writer. Of all the virtues necessary to the completion of the perfect man, there is none to be more delicately implied and less ostentatiously vaunted than that of exquisite feeling or universal benevolence.

In science, address the few; in literature, the many. In science, the few must dictate opinion to the many; in literature the many, sooner or later, force their judgement on the few. But the few and the many are not necessarily the few and the many of the present time; for discoverers in science have not unoften, in their own day, had the few against them, and writers the most permanently popular not unfrequently found, in their own day, a frigid reception from the many.

By the few, I mean those who must ever remain the few, from whose dicta we, the multitude, take fame upon trust; by the many, I mean those who constitute the multitude in the long run. We take the fame of a Harvey or a Newton upon trust, from the verdict of the few in successive generations; but the few could never persuade us to take poets and novelists on trust. We, the many, judge for ourselves of Shakespeare and Cervantes.

He who addresses the abstract reason addresses an audience that must forever be limited to the few; he who addresses the passions, the feelings, the humors, which we all have in common, addresses an audience that must forever compose the many. But either writer, in proportion to his ultimate renown, embodies some new truth, and new truths require new generations for cordial welcome. This much I would say meanwhile, doubt the permanent fame of any work of science which takes immediate reputation with the ignorant multitude; doubt the permanent fame of any work of imagination which is at once applauded by a conventional clique that styles itself "the critical few."

### The Advertisement.

The advertisement can sell millions of yards of shoddy for broad cloth! The advertisement can import millions of chests of tea direct from China, and sell cheaper than sloe-leaves and carpet-sweepings! The advertisement can bring millions of tons of all Walsend coals from Newcastle to London, and let the Cockneys burn at no more cost than Welsh, Midland, or Anthracite! The advertisement can supply millions upon millions of miscellaneous articles, from half-penny toys and cheap Jacks, to newbuilt houses and shiploads of invaluable merchandise, all the first-rate class, and at an incredible reduction of price! The advertisement can not only import millions of bales of the finest Georgian cotton, but change millions of bales of other cotton into Island, and by its dexterity, pass the whole, in a manufactured state, into alpaca, flax, wool, silk, or other produce, and by its simple process, at the enhanced cost of far more expensive fabrics! The advertisement can cleanse the Augean stable of millions of boxes and bottles of quack medicine, and induce millions of fools to anoint their bodies with, or swallow their contents! The advertisement can make as many fools believe that spurious and adulterated concoctions of hardly less poisonous trash—unhealthy, nasty, and injurious materials of every sort contributive to imposition—are really generous wines, neat as imported (and that, too, come to be a taxing pull), and of genuine spirits and beer, from the vine, sugarcane, and John Barleycorn, to be drunk on the premises or anywhere else, *con gusto*, accordingly. The advertisement can carry under its ostensibly feeble little arms, thousands of miles of railroad, with tens of thousands of passengers and prodigious traffic, by means of common, fast, and pleasure trains, about to realize enormous profits; and admirable to relate for its care and humanity, never having been known to wound seriously or to kill even one of the well assured multitude who trust their lives to consequences so satisfactorily accredited. The advertisement can bear the entire burden of hundreds of bubble companies, with many millions of (their) capital, resting solely on its veracity and responsibility. This advertisement is equally stout in the support it can afford to foreign loans; for example, see its Archimedean capacity in the Greek, and its Herculean vigour in the country where one of Hercules' pillar is reported to be still standing. The advertisement can lend millions of money (flash) at once on mere personal security, without inconvenient inquiries or reference on either side, at almost nominal interest, without expenses, and repayable by instalments at pleasure, &c. The weight of the nuggets (query, called ingots? of old) is not so very ponderous, but there is a good deal to stoop under so as to gull hundreds of thousands of idiots

into disastrous loss or utter ruin. The advertisement can keep up, for hundreds of nights without intermission, the heaviest tomfoolery and outrageous performances at the theatres (though amenable to fall by every law of gravitation), as if they were light and entertaining, instead of not being worth an old song. The advertisement can support and circulate tenfold more matchless magazines and other periodicals, good, bad, and indifferent, than could find existence but for its mighty help; and as for sensationalism, spiritualism, ritualism, political associations, monster meetings, nonsense, trash, rubbish, imposture, and poison of every possible kind, millions of reams of paper are inadequate to demonstrate its infinite capability. The advertisement can maintain the greatest manufacturers in the world as original dispensers of intelligence and useful knowledge; thousands of semi-professors, lecturers, and professionals, *en masse*, retailing superfluous nothings to ignorant audiences; inspired writers for the press, and millions of other classes of retail dealers laden with every article of want or luxury in life and society and all "guaranteed" just as affirmatively and with as free a conscience as if the whole were the very truth, and simple matter of course.—*Fraser's Magazine*.

## SCIENCE.

### The Total Eclipse of the Sun.

Total eclipses of the sun, for a given locality on the earth, are of a very rare occurrence. Thus, in London, not a single total eclipse of the sun happened between 1140 and 1715; that is, in a space of 575 years. In Paris only one eclipse occurred in the whole of the 18th century, while during the 19th century not one happened or will happen in that locality.

Total eclipses of the sun can last no longer than 7 minutes and 58 seconds. This greatest possible duration happens only when the centres of the sun, moon, and earth lie exactly in a straight line, and at the same time the sun is at his greatest distance (apogee) and the moon at her least distance (perigee) from the earth; and even then the duration of 7 minutes and 58 seconds obtains only on the equator. A coincidence of these conditions has not happened since the creation of man.

The observations which are made in eclipses of the sun may be divided into two kinds: first, those which refer to the time of the motions of the earth and moon; and second, those which refer to the nature of the sunlight. In regard to the former, we may remark here, that every eclipse of the sun will serve for a correction of the *elements of the orbits*. The time when the moon enters the disc of the sun, the duration of the eclipse, and the time when the last trace of the moon leaves the edge of the sun, have been calculated beforehand with the utmost minuteness, even for the twentieth part of a second, thanks to the accurate knowledge which our astronomers have of the motions of the earth and of the infinitely more complicated motion of the moon. Now, if the mentioned phenomena happen exactly at the time calculated, they evidently confirm the correctness of the calculations, and of the supposed motions and distances of these heavenly bodies. But if there is a discrepancy even of the twentieth part of a second, the previous calculations must be corrected, and thus every new observation will furnish either a new proof for the absolute correctness of the astronomical calculations, or lead to corrections which finally must approximate this part of astronomical knowledge to a state of absolute perfection.

But by far the most important part of the observations, which will be made in this eclipse, refers to the *nature of the sunlight*. There is a very widely-spread opinion that in a total eclipse of the sun a total darkness prevails, and the stars become visible. This opinion, though repeated by our astronomical handbooks, is entirely erroneous. Only the very brightest stars become visible. Thus, in the total eclipse of July 18, 1860, the four planets, Mercury, Venus, Jupiter, and Saturn were seen near the sun with the naked eye, and in the total eclipse of July 28, 1851, in Dantzic,—Mercury, Venus, Jupiter, Procyon, Regulus and Spica were visible; but it was in vain that Galle tried to find Castor and Pollux. The fact that during a total eclipse there is only a twilight, but by no means darkness, is easily explained when we consider that the atmosphere in places next to the total eclipse will reflect the sunlight in all directions, and that by this reflected light those parts of the atmosphere which lie within the total eclipse are illuminated, though feebly.

But there is another phenomenon which, in the moment of the total eclipse, is presented to the eyes of the observers, so glorious and wonderful that no description can give an adequate idea of it. This is the Corona, which suddenly appears in the moment when the

last ray of the sun disappears behind the deep black cover of the moon; a shining wreath of beams, surrounding the totally eclipsed sun to a distance of about one-third of the apparent diameter of the moon, and so bright at its inner edge that we may doubt whether really the sun is obscured and then fading away imperceptibly in the vast space of heaven. The Corona does not always present the same appearance; it is either of a silvery-white or of a reddish tinge, according to the state of our atmosphere, and sometimes colored rays or pencils of light are seen issuing from it. The halo with which the painters surround the heads of saints gives perhaps the best idea of it. It disappears with the first appearing ray of the sun, as if by magic.

What is the cause of this phenomenon? It must be either in the sun or in the moon. The moon could produce it only if she had an atmosphere capable of refracting the rays of the sun. But since it has been proved that the moon is without an atmosphere, it follows that the cause of the phenomenon must be found in the sun himself.

The following theory was adopted by the best astronomers before the discovery of the spectrum analysis:

If we observe the sun through a good telescope, we see black spots on its surface, irregularly formed and surrounded with a penumbra, that is, an inner ring, which is less dark, and of an ashy-grey color. These spots often combine into a single, larger spot, or separate into different smaller ones, passing over the disc from east to west in periods of nearly two weeks. Sir W. Herschel, and after him most astronomers, believed these spots to be openings in a luminous atmosphere of the sun, which alone is the cause of the sunlight, and that the sun, whose body those very openings allow us to see, is dark; that this luminous atmosphere (photosphere) is separated from the body of the sun by an inner atmosphere, tending to intercept or to soften the heat and light of the photosphere, and that the penumbra is produced by this inner atmosphere.

But there are several important objections against this theory. Thus, it has been observed that the spots, although moving around the surface of the sun, nevertheless retain their shapes often for a long time. But by Sporer's investigation, it has been proved that the surface of the sun is perpetually agitated by the most violent and tremendous storms, moving near the equator in a westerly, in higher latitudes in an easterly direction. But how can the spots, if mere interruptions of a gaseous atmosphere, retain their shape, when this atmosphere itself is driven over many thousands of miles in the most violent convulsion? Again, several astronomers have observed that both the spots and their penumbras are traversed by streaks and veins of sunlight. W. Carrington, in Redhill, saw on the 1st September, 1859, an intense white light, brighter than that on the surface of the sun, suddenly emerging from the centre of a large spot. The phenomenon lasted five minutes, and after its disappearance the spot remained unchanged. The same astronomer inspected some days later the photographic magnetic records in Kew, in respect to declination, inclination, and intensity, and found in each of these the traces of a vast disturbance which had occurred exactly at the time of the phenomenon described above. In 1862 the astronomer Nasmyth stated that he had observed in the penumbra of the solar spots things looking like willow-leaves, which placed themselves over each other, like bridges over bridges. In 1863 other astronomers observed the willow-leaves of Nasmyth, and ventured to assert—especially Sir John Herschel—that they might be living beings developing light and electricity. Even the earth was affected by this phenomenon; for at all observatories magnetic storms were observed, all telegraph wires were overloaded, and an aurora borealis trembled on the sky.

It is evident that the hypothesis which we have stated in regard to the solar spots is unable to explain any of this phenomena. Much less can the appearance of the Corona be explained by it. In order to account for the Corona astronomers have resorted to a new hypothesis, the existence of a *third* atmosphere around the sun—a cloudy sphere. This sphere, they say, is invisible under ordinary circumstances, in consequence of the brighter photosphere; but during a total eclipse it will appear as Corona, either with its own light or by reflecting the rays of the photosphere.

But the Corona is not the only, not even the most remarkable phenomenon of a solar eclipse. For at the moment when the last ray of light has vanished, we suddenly behold on the edge of the dark moon strange conglomerations of a pale reddish lustre, which some observers have compared to glaciers, illuminated by the rising or setting sun, others to reddish mountain peaks, others to immovable flames. These protuberances—so they are called—are not always connected with the edge of the moon or of the sun, but often are separated from it by a considerable distance (up to 2½ minutes). Some, when the moon is about to glide over them, suddenly change their colors, or seem to grow in height, and then new protuberances will make their appearance. These protuberances have especially been

seen near those places on the edge, where solar spots had been perceived before the obscuration.

These protuberances were several times observed during the last century, first in 1733 by Bassemius in Gothenburg. But they did not engage the attention which they deserve till Schumacher made his admirable observations in Vienna, on the 8th of July, 1845; since that time, they have been observed by all astronomers with the most minute care during all total eclipses—in 1850 in Honolulu, 1851 in Sweden and Prussia, 1858 in Peru and Brazil, 1860 in Spain. It is for the sake of getting photographic likenesses of the protuberances and the Corona that the host of astronomers, who have resorted to the scene of the present eclipse, have provided themselves with photographic instruments, which, by the skill of Warren De la Rue and Secchi, produced surprising results on the occasion of the last eclipse.

Some astronomers think that the protuberances bear the same relation to the outer or cloudly atmosphere of the sun as the terrestrial clouds do to our atmosphere. Others consider them as volcanic masses, formed in or below the photosphere, which have penetrated through the openings that appear as solar spots, and perhaps have caused these openings. Others suppose them to be optical phenomena produced by refraction of light. Some have even considered them as real mountains, which, however, according to their apparent size, would have a height of about 200 miles, if they were on the moon, and of about of 60,000 miles if on the sun.

All these problems have entered a new phase since Bunsen and Kirchhoff, ten years ago, discovered the analysis of the spectrum. We will endeavour to give to the reader a brief outline of this splendid discovery, one of the most important of this century, and especially destined to revolutionize the science of chemistry.

Newton discovered that if a beam of solar light be admitted to a dark room through a small aperture and intercepted by a triangular glass-prism, the rays of the sun will be *dispersed* into an oblong colored figure, which—especially when observed through a telescope—looks like a piece cut from a rainbow, with the known succession of the seven colors, viz: red, orange, yellow, green, blue, indigo, violet. This figure is called the prismatic solar spectrum. The spectra of the planets, but not those of the fixed stars, show exactly the same succession of colors. In the year 1814 Fraunhofer found that the colors of the solar spectrum are not exactly contiguous, but separated by a number of black parallel lines, which are vertical to the length of the spectrum. These lines, whose number is now known to be nearly 2,000 always appear exactly at the same places of the spectrum, however much the angle of the prism may be altered, so that we may consider them as the regular borders of the several groups and shades of colors.

Scientists were in the dark concerning the origin and nature of these lines until recent peculiar discoveries shed an unexpected light on the subject. These discoveries were made by comparing spectra not having their origin in the sunlight. Thus it was found that in the spectrum of chloride of sodium (common salt) the colors appear much darkened, with a very bright yellow line at the place where the red color changes into orange. This yellow line is a characteristic proof of the presence of sodium in any body in a state of combustion. Electric light does not show any dark lines in the spectrum at all. But if a flame of alcohol, the wick being saturated with sodium, is interposed between the prism and the electric light, a dark line will appear in the place of the bright yellow line. Now, Bunsen and Kirchhoff discovered that the mentioned dark line exactly coincides with one of the lines of Fraunhofer in the solar spectrum, and that the same phenomenon is repeated in innumerable other cases. To each chemical element; treated in this way, corresponds a dark line or a series of dark lines; and if several elements are combined, the corresponding dark lines appear separated without the slightest confusion.

By this discovery an entirely new way of chemical analysis was found. By means of the spectrum may be recognized the presence of the very minutest particles of elements in terrestrial bodies, particles so minute, that by no other method can even a remote approximation to this delicacy be obtained. Thus, the spectrum analysis has disclosed the presence of *one trillionth* of a pound of sodium by means of the characteristic yellow line in the spectrum. We may imagine how enormous will be the result of Bunsen and Kirchhoff's discovery in chemical science. But it is hardly of less importance in astronomy. For the same scholars also made the discovery that there is an essential difference between the spectra of solid and liquid and those of gaseous bodies. Solid or liquid bodies brought to a state of white-heat produce a *continuous* spectrum, in which all the colors are contained without the interposition of dark lines. But gaseous bodies produce bright lines interrupted by dark intervals. Now, when the flame of a gaseous body is interposed between the prism and a white-hot solid or liquid body, the spectrum of the latter at once

receives the dark lines of Fraunhofer exactly at the places where the spectrum of the gaseous body has shown the bright lines, while the dark intervals of the latter coincide with the colors of the spectrum.

The inferences which may be made from these facts are palpable. For it evidently follows that the sun must be a white-hot solid or liquid body, surrounded by a gaseous atmosphere, in which a number of elements, some of which are also found on our earth, are in a state of combustion. The body of the sun without this atmosphere would produce a spectrum without black lines. But since we see in the solar spectrum a number of black lines corresponding to the spectra of certain terrestrial bodies, as iron, chromium, nickel, zinc, etc., it follows that these bodies must be present on the surface of the sun, and must be in a state of combustion in his atmosphere. On the other hand, some terrestrial elements, as gold, silver, quicksilver, etc., cannot be present on the surface of the sun, since the lines, formed by their spectra, are not found in the spectrum of the sun. Many experiments have also been made, consisting in the artificial production of new lines in the solar spectrum. Thus, for instance, we find in the spectrum of *lithium* a peculiar red line. If we interpose a lithium-flame between a sunbeam and a prism, a dark line will appear on the same place; where before the red lithium line was found, and which did not exist before in the spectrum of the sun. We infer from this that lithium is *not* contained in the surface of the sun.

We may now explain the solar spots, the protuberances and the Corona. The solar spots are most probably identical with the protuberances, and both are nothing but clouds, swimming in the atmosphere of the sun similar to our clouds, which so often appear on the distant horizon as fantastic formation, like the protuberances. The Corona is nothing but this very atmosphere of the sun, of which, under ordinary circumstances, we cannot see anything, since its light is too weak to be perceived next to the intense light of the sun.

We have spoken here only of the importance of the spectrum analysis in regard to a more accurate knowledge of the sun. But we may remark that the spectrum analysis is just beginning to enlarge our knowledge of the other stars in an entirely unexpected manner. Thus, we know that in nearly all stars, several of the elements of the sun must be present, as, for instance, iron, sodium, magnesium, hydrogen. But there appears also a difference. Thus, in the brightest star of Orion no hydrogen exists, while in Aldebaran the presence of quicksilver is certain, which is wanting on the sun. In the spectrum of Sirius, lines have been found which cannot be produced by any known terrestrial body. We know at the same time, by the most recent discoveries, that the planetary nebulae cannot be clusters of stars, as Sir John Herschel thought to have proved by Rosse's large reflecting telescope, but immense masses of gas without a nucleus; for their spectra do not show dark lines on a bright ground, but bright lines with dark intervals.

What a progress of science! How long ago is it that we learned to measure the heavenly bodies? Scarcely a quarter of a century have we known how to find their distances, and not much longer than we have known how to weigh them, as though we could place them in a scale. Now we discover the matter of which they are made, the metals which lie on their surface. We decompose them, as if we held them in our hands—had placed particles of them in the alembics of our laboratories.—*Kentucky Journal of Education.*

The moon's shadow will strike the earth in Siberia at 3:37 P. M. (Washington time), in latitude 58° north, and longitude 165° west of Washington, pass over the town of Okhotsh, in Siberia, at 3:43 P. M., cross Behring's Strait at 4:15 P. M., and pass through Alaska and the British Possessions striking the northern boundary of the United States in longitude 31° west of Washington. After reaching the settled parts of the country, it will pass over or near the following cities and towns, in all of which the eclipse will be total:

In Iowa—at Cherokee, New Munich, Lake City, Boonesboro', Des Moines, Newton, Knoxville, Oskaloosa, Ottumwa, Fairfield, Mount Pleasant, Burlington.

In Illinois—at Macomb, Springfield, Decatur, Shelbyville, Mattoon, Robinson.

In Indiana—at Vincennes, Washington, Leavenworth, New Albany.

In Kentucky—at Louisville, Shepardsville, Frankfort, Danville, Mount Vernon, Mount Pleasant.

In West Virginia—at Estilville.

In Tennessee—at Blountsville, Taylorsville.

In North Carolina—at Wilkesboro', Salisbury, Greensboro', Raleigh, Fayetteville, Goldsboro', Leesburg and Wilmington, passing into the

Atlantic Ocean at New River Inlet, between Beaufort and Wilmington. The cities and towns mentioned are all on railroad lines, and are easily accessible.—*Mount Auburn Index.*

The Eclipse as seen at Montreal and Quebec will exhibit an obscuration of about seven-tenths of the sun's disc.—(Ed.)

## ART.

### Metallochromy.

By metallochromy, we understand the coloring of metals by means of galvanism. It is an invention of Nobili, and consists in depositing thin films of a metal on metallic bodies by means of a galvanic battery, so as to form a number of rings, and in afterward exposing the object to heat. As the deposited rings, called after the inventor Nobili's rings, are not everywhere of the same thickness, as might be inferred from the manner of their formation, they expand unequally in heating, and thus produce elevations and depressions, though not visible to the naked eye, nevertheless cause a refraction to the rays of light, thus giving rise to the same colors that are seen in thin films of varnish, fissures in the ice on window-glass that has been partially decomposed by atmospheric action, in soap-bubbles, pearls, and which also show themselves very beautifully in heating bismuth and other fusible metals.

Nobili obtained the figures called after the name by immersing polished silver, gold, or platinum plates in a solution of acetate of copper or lead, and then connecting the two wires of a galvanic battery with them. Fechner obtained the figures by simply touching the plate with a zinc rod; thus a slight electric current was established, which reduced the metal from its solution. Elsner in pursuing the same subject, soon discovered that similar figures can be produced on steel, which takes on thereby the appearance of marbled paper.

The longer the zinc rod remains in contact with the metallic plate, the larger becomes the rings. If the plate is then dried with linen, after having been rinsed in pure water, and held over the flame of an alcohol lamp, it will be noticed that very pleasing colors begin to make their appearance. When the color desired shows itself, the plate must, of course, be withdrawn; but the colors adhere so firmly that they bear considerable rubbing. The tints are mostly gold-yellow, steel-blue or orange-red, violet, and bronze-colored. If first a lead and then a copper solution is employed, a certain diversity may be brought into this galvanic coloration. Larger veins, sometimes similar to peacock's eyes, are obtained by using zinc rods or cylinders of a corresponding diameter; and in case the steel-plate is steeped in dilute muriatic acid, and then washed with water before being laid into the metallic bath, the colors become considerably duller. They appear most beautifully on silver and platinum; on the latter, a green color is often noticed. Dilute aqua fortis, however, destroys at once all this iridescence, that reminds us sometimes of the hues of the wings of tropical insects.

By employing a solution of a copper salt and chloride of ammonium, Boettger produced a great variety of dark shaded colors. They too, present a handsome appearance. He found that if the zinc rod, instead of being held only for an instant over the surface, was allowed to remain in contact with the same for some time, the copper was not deposited with its peculiar red, but rather with a dark color. The previously formed red film, in disappearing, gives rise, then, to the production of the most varied hues of yellow, red, green, brown, and particularly of black. These colors remain perfectly firm by simply allowing the object to dry in the open air.

Many articles colored by the method described were first brought to the notice of the public at the German Industrial Exhibition, held in Berlin, in the year 1845. At that time, they astonished every one. Since then, the French physicist Becquerel has busied himself considerably in this branch of art, and has so far succeeded in perfecting it as to obtain durable deposits of nearly every kind of metal on objects of diverse kinds and shapes. It is especially in Nuremberg and Fuerth, in Bavaria, the two most celebrated places in the world for the manufacture of toys, that this industry is carried on. In order to color iron, steel, yellow and red brass, the following process is largely employed; Seven ounces Troy weight of caustic potassa, or five and a half of caustic soda, are dissolved in half a gallon of pure water; into this four ounces of finely divided litharge is stirred, and the whole boiled for half an hour in a porcelain dish, with a frequent replacement of the evaporated water. The liquid is then allowed to settle, and is thereafter decanted from the residue. The precipitate which first appears is again taken up, and the liquid assumes a deep blue tint.

(1) A total eclipse of the sun will occur on the 7th of August next. It will be visible as a partial eclipse throughout the whole of North America.

It is now used as above directed. It may also be employed for coloring bell-metal, on which it produces beautiful blue and violet tints. These colors are, however, not as durable as those obtained by the solution of litharge.—*Manufacturer and Builder.*

### The Restoration of Old Prints and Engravings.

This process, discovered by Professor Gorup-Besanez, of Erlangen, Germany, is based upon the application of ozone. Old prints, wood-cuts, and copper engravings, which have become dark brown by age, or printed over, or by any means soiled, may by its use be restored and made as white as if they had just left the press. The print itself is thereby not in the least changed. Gorup-Besanez, obtained a book which was published in the sixteenth century, and in which some pages were besmeared with a glossy black pigment so that they were perfectly illegible. Indeed, the marks were similar to the censor-strokes, of a Russian Gazette. If our printing ink had been used by the monks of the sixteenth century, any attempts to remove it would most certainly have been in vain. However, on treating the book with ozone for thirty-six hours the color disappeared entirely, so that the most careful observer would not have been able to detect the least trace of the marks referred to. A wood engraving of Durer, which had been painted over with a dark yellow pigment, was also perfectly restored. The process in question is so easy that any person with a little experience in experimental chemistry, may convince himself of its efficiency. The professor even makes use of it as an experimental demonstration in his lectures on ozone. Ink is so perfectly removed by ozone that the paper appears as if it had never been profaned by the pen, and it acts more quickly than chlorine. The paper which had been thus cleaned must afterward be drawn through water acidulated with a few drops of muriatic acid, in order that the iron of the ink, which is left behind, may also be removed. Printing ink is not attacked by ozone unless after a considerable time. Oily spots or stains produced by damp also remain unchanged. Colors with a metallic or earthy base remain unaltered, while vegetable pigments are entirely removed.

In order to perform the experiment, take a capacious glass flask with a wide neck, introduce a piece of phosphorus three inches in length and half an inch in diameter, pour water heated to eighty-five, degrees Fahrenheit into the flask until the phosphorus is half covered close the flask loosely with a cork, and let it stand in a moderately cool place for twelve or eighteen hours. It will then be filled with ozone. When the water has been poured on the phosphorus, the papers to be bleached are rolled up, fastened to a platinum wire moistened, and hung up in the flask. It will soon be noticed that the paper is surrounded by a column of a white smoke which arises from the phosphorus, and the stains will disappear gradually, the time varying from one to three days, according to their nature. Prints which had become brown by age, or were soiled with coffee, became pure and white after one day's treatment.

When the spots have disappeared, the paper yields an acid reaction; consequently, if it were dried at once, it would not only become brittle, but would again darken. In order to obviate this, the acid must be removed, which is done by first rinsing the paper with pure water until blue litmus-paper is only slightly reddened, then passing it through water to which a few drops of a soda solution have been added, and finally spreading it on inclined glass plates, upon which a thin stream of water is allowed to flow. When litmus remains unaltered by the water running from the glass, the paper may be allowed to dry, and pressing it between sheets of blotting paper will restore its smoothness. It is evident that the process described is not applicable on a large scale, but it certainly requires but little ingenuity to modify it. Neither will it restore darkened oil-paintings. It is true that they get somewhat brighter, but they nevertheless remain dull, and often become stained, probably because the action does not take place uniformly.

It has, however, been ascertained that oxygenized water is well adapted for clearing up pictures. This is a compound of hydrogen and oxygen, containing twice as much of the latter as of the former. The surplus is set free by simple contact with various metals and metallic oxides, and acts very powerfully. The darkening of oil-paintings results from the white lead, or other lead compounds which have been used, being converted into the black sulphide of lead by the absorption of sulphureted hydrogen from the atmosphere. If such a painting is washed over with a solution of two parts of oxygenized water in one hundred parts of spring water, the black sulphide of lead is converted into the white sulphate of lead, and thus the former appearance of the painting is regained.—*Ib.*

## OFFICIAL NOTICES.



### Ministry of Public Instruction

#### APPOINTMENTS.

##### SCHOOL COMMISSIONERS.

The Lieutenant-Governor, by an Order in Council dated the 19th June 1869, was pleased to appoint the following Gentlemen to form,—with the Commissioners appointed by the Corporation of the City of Montreal, the Protestant Board of School Commissioners for the City of Montreal, to date from the 1st July next:—

Revd. John Jenkins, D. D.  
 " Charles Bancroft, D. D.  
 " Donald Hervey Vicar, D. D.

The Corporation of the City of Montreal, at a Meeting held the 25th May last, appointed the following Gentlemen to form,—conjointly with the foregoing named by the Lieutenant-Governor,—the Protestant Board of School Commissioners for the City of Montreal:—

The Hon. James Ferrier, Senator.  
 William Lunn, Esq.  
 F. H. Thompson, Esq.

The Lieutenant-Governor, by an Order in Council dated the 19th June, 1869, was pleased to appoint the following Gentlemen to form part of the Catholic Board of School Commissioners for the City of Quebec, viz:—

Jacques Crémazie, Esq., LL. D.  
 Revd. Joseph Auclair.  
 Revd. James Neville.

By the same Order in Council the Lieutenant-Governor was pleased to appoint,—in lieu of those whom the Corporation of the City of Quebec should have named twenty days before the 1st July, 1869,—the following Gentlemen to form the remaining part of the Catholic Board of School Commissioners for the City of Quebec:

The Revd. Zéphirin Charest.  
 The Revd. Bernard McGauran.  
 Telesphore Fournier, Esq., Advocate.

The Lieutenant-Governor, by an Order in Council dated the 3rd inst., has been pleased to appoint the following Gentlemen to form the Protestant Board of School Commissioners for the City of Québec:—

The Revd Charles Hamilton,  
 William Walker, Esq.,  
 Robert Herbert Smith, Esq.

And to form that part of the Board, which the Corporation of the City should have named twenty days before the 1st July, 1869:—

Christian Wurtele, Esq.,  
 William Hossack, Esq.,  
 Joseph Whitehead, Esq.

#### ERLECTIONS, SEPARATIONS, &c., OF SCHOOL MUNICIPALITIES.

The Lieutenant-Governor, by an Order in Council dated 3rd, inst., has been pleased

To unite Ile Laval and the Parish of Laval, (both in the Co. of Montmorency,) for School purposes, as they already are for other purposes;—

To erect into a School Municipality the Townships of Eagan and Kensington (both in the Co. of Ottawa,) with the same limits that they have as Townships;—

To detach the village of St. Jerome, Co. of Terrebonne, from the Municipality of the same name, and to erect it into a separate School Municipality, under the name of the School Municipality of the "Village of St. Jerome," with the following limits, namely:—all the lands of the Concession North-East of the North River, situated between the road Montigny and the road Côte St. André, comprising the village St. Jerome, with the exception of that part of the lands of Toussaint Lajeunesse lying outside the limits of the village; and all the lands of the Concession South-West of the North River, the proprietors of which live on the public Road (*d'en haut*), between the lands of Jacques Bruyère and Jules Desebambault, inclusively, comprising also the Isles Longwell and Côte, and all the lands of Toussaint Trudelle;—

To separate from the Municipality of Masham, Co. of Ottawa, the following, namely:—the 43 last lots of the 1, 2, and 3rd ranges; the 10, 17, 18, 19, 20, and 21st; the 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, and 58th lots of the 4th range; the 5 last lots of the 5 and 6th ranges; the 8 last lots of the 7th range, finally the 3 last lots of the 8th range of said Townships, and

To erect them into a separate School Municipality, under the name of "Ste. Cecile de Masham." This erection took place the 28th October last, but the locality was considered as forming part of the County of Pontiac instead of the Co. of Ottawa in which it is situated;—

To annex the Municipality of Rivière au Renard to the Municipality of Tadoussac, (both in the Co. of Saguenay) for School purposes,—this annexation being more favorable to the proper administration of School affairs and to the progress of education; and

To annex to the Municipality of Aylmer the Township of Gayhurst, (both in the Co. of Beauce), of which it forms part for civil purposes.

#### DIPLOMAS GRANTED BY BOARDS OF EXAMINERS.

##### PONTIAC BOARD.

Session of May 4th, 1869.

ELEMENTARY SCHOOL DIPLOMA, (E.) 2nd Class:—Misses Sarah Dale; Jessie Argue, Margaret Seaman, and Mr. Ralph Horner.

OVIDE LEBLANC,  
Secretary.

##### QUEBEC CATHOLIC BOARD.

Session of May 4th, 1869.

ELEMENTARY SCHOOL DIPLOMA, (F.) 1st Class—Misses Lucie Audet dit Lapointe, M. Philomène Bouchard, M. Olive Bussière, M. Flavie Labrecque, Marie Talbot (F. & E.), and Anastasie Fitzgerald (E.).

2nd Class (F.)—Misses Emélie Adée Arcand, M. Délima Bergeron, M. Adèle Bussière, Virginie Boisvert, M. Mélanie Côté, M. Malvina Chouinard, M. Clara Couture, M. Delphrose Fortin, M. Thérèse Joséphine Gaudreau, Julie Elise Gervais, Mélanie Gonthier, Virginie Labbé, Julie Labbé, M. Flavie Labrecque, Julie Arthémise Lacombe, Lainez dit Laliberté, Olympiade Leclerc, M. Adeline Lecourt, M. Luce Loof, M. Arsélie Marcoux, M. Célanie Morneau, Joséphine Domitilde Ouellet, Emélie Paradis, Widow J. Parent (M. Joseph Ripper), M. Adélaïde Pelletier, Eulalie Provost, Zélie Richard, Eloise Sirois, M. Ursule Talbot, Diana Thibodeau, M. Georiana Turgeon, M. Emélie Vallières and Mr. Hugh Valentine Scallon, (E.)

N. LACASSE,  
Secretary.

#### DIPLOMAS GRANTED BY MCGILL NORMAL SCHOOL, JUNE 30th, 1869.

ACADEMY DIPLOMA: Misses Agnes Cairns, Margaret Bothwell, and Mr. C. A. Brooks, B. A., McGill College.

MODEL SCHOOL DIPLOMA: Misses Josephine Eliza Smith, Helen Watson, Maria J. Cameron, Lillias Watson, Amanda C. Carr, Jessy C. Humphrey, Jane L. Hart, Elizabeth Taylor, Mary Ann McLeod, Mary Agnes Gibson, Elizabeth Alexander, Louisa C. Standin, Jane Luttrell, Sophie Johnston, Margaret Thompson, Clara F. Hicks, and Jane McLaughlin.

ELEMENTARY SCHOOL DIPLOMA: Misses Mary Jane Finley, Helen Henrietta Cribb, Jane McFee, Mary Jane Millen, Malvina Anna Marshall, Grace Samuels, Margaret Rodger, Elizabeth Craig, Annie Algar, Eoa Antennette Rexford, Caroline Hatton, Janet Ennis, Mary Ann Fairweather, Catherine Josephine Wood, Maria Gay, Isabella Swan Boa, Kate Shaw, Adelia McMartin, Henrietta Bourne, Mary Ann Keegan, Mary Rodger, Fanny Hutchinson, Mary Jane Millan, Susannie Lothian, Annabella Sutherland, Agnes Stuart, and Messrs. Charles Ashley Humphrey and William Swift.

##### WANTED.

Two Female (Catholic) Teachers, one holding a Model School Diploma and the other an Elementary one,—competent to teach French and English,—Salary, for the former £40 per annum, and for the latter £30. Apply to William Flynn, Secretary-Treasurer, School Commissioners of Percé, Co. of Gaspé, Q.

Three Teachers,—two holding first class Elementary School Diplomas. Salary £50 each,—the other holding a second class do, £35. Apply to Terence Smith, Secretary-Treasurer, School Commissioners, Allumette, County of Pontiac, Q.

## THE JOURNAL OF EDUCATION.

QUEBEC, PROVINCE OF QUEBEC, JULY, 1869.

### To Our Readers.

Our readers will be glad to find in our present number the reports of the annual examinations and closing exercises of some of the principal educational institutions of the Province. To have given these in full would have rendered it necessary to make this a double number; nor could we find space for the condensed reports given without extending it to one of twenty-four pages.

The article on total eclipses of the Sun will also be found interesting at this moment, when the scientific world is so anxiously looking forward to that which is to take place on the 7th of August next.

In addition to the usual meteorological tables for Quebec and Montreal for the month of June, we have the pleasure of presenting a summary of observations taken during last March at a meteorological station in Queensland, Australia, together with a table of results for the same month in each of the preceding seven years. The reader need scarcely be reminded that the month of March in Australia corresponds with that of September in the Northern Hemisphere.

Among the advertisements given in this number is the notice of a Prize Essay for the gold medal of a Club founded in honor of the late Richard Cobden—subject "Free trade in its relation to the Colonies and Dependencies of Great Britain."

### Provincial Association of Protestant Teachers, P. Q.

We are requested to state for the information of Teachers, School Commissioners, School Secretaries, Boards of Examiners, and all interested in Educational Work, that the Annual Convention of the Provincial Association of Protestant Teachers, of this Province, will be held in Waterloo, Quebec, on Wednesday and Thursday, the 25th and 26th of August next. It is expected that this gathering will be very interesting and useful, and all Teachers should endeavour to attend. Any offers of Essays to be read, or proposals of subjects to be discussed at the Convention, will be gladly received for the consideration of the Central Executive Committee, by R. W. Laing, Esq. of Waterloo, Chairman of Local Committee of Arrangements, or by Archibald Duff, Jr. of Montreal, Secretary of the Provincial Association.

### Breaking Up for the Midsummer Holidays.

Before this number of the Journal comes into the hands of our readers the educational Institutions of the Province will have completed another scholastic year.

The annual examinations and closing exercises of most of the leading ones have already been reported in the news papers. In this article we reproduce a summary account of such as have reached us.

First, in the order of time, we have the High Schools of Quebec and Montreal, whose annual examinations closed on the 25th and 26th of June, respectively.

Next, on the 30th, the Normal Schools of McGill and Laval held their annual meetings for conferring diplomas upon the Teachers entitled to receive these testimonials of qualification. On the same days also the Convocation of the University of Bishop's College, at Lenoxville, and the closing exercises, at St. Francis College, Richmond, took place.

Some of the reports belonging to a later date are necessarily reserved for notice in our next issue.

#### HIGH SCHOOL OF QUEBEC.

(From the *Quebec Daily Mercury* of June 26th.)

The annual examination of the Quebec High School terminated yesterday. The *séances* were held in the lofty and spacious hall attached to the institution. The attendance, though not so large as it might have been, was yet respectable, and the audience throughout appeared thoroughly appreciative of the proceedings; we should have been glad to see more of the Directors present. The examination was in part conducted by Dr. Miles, of the Educational Department, by the Rev. Dr. Cook, Principal of the Morrin College, and by others from among those present, who kindly volunteered their assistance. The staff of the school, comprising, with Mr. Wilkie the Rector, Mr. M. Miller, Professor of Classics, and the Rev. Mr. Tanner, Professor of French, superintended the routine part of the programme, and went through the customary readings and exercises, in the order of the various subjects of examination.

The first, or junior class, was examined on the forenoon of Thursday. The subjects were, in succession, English reading from Collier's History and the Poetical Reader; Elementary Arithmetic, to long division, inclusively; French, Ahn's method, from lesson 1st to 43rd; and Latin Grammar, to the end of the fourth conjugation of regular verbs. A few recitations then followed, given with great spirit and correctness:—"Exile of Erin," by J. Laird; "Young Lochinvar," by B. Whitehead; "Douglas's account of himself," by Wm. Brown; "Hohinlinden," by E. Walker; and "Cleon," by S. Oliver.

The second class then took up the following branches, in their respective order:—English Reading; History, Collier's James I.; English Grammar; Geography, map of Europe; Arithmetic, Reduction, Practice, Interest, Rule of Three, together with the theory and drawing up of Commercial Accounts, Sales, Invoices, etc. Three recitations were then given—"The Exile of Erin," by Henderson; "Three black Crows," by Thompson; and the "Newcastle Apothecary," by Ricken: all well rendered and deservedly applauded, the comic pieces being honored with an *encore*.

The proceedings of Friday commenced with the examination of the third class. Subjects as follows:—Arithmetic, Vulgar Fractions and Decimals; French, Fasuquell's Course, lessons 4 to 41, and translation of French Prose and Poetry; Latin, Ceasar's Gallic War, chap. 1 to 39; Geography of Canada (together with the fourth class.)

On the afternoon of Friday, the fourth or senior class came forward. The subjects were:—Arithmetic, as in the third, with Commercial Accounts, Invoices and Sales; Algebra, Fractions and Simple Equations; Euclid, the first book; French, Fasuquell's Course, lessons 60 to 84, and the translation of Lamartine's *Colombe*; Latin, Livy, 21st book, chap. 1 to 28; and Greek, Xenophon's *Anabasis*, 1., chapters 1 and 2. The proceedings were then closed, with brief and appropriate addresses by the Rector and by the leading examiners, all parties expressing their gratification at the result attained.

It was pleasing to find, during the two days' exercises, so much attention bestowed on the department of English reading, a branch of education too frequently overlooked. It was with justice observed by the Reverend Principal of Morrin College that too much stress could scarcely be laid on this very important part of elementary instruction. It would be difficult indeed to find a more correct enunciation, or a more graceful delivery, than was found among the pupils of the second class.

In reference to the Latin and Greek, it may be observed that the examination shewed the thorough training the pupils had received in these languages. Every word was parsed, every construction noted, every idiomatic form explained and analysed with a clearness and precision that left nothing to be desired. In French, also, in this country an indispensable requisite, the exhibition was not less satisfactory; the students had evidently been most carefully grounded in the principles of the language, pronouncing with correctness, and translating with ease and fluency. It is somewhat to be regretted that this part of the proceedings was not dwelt upon at greater length. The audience would willingly have heard more. With us, the study

of French is no longer a mere accomplishment; it has become a necessity.

In history and geography the pupils shewed they had obtained very considerable proficiency under the teaching of the worthy Rector himself, who examined them on these subjects. He is manifestly and deservedly a favorite with the boys. Most pleasing was it to see the life and kindness and animation thrown into this part of the proceedings. The questions were answered as speedily as given. Boundaries were defined, localities pointed out, and rivers traced with accuracy from their source to their outlet; while due attention was given to the water-sheds and others features of physical geography. In history, the Rector has, we find, wisely advocated the utility of genealogical charts, some very handsome specimens of which, the work of students, were suspended on the walls. When it is considered how many of the incidents of history are based on family descent and connection, and how much the memory is strengthened and the mental perception cleared, by charts of this kind, their importance and usefulness must be evident to all. In their way they are as indispensable in these branches of research as topographical maps are in theirs.

Several fine specimens of penmanship were also exhibited. One of the most remarkable was an admirable series of copies written with the left hand. We were glad to see that in all the copy-books, a good, flowing, commercial hand appeared to be the object always aimed at, and almost invariably attained.

We subjoin a statement furnished by the High School authorities, shewing the order of merit, or actual standing of the leading pupils in their respective classes and subjects:

#### HIGH SCHOOL—ORDER OF MERIT.

(June 25th, 1869.)

##### IV. CLASS:

*Latin*: Joseph, Cassels, Falck, Hume.

*Greek*: Joseph, Falck, Cassels.

*English*, upper division: Hume, Joseph; 2nd do., Greig, Thompson.

*Algebra*, upper division: Hume, Joseph; 2nd do., Armitage, Thompson.

*Practical Geometry*: Hume, Armitage, Joseph.

*Arithmetic*: Hume, Joseph, Cassels.

*Geography and History*: Hume, Cassels, Joseph.

*English Composition*: Hume, Joseph, Falck.

*French*: Hume, Joseph, Thompson.

*Writing*: Elliot, Falck.

*Commercial Accounts*: Joseph, Falck.

##### III. CLASS:

*Latin*: Elliot, Gillard, Lloyd.

*Greek*: Elliot, R. Myles, Gillard.

*Arithmetic*: L. Whitehead, Elliot, Patton.

*Geography and History*: L. Whitehead, Hy. Miles, Rt. Myles.

*English Composition*: L. Whitehead, Hy. Miles, Gillard.

*French*: Gillard, Loyd, Kelly.

*Writing*: Hood, Rt. Myles.

*Commercial Accounts*: Rt. Myles, Elliot, Hood.

##### II. CLASS:

*Latin*: Lennon, F. Webster, Thompson.

*Arithmetic*: Lennon, Rickon, Bennett.

*English*: Rickon, Lennon, G. Webster.

*Geography and History*: G. Webster, Rickon, R. Sewel.

*Recitation*: Rickon, Thompson, Henderson.

*Reading*: G. Webster.

*French*: Blanchet, Hill, Thom, H. Oliver.

*Writing*: Lennon, F. Webster.

*Commercial Accounts*: F. Webster, Lennon.

##### I. CLASS:

*Latin*: E. Langlois, Parke, A. Wurtele.

*Arithmetic*: A. Wurtele, E. Langlois, Drummond.

*English*: Drummond, Stewart, Oliver, B. Whitehead.

*Geography and History*: Musson, B. Whitehead.

*Recitation*: S. Oliver, Brown, E. Walker.

*French*: B. Whitehead, Plamondon, A. Wurtele.

*Writing*: Hunter, G. Walker, E. Walker.

*Commercial Accounts*: G. Walker.

#### HIGH SCHOOL, MONTREAL.

(From the *Montreal Gazette* of June 28th.)

On Saturday afternoon the annual presentation of prizes to the boys of the High School, took place in the hall of the school. The

attendance was as usual, large and among those on the platform, besides the Chairman, Mr. George Moffatt, were Rev. Canon Ellegoode, Rev. Dr. Wilkes, Mr. Handyside, Mr. John H. R. Molson, Principal Dawson, Mr. Peter Redpath, Rev. Prof. Cornish, M. A., W. C. Baynes, B.A., and A. Robertson, Esq., Q. C.

Rev. Canon Ellegoode opened proceedings with an appropriate prayer.

Mr. H. Aspinwall Howe, the Rector, after a few remarks, read the following

#### LIST OF PRIZES AND HONORS FOR 1868-9.

##### PREPARATORY FORM—30 PUPILS.

*Dux*: James Russell A. Murray, son of George Murray, B. A., Montreal.

- 1, Murray, 3,765 marks.
- 2, Smith, 3,616 "
- 3, Reid, 2,998 "
- 4, Bernard, 2,458 "

Latin Roots—1, Murray; 2, Reid; 3, Smith; 4, Innes.

English Grammar—1, Murray; 2, Smith; 3, Reid; 4, Bernard.

Reading and spelling—1, Smith; 2, Murray; 3, Reid; 4, Bernard.

Geography—1, Darcy; 2, Murray; 3, Smith; 4, Reid.

Arithmetic—1, Davis; 2, Lovell; 3, Gliddon; 4, Bernard.

Scripture Lessons—1, Smith; 2, Dary; 3, Murray; 4, Bernard.

Writing—1, Reid; 2, Smith; 3, Esdaile; 4, Lovell.

Drill and Gymnastics—1, Lovell; 2, Darey; 3, Murray; 5, Cameron.

Punctuality—Lovell.

Good Conduct—Reid.

##### FIRST FORM—48 PUPILS.

*Dux*: Henry John Cowie, son of Mrs. L. Cowie, Montreal.

- 1, Cowie, 3,914 marks.
- 2, Orr, 3,418 "
- 3, Roy, 2,900 "
- 4, Robertson, 2,806 "
- 5, Hubbell, 2,721 "

Latin—1, Cowie; 2, Smith; 3, Robertson; 4, Dawson; 5, Orr.

English—1, Orr; 2, Roy; 3, Robertson; 4, Dawson; 5, Cowie.

Elocution—1, Baker; 2, Hamilton, mi; 3, Brush; 4, Robertson;

5, Roy.

History—1, Hubbell; 2, Cowie; 3, Muir; 4, McFarlane; 5, Orr.

Geography—1, Dawson; 2, Orr; 3, Goodhugh; 4, Cowie; 5, Shaw.

Scripture Lessons—1, Orr; 2, McFarlane and Hubbell equal; 4,

Roy; 5, Kirby.

Arithmetic—1, Shaw; 2, Brush; 3, Cowie; 4, Roy; 5, McFarlane.

Writing—1, Christian; 2, Shaw; 3, Roy.

Drilling and Gymnastics—1, Brush; 2, Lovell; 3, Goodhugh; 4,

Shaw.

Punctuality—Glass.

Good Conduct—McFarlane.

##### SECOND FORM—37 PUPILS.

*Dux*: Charles Henry Gould, son of Mr. Joseph Gould, Montreal.

- 1, Gould, 5,570 marks.
- 2, Abbott, 3,387 "
- 3, Edwards, 3,078 "
- 4, Fair, 3,062 "
- 5, Parker, 2,686 "

Latin—1, Gould; 2, Taylor and Fair; 4, Abbott.

English—1, Gould; 2, Abbott; 3, Parker; 4, Fair.

Elocution—1, Gould; 2, Edwards; 3, Abbott; 4, Lindsay.

History—1, Gould; 2, Edwards; 3, Atwater; 4, Parker.

Geography—1, Gould; 2, Abbott; 3, Muir; 4, Thomas.

Arithmetic—1, Edwards; 2, Lindsay; 3, Gould; 4, Atwater.

Writing—1, Gould; 2, Rudolf; 3, Edwards.

Drill and Gymnastics—1, Lindsay; 2, Brush; 3, Thomas.

Punctuality—Muir.

Good Conduct—Fair.

##### THIRD FORM—26 PUPILS.

*Dux*: George Macdonald, grand-son of George Macdonald, Montreal.

- 1, Macdonald, 4,382 marks.
- 2, Childs, 4,049 "
- 3, Glass, 3,341 "
- 4, Campbell, mi, 3,049 "

Latin—1, Childs; 2, Macdonald; 3, Glass.

English—1, Campbell, mi; 2, Glass; 3, Macdonald; 4, Abbott.

Elocution—1, Prince; 2, Campbell, mi; 3, Claxton.

French—1, McIver; 2, Abbott; 3, Childs; 4, Glass.

Geography—1, MacDonal; 2, Glass; 3, Childs; 4, Campbell, mi.; 5, Parkin.

Arithmetic—1, Macdonald; 2, Glass; 3, Childs; 4, Mitchell; 5, Campbell, mi.; 6, Parkin.

Bible Lessons—1, Macdonald; 2, Campbell, mi.; 3, Campbell, ma.; 4, Childs.

Writing—1, McIver; 2, Campbell, mi.; 3, Abbott; 4, Macfarlane; 5, Mitchell.

Punctuality—1, Glass.

Good Conduct—1, Glass.

Special Prize for Map drawing, Campbell, mi.

##### FOURTH FORM—30 PUPILS.

*Dux*: George Alexander Mooney, son of Mr. John H. Mooney, Montreal.

- 1, Mooney, 5,239 marks.
- 2, Ritchie, 4,105 "
- 3, Fraser, 3,388 "
- 4, Burland, 2,760 "

Latin—1, Mooney; 2, Ritchie; 3, Fraser; 4, Burland.

Greek—1, Ritchie and Mooney, equal; 3, Fraser, 4, Burland.

English—1, Mooney; 2, Burland; 3, Ritchie; 4, Fraser.

Elocution—1, Reid; 2, Robertson; 3, Young; 4, Mooney.

French—1, Fraser; 2, Mooney; 3, Ritchie; 4, Walker.

History—1, Mooney; 2, Ritchie; 3, Fraser.

Geography—1, Mooney; 2, Fraser; 3, Burland; 4, Ritchie.

Arithmetic—1, Fraser; 2, Mooney; 3, Burland; 4, Stanway.

Geometry—1, Robertson; 2, Mooney and Fraser, equal, 4, Ritchie.

Bible History—1, Mooney; 2, Burland and Platt, equal; 4,

Walker.

Writing—1, Fraser; 2, Empey; 3, Young; 4, Platt.

Drilling and Gymnastics—1, Cushing; 2, Fraser; 3, Robertson.

Punctuality—1, Walker.

Good Conduct—1, Barnston.

##### FIFTH FORM—34 PUPILS.

*Dux*: Archibald Taylor, son of Mr. T. M. Taylor, Montreal.

- 1, Taylor, 4,539 marks.
- 2, Ferres, 4,213 "
- 3, Dawson, 1,923 "
- 4, Stephens, mi., 1,666 "
- 5, Greenshields, 1,466 "

Latin—1, Ferres; 2, Taylor; 3, Greenshields; 4, Stephens mi.

Greek—1, Taylor; 2, Ferres; 3, Walsh; 4, Stephens, mi.

English—1, Mitchell; 2, Taylor; 3, Smith; 4, Huntingdon.

French—1, Ferres; 2, Taylor; 3, Smith; 4, Jones.

History—1, Robertson; 2, Ferres; 3, Smith; 4, Taylor.

Geography—1, Taylor; 2, Dawson; 3, Shepherd; 4, Walsh.

Arithmetic—1, Ferres; 2, Taylor; 3, Walsh; 4, Dawson and Ste-

phens, mi., equal.

Algebra—1, Dawson; 2, Walsh; 3, Ferres; 4, Taylor.

Geometry—1, Dawson; 2, Taylor; 3, Greenshields; 4, Ferres.

Bible Lessons—1, Taylor; 2, Macduff; 3, Smith; 4, Walsh.

Drilling and Gymnastics—1, Dawson; 2, Cowan; 3, Campbell.

Writing—1, Muir; 2, Jones.

Punctuality—1, Campbell.

Good Conduct—1, Capron.

##### SIXTH FORM—14 PUPILS.

*Dux*: Simon John Tunstall, son of Mr. Gabriel C. Tunstall, Montreal.

- 1, Tunstall, 4,914 marks. (Davidson Medal.)
- 2, Ritchie, 4,670 " (Dr. Dawson's Prize.)
- 3, Irving, 2,744 "
- 4, Baynes, 2,043 "

Latin—1, Ritchie; 2, Irving; 3, Tunstall.

Greek—1, Irving; 2, Tunstall; 3, Ritchie.

English—1, Tunstall; 2, Fleet; 3, Ritchie.

French—1, Tunstall; 2, De Sola; 3, Ritchie.

German—1, De Sola.

History—1, Tunstall; 2, Ritchie; 3, Fleet.

Geography—1, Irving; 2, Tunstall; 3, Miller.

Arithmetic—1, Ritchie; 2, Tunstall; 3, De Sola.

Algebra—1, Tunstall; 2, Ritchie; 3, Baynes.

Geometry and Trigonometry—1, Tunstall; 2, Ritchie; 3, Baynes.

Natural Philosophy—1, Ritchie.

Bible Lessons—1, Tunstall; 2, Baynes; 3, Ritchie.

Writing and Rook keeping—1, Roy.

Drilling and Gymnastics—1, Baynes; 2, Kay; 3, Tunstall.

Punctuality—Irving.

Good Conduct—Irving.

The reading of the list was varied by recitations and readings. Hamilton, of the Preparatory Form, recited "The Street Musician" very nicely. Handyside and Campbell, of the first form, effectively rendered a scene from "Julius Cæsar," Campbell taking the part of Brutus and Handyside that of Cassius. Abbott, Edwards and Gould, of the Second, gave the "Motley" scene from "As You Like It," causing a great deal of laughter. Smith related the just fate of "The Wicked Bishop," and Handyside and Leishman sympathized with Parkin, as he told of his "day of misfortunes." Baynes read from Pickwick that old gentleman's adventure in a wheelbarrow, and in the pound. The best piece, however, was Campbell's Sir John Falstaff, as he told Prince Hal (Prince) and Poin (Leishman) of the fight with the men in Buckram.

After reading the list Mr. Howe announced that the following ten boys had gained the school certificate offered by the University:—Ritchie, Tunstall, Baynes, De Sola, Fleet, Caldwell, Mitchell, Kay, and Green.

Mr. HOWE, in addressing the boys and the gathering, said the education given in this and similar schools might, perhaps, give rise to some degree of disappointment when it came to be considered how little that education was applied in after life. Few of the pupils, except those who entered upon a professional career that in some degree compelled them to bring their knowledge of Greek and Latin into use, ever opened their classic books again, and learned to apply what they had been there taught of these languages to the translation of any quotation or extract they might meet in reading a review or a newspaper. This was the same of Algebra and Geometry. How many of the boys who have completed their school course in after life apply their studies so as to prove whether or not a benefit society is really paying its members; or how many square feet he has in the lot he has purchased in McGill street; or even to find the quantity of carpet necessary to give his room a new covering. Even studies called "practical,"—English and French and Arithmetic,—are limited in their application; French becomes a commercial *patois* necessary in dealing with *habitans*; the English becomes limited to the forms of commercial correspondence, and the arithmetic to the calculations of dollars and cents. We cannot be held responsible for the future except in so far as we may have failed to inspire a love for study. But it is not by these only that our work, is to be judged. We endeavour to give our pupils such studies as will cause them to develop their moral and intellectual faculties. If we have succeeded in awakening their minds to an appreciation of what is right and true then progress has been made though their young memories may prove treacherous, and the information imparted to them may be forgotten. But when they understand why they are wrong and why right be sure their education is advancing. If we merely fill the mind with information; however useful, it will be, as an ancient writer says: "like a granary stored with corn, incapable of giving back more grain than it has received, instead of being like a fruitful field, which returns a hundred fold every grain put into it." It is mental training afforded by a course of study in higher education which is the great object.

We can carry on this discipline without weariness to the pupils simply by a change of study. A lesson in Geometry may be a good mental preparation for Latin or Greek. The mathematical University of Cambridge has produced more accurate classical scholars, than the classical Oxford. Mr. Howe then related a conversation he had had with a merchant who held that his employees who had not received a good education were more active and efficient than those who had superior educational advantages; but the merchant admitted that in his own case, feeling his deficiencies he had improved himself by attending evening schools. In conclusion, the merchant stated that uneducated youths made fortunes, the educated dissipated them. All this was a matter of every day observation, but he did not hold that the only duty of life was that of making money; and asked how many rich men there were in this city who would give half their fortune could they go back to school and remove the deficiencies of which their wealth and position make them painfully sensible. As to dissipation, the uneducated and ignorant dissipate quite as much as the educated. The educated would not seek those animal enjoyments which the ignorant chiefly pursue. He believed however, that the possession of a wealthy and luxurious home did not conduce to success in business of boys. He strongly urged those boys who intended to go into business, not to be above their work because they were well educated. Their employers were not to be expected to take their knowledge of Greek or Trigonometry as an excuse for not doing the rough work of the warehouse. Their knowledge was not so very great after all; and if they had any conceit on that score, it would not be much learning but little had made them mad. But he did not think they would be so foolish for the boys of this school were spoken of in the most favorable terms by those merchants to whom he had recommended them for situations. He advised them whatever they

put their hand to do, to do it with all their might, and they would be sure to be successful. To those four or five boys who were going to McGill College, Professor Cornish would have a few words of encouragement. He exhorted all to endeavour to win prizes, not for the sake of the prizes, merely, but for the sake of the knowledge which would be useful in after life. There were two classes of dunces, one kind who would not master knowledge because of the natural difficulty, they have in encountering it. For these, he felt the greatest sympathy and always gave them encouragement and assistance in their patient, earnest endeavours to learn; and any master who would not do so, and would neglect the dunce, of his class, had better go out and find some other occupation. (Cheers.) With the other kind who were idle we had no sympathy whatever. Those boys who were idle were not doing their duty either to God or to their neighbour. They were injuring the reputation of the school and preventing industrious boys from getting on as fast as they would otherwise. There had been too much of idleness the past year, and he would ask parents not to take the work off the teachers' shoulders; but to do all in their power to induce boys to get their lessons. They should get their lessons first and play afterwards. Referring to the past year Professor Howe said it had not been marked by any thing unusual, two of the former pupils, Greenshields and Clarke, had won medals at the University. The numbers of the school have been rather more than last year by about twelve; they had had 220 boys in the school—the revenue was likely to be diminished because of the recent educational act which will probably reduce the grant which the school has been receiving from the government. He might therefore ask their friends to interest themselves actively in behalf of the school and endeavour to procure additional pupils.

The Rev. Dr. Wilkes and Professor Cornish then addressed the boys, after which the chairman called for three cheers, for the Rector and Masters of the High School.

The proceedings terminated with the benediction, pronounced by Rev. Dr. Wilkes.

#### ANNUAL MEETING OF MCGILL NORMAL SCHOOL, MONTREAL.

This meeting was held at the Normal School House, Belmont street on Wednesday, the 30th ult., at 3 p. m.

The chair was taken by Robert Redpath, Esq. On the platform were the Principal and professors of the Normal School, Dr. Miles representing the Department of Public Instruction, the Rev. Drs. Jenkins and Wilkes, Professors Cornish and Howe, Wm. Lunn, Esq., &c., &c.,

The Principal, Dr. Dawson, then made a detailed statement of the work of the institution during the past year, and of the result of the late examination. There were, on the present occasion, 48 teachers entitled to diplomas, of whom 28 were from the country parts. Altogether, since the foundation of the McGill Normal School, 411 qualified teachers had been sent out from the institution, of whom upwards of 300 were at work in various schools, &c., in the Province of Quebec. Dr. Dawson also stated that each succeeding year brought out a batch of trained teachers in advance of those of former years. It was difficult to furnish complete statistics relative to those who had gone out, their places of employments, &c., but he had good reason for believing that the institution, through those it had sent forth, had already exercised a perceptible influence on the progress of education amongst the Protestants of the Province of Quebec. The Doctor also alluded to the want of a superior place of education or high school for girls in the city of Montreal.

Dr. Miles, in the absence of the Minister of Public Instruction, was then called upon to distribute the awards.

The Prince of Wales' medallist was a Miss Josephine E. Smith, of Danville, P. Q. In presenting the medal to her, Dr. Miles expressed his gratification in being the instrument to convey to her the well-earned testimonial. The diplomas were then handed to those entitled to receive them, each being called up in turn.

Mr. C. H. Brooks, B. A., of McGill College received an Academy Diploma under the regulations in favour of Graduates of Universities.

The following is the List of Diplomas taken by the Teachers in training.

#### ACADEMY DIPLOMA.

1. Agnes Cairns, Montreal, honourable mention in Geology, Trigonometry, Algebra, Geometry, Mechanics, Natural Philosophy and Elocution.
2. Margaret Bothwell, Durham, honourable mention in Algebra, Geometry, and Elocution.

## MODEL SCHOOL DIPLOMA.

1. Josephine Eliza Smith, Danville, honourable mention in Geography, English Literature, English Grammar, Composition, Mensuration, Arithmetic, Algebra, Geometry, Natural Philosophy, Geology, Agricultural Chemistry, Latin, and Prince of Wales prize and Medal.
2. Helen Watson, Melbourne, honourable mention in Art of Teaching, History, English Grammar, Composition, English Literature, Algebra, Natural Philosophy, Geology, and Agricultural Chemistry.
3. Maria J. Cameron, Cookshire, honourable mention in Art of Teaching, History, Composition, English Literature, French, Geometry, and Instrumental Music.
4. Lilius Watson, Melbourne, honourable mention in English Grammar, English Literature, Book-keeping, Algebra and Geometry.
5. Amanda C. Carr, Compton, honourable mention in Art of Teaching, English Composition, English Literature, Elocution, and Book-keeping.
6. Jessy C. Humphrey, Ottawa, honourable mention in Instrumental Music.
7. Jane L. Hart, St. Jean Chrysostom, honourable mention in Elocution, Arithmetic and Book-keeping.
8. Elizabeth Taylor, Montreal.
9. Mary Ann McLeod, Montreal, honourable mention in Vocal and Instrumental Music.
10. Mary Agnes Gibson, Montreal, honourable mention in Instrumental Music.
11. Elizabeth Alexander, Durham.
12. Louisa C. Standin, Edenden, N. C., honourable mention in Drawing.
13. Jane Luttrell, Montreal, honourable mention in English Literature.
14. Sophie Johnston, Montreal.
15. Margaret Thomson, Montreal, honourable mention in Vocal Music.
16. Clara F. Hicks, Montreal, honourable mention in Composition and English Literature.
17. Jane McLaughlin, Montreal.

## ELEMENTARY SCHOOL DIPLOMA.

1. Mary Jane Finley, Bowmanville, honourable mention in Geography, English Grammar, English Literature, French, Algebra and Geometry.
2. Helen Henrietta Cribb, Montreal, honourable mention in Geography, English Grammar, Arithmetic and Algebra.
3. Jane McFee, Hemmingford, honourable mention in Book-keeping, Geometry, and Art of Teaching.
4. Mary Jane Millen, Montreal, honourable mention in English Grammar, Elocution, Arithmetic, Algebra and Geometry.
5. Malvina Anna Marshall, Quebec, honourable mention in English Grammar.
6. Grace Samuels, Montreal.
7. Margaret Rodger, Lachute, honourable mention in Zoology and Algebra.
8. Elizabeth Craig, Montreal, honourable mention in Elocution.
9. Annie Algar, Roxburgh, honourable mention in Geometry.
10. Eoa Antennette Rexford, South Bolton.
11. Caroline Hatton, St. Paschal.
12. Janet Ennis, Montreal.
13. Mary Ann Fairweather, Bowmanville, honourable mention in Reading.
14. Catherine Josephine Wood, Beauharnois.
15. Charles Ashley Humphrey, Dunham.
16. William Swift, Rawdon.
17. Maria Gay, Tanneries.
18. Isabella Swan Boa, St. Laurent.
19. Kate Shaw, Warwick.
20. Adelia McMartin, Montreal.
21. Henrietta Bourne, Montreal, honourable mention in Algebra.
22. Mary Ann Keegan, Montreal.
26. Mary Rodger, St. Andrews.
24. Fanny Hutchison, Montreal.
25. Mary Jane Millan, Montreal.
26. Susannie Lothian, Breadalbane.
27. Annabella Sutherland, Thurso.
28. Agnes Stuart, St. Louis-de-Gonzague.

Miss Amanda C. Carr, of Compton then read the valedictory.

Addresses consisting mainly of words of counsel and kindly encouragement to the out-going teachers, were made by Dr.

Miles, Professor Robins, the Rev. Dr. Jenkins, Professor Cornish, and Dr. Dawson.

The business of the meeting was enlivened, at intervals, by music and singing, Professor Fowler presiding over the choir composed of lady teachers. The Principal made some announcements relative to the re-opening of the Normal School, after which, at the Chairman's request, the national anthem was sung.

The proceedings closed with the benediction, pronounced by the Rev. Dr. Jenkins.

## CONVOCAATION OF BISHOPS' COLLEGE (LENNOXVILLE.)

(From the *Gazette*, Montreal, July 3rd.)

The Convocation of the University of Bishops' College, was held in the College Hall, Lennoxville, Wednesday last.

The Convocation Sermon was preached by the Rev. Mr. Foster, a graduate of the College. In the afternoon, the usual ceremonies took place in the Hall of the College.

The Chancellor, Hon. Mr. Hale, presided.

The Lord Bishop of Quebec, Rev. Geo. Slack, Rural Dean, Hon. A. T. Galt, Rev. W. B. Curran, Geo. Moffatt, Esq., Montreal, Rev. Mr. Innes, and others were present. There was also a large attendance of ladies and gentlemen, parents and friends of the boys.

The CHANCELLOR, in his opening address, after expressing the pleasure with which he again met the friends of the University at Convocation, said the first matter to which he had to call their attention was one which devolved upon him, under the providence of God, upon all occasions when he had the honor to preside. The first duty had been unfortunately to allude to the lamented dead. An occurrence in a body such as this composed largely of men advanced in years is an event which will probably increase as years advance. The present sad event to which he had to allude was the death of the revered and Most Reverend, the Metropolitan of Canada. He was a friend to this institution from the first, a friend to the Diocese of which he was the distinguished head, and we can only entertain the trembling hope that we may find for him a successor equal to him. He might enlarge upon this interesting and sad subject but that he knew words would be addressed to them upon this occasion with reference to the melancholy event which would be more valuable than any words which could fall from him.

The Rev. Principal NICOLLS presented the following candidates, upon whom were conferred the following degrees:—

Rev. G. M. Innes, M. A., *honoris causa*; G. O. Moffatt, Esq., a Trustee of Bishops' College, M. A., *honoris causa*; Maxfield Sheppard, Esq., a Trustee of Bishop's College, M. A., *honoris causa*; Rev. W. H. Pridaux, M. A., Lincoln College, Oxford, M. A., *ad eundem*; Rev. W. B. Curran, M. A., in due course; E. A. King, Esq., M. A., in due course.

R. D. Mills, B. A.; A. J. Balfour, B. A.; H. Kittson, B. A.; H. Stuart, B. A.

For Matriculation—Wadleigh, J. Allan, G. Allan, H. H. Morris, W. G. Moak.

The Chancellor called upon the Bishop of Quebec, who presented the following scholarships to the winners:—The Mountain Jubilee Scholarship, A. J. Balfour; Prince of Wales Scholarship R. D. Mills; Society for the Propagation of the Gospel Scholarships, R. D. Mills and A. J. Balfour.

The oath of allegiance was administered to Mr. Wadleigh, the only matriculant, who had not previously taken it.

The Chancellor requested the Bishop of Quebec to address the Convocation.

The BISHOP OF QUEBEC said he was not prepared to make a speech, and he ought perhaps to apologize for occupying the time of the Convocation without having made preparation. His apology was that he had a communication to make, which he thought the Convocation would be pleased to receive. They were gathered as a Convocation of Bishops' College, and of those he saw before him, there were very few who were not directly or indirectly interested in the prosperity and efficiency of Bishops' College School. He had lately examined that school, and proposed now to lay the results of the examination before the Convocation. The report should properly go first before the Corporation, but in accordance with the saying, "the greatest good to the greatest number," he would read the report, and apologize to the Corporation for not being exactly in order:—

REPORT TO THE CORPORATION OF BISHOPS' COLLEGE, JUNE 28, 1869.

*Gentlemen*.—At the request of the Rector, I have examined Bishops' College School, and for the information of the Corporation have the honour to submit the following report :

My examination occupied the whole of my time for three days, during which I examined in some subjects, either *viva voce* or upon paper, every boy in the school.

The first form I examined *viva voce* in Latin. The form is a small one. The boys are learning the rudiments of Grammar, and learning it well.

The second form I examined *viva voce* in Latin. The boys in this form have been well taught. A foundation for accurate scholarship is here being laid, which cannot fail to tell hereafter in the higher part of the school.

The third form I also examined *viva voce* in Latin, and found the boys carefully and intelligently taught.

The fourth form I examined upon paper in Cæsar ; the translations were good, the parsing and the power of illustrating and explaining the allusions of the text not so good.

The fifth form I examined on paper in Virgil. The translations were good ; that by Nicolls was very good. The grammar and parsing were weak.

The sixth form I examined on paper in Latin composition in Homer and in Shakespeare (Henry VIII, Acts i, and ii.) and *viva voce* in the Greek Testament and in Church History.

Of those who have been for some time in the form, the Composition gives decided promise. None have yet attained to sustained excellence, but the papers indicate that several, with diligence, will attain it. The translations of Homer were good. That by Ward was very good. The grammar might have been better. The papers on Shakespeare showed a careful study of the portions read. The Greek Testament and Church History were very well done.

The power of translation into English through the school is mutually high, and, as the quantities read are large, those boys who remain for any length of time in the higher part of the school, make some real acquaintance with the literature they study, and, while I have pointed out a deficiency in minuteness of grammatical study, it is right to remember that facility in translating out of ancient authors into English, in which the school excels, is held by an increasing number of thoughtful men to be the best result of classical education, and indeed the only result at which we ought, in these days, to aim.

In my judgment the school is thoroughly organized, the work well laid out, and due attention given to all the forms.

The masters are thoroughly efficient, and, so far as I see from my short experience of the demeanour of the boys, the tone of the school is high and honorable.

The Bishop then spoke at some length on the subjects of popular, scientific and classical education. Respecting scientific education, His Lordship said he looked upon it as of great value, but could not forget the value of the present old fashioned, perhaps some what despised, system of classical teaching. With the following beautiful peroration, His Lordship closed his remarks :

There was one point however, upon which, before he sat down he would like to address them. When last they assembled within these walls, one was with them whose words of hope and unabated confidence, as they fell from his lips, cheered the hearts and revived the spirits of all who were engaged in the arduous work of building up the fortunes of this institution. One, the loftiness of whose character was a tower of strength to them against their enemies, secure in which they might smile at the howlings of their calumnious pestilential blast. That noble presence, that kindly presence, will grace our gatherings no more. But he is not all gone, for in this life such men as he do not wholly die, for "being dead, he yet speaketh." He believed, he trusted, that his spirit still lives and long will live among them. The noblest monument they could raise to his memory was to walk in his footsteps, and that monument would he trusted be raised to his memory. His generous fairness, his unflinching cheerfulness, his unflinching determination, come what might, to do right would lead many to walk in the light of his example. When next they met, he hoped to address them in the presence of one of whom it would now be sufficient to say that they had every reason to believe in him they would see no unworthy successor of Bishop Fulford. (Applause.)"

The meeting was then addressed in succession by the Chancellor, the Rector of the College School, and the Rev. Mr. Innes.

Mr. Balfour read a brief valedictory.

The regular proceedings of Convocation closed with the usual announcement relative to the re-opening of the College in September,

The Chancellor then distributed the prizes, making very happy remarks to each boy in doing so. This ceremony was the occasion of a great deal of enthusiasm among the boys.

#### PRIZES.

Sixth form—1 Ingaham, 2 Ward.

Fifth form—1 Macdonnell, 2 Sewell. For mathematics, Anderson ; French, Ingham

Fourth Form—1, O'Grady ; extra prize, Cummins ; mathematics, Hankey ; French, Meredith.

Third Form—1, C. Clark, 2, F. Rhodes ; mathematics, Seagraft.

Second Form—1, Hooper, 2, Rhodes ; arithmetic, S. Sheppard (given by Mr. Heneker) ; history, R. Rhodes (given by the Rev. W. Prideaux).

First Form—Kerry.

The Chancellor closed the proceedings by adjourning until the 5th of September.

#### CONVERSAZIONE.

In the evening there was a conversazione in the dining hall of the College. The attendance was large, although the weather was threatening, and no doubt kept a good many away. A few hours were very pleasantly spent. Mr. Jarvis presided at the piano and several of the pupils and a number of ladies entertained the audience with songs. Rev. Mr. Tambs sang a Norwegian song, and being vociferously encouraged sang a Norse war song. The band of the College Rifle Corps played a number of selections in a very creditable manner. Master Balch recited Modern Logic, and was loudly applauded. The Chancellor presented the following prizes to the winners in the College Rifle Match, the match being at 105 and 250 yards, short Enfields :—1st, Corporal Slater, Ottawa, double barrellled gun ; 2nd, Corporal J. H. Stotesbury, fishing rod ; 3rd, Private Anderson, opera glass ; 4th, Private Thomas, a flask. Songs, music and conversation followed, until the time for saying good bye arrived, and then there were many partings. The midnight train for Montreal brought up a good many of the boys.

#### ANNUAL MEETING OF THE ALUMNI.

The annual meeting of the Alumni Association of the University of Bishops' College was held on Wednesday and Thursday. There was a good attendance, especially of the oldest of the alumni. On Wednesday morning they breakfasted together, and afterwards attended chapel. The following officers were elected for the ensuing year :—Rev. J. Fortin, M. A., President ;—Fulton, M. A., and G. B. Baker, M. A., Vice-Presidents ; Ernest A. W. King, M. A., Secretary-Treasurer.

The report of the Alumni Mathematical Tutor gave great satisfaction. Members of the Alumni who had been on the spot during the year, testified to the ability and thorough efficiency with which the Rev. R. C. Tambs, M. A., the Mathematical tutor had discharged his duties. A similar opinion was expressed by the President. In the course of the year, during four days of the week, Mr. Tambs delivered 526 lectures ; and in addition to this during the remaining three days of the week, he did a great deal of church work in the adjacent parishes. Mr. Tambs was unanimously re-elected Mathematical Tutor for the ensuing year.

#### ST. FRANCIS COLLEGE, RICHMOND.

(From the *Gazette*, Montreal.)

The session of 1868-69, of the Grammar School of the St. Francis College, Richmond, Quebec, closed on the evening of Wednesday, the 30th ult.

The assembly was large, admission procurable by ticket.

A very pleasing, and admirably executed programme of vocal and instrumental music, by a large number of ladies and gentlemen, constituted a prominent part of the evening's entertainment.

Reports of the examinations were interspersed by the Principal, and recitations and colloquies by the students, whose elocutionary studies were received with more than ordinary applause.

There have been over one hundred students of the Grammar School pursuing commercial, mechanical, agricultural, and other business and professional studies with marked success.

There have also been nine students in the Matriculating Class, five of whom were admitted into the Faculty of Arts. Others of the

class were absent at manual labour during the last quarter of the academic year.

During the hours allotted to recreation, it has not been an unusual thing to see a part of the students on the play-ground, engaged in cricket, base ball, &c., while others were sawing wood, gardening, or working at mechanical or other labour, to aid in supporting themselves at the School or College, and oftentimes the poorest man or boy is found at the head of his classes, and equally esteemed by his companions as if he were from the wealthiest family. (1)

MEM.—Not having received, in time for this number of the Journal, full reports of the distribution of prizes and diplomas at the Laval and Jacques-Cartier Normal and Model Schools, we hope to furnish these in our next. We could procure no report of McGill Model Schools.

#### Vice-Regal Visit.

His Excellency the Governor General having kindly accepted the invitation of M. Chabert, Ottawa, to visit his institution of fine arts in its industrial application, the ladies of the Congregation de Notre Dame, to whose educational establishment M. Chabert's institute has lately been removed, prevailed on his Excellency to visit them at the same time. Accordingly the visit to M. Chabert having been appointed for the hour of five o'clock on Wednesday afternoon, half past four was appointed for the "Congregation." At the hour his Excellency, Sir John, and Lady Young, with their suite, arrived, and were received at the door by Hon. Sir George E. Cartier, Bart., Father Collins, his Worship the Mayor, and a number of other gentlemen. The distinguished party were then ushered up stairs to a large room, where a select audience of invited guests had assembled. Here they were received by the ladies. The young lady pupils dressed in white were ranged on a raised platform, the back rows elevated, and the whole were so disposed as to form a beautiful *tableau*.

Six young ladies, at two pianos, played a trio very prettily, as his Excellency and party entered. Miss Mary Cotton, one of the junior pupils, then came from the front of the platform, where she stood, spoke with a clear articulation, and in correct tones, a very pretty address of welcome, after this a song of welcome was sung in chorus by all the pupils. Miss Louisa Bury, a fine, noble looking girl, then read a long address in good style. Another song—"We come from the hill side"—was sung, a party of the pupils entering with green garlands, and Mde. Adele Kimber also delivered, in an elegant manner, a well written address in French. Then Mde. Fabiola Pellant placed a beautiful bouquet, in a silver holder, in the hand of a pretty little daughter of the late Mayor Friel, and led her up to Lady Young, to whom she presented it, and both were rewarded with a kiss. His Excellency then rose, and, after some complimentary remarks, wished the pupils a happy time in their holidays. As the party were going out, four pupils, on two pianos, played God save the Queen and *Vive la Canadienne*. After going through other parts of the establishment, the party proceeded to the Institute.

#### INSTITUTE OF FINE ARTS.

His Excellency and party were received here by M. Chabert, Le Chevalier Smith, and M. Blain de St. Aubin. The room was filled by ladies and gentlemen, who attended by special invitation. Amongst them were Sir. George E. Cartier, Bart., the Mayor, and many other distinguished persons. The walls were covered with drawings, most of which were the works of M. Chabert's pupils. We also observed a model of an infant's head and bust, by Mr. Burns, all of which were greatly admired. The Governor-General and Lady Young walked round, and took special interest in the works, which were pointed out by the director. The inspection having been completed, his Excellency and lady Young took their seats with Sir George on the platform, when Mr. Chabert, after some remarks, read a long and able address, at the close of which His Excellency rose and said—he was not aware that he should be expected to address the audience. He fully appreciated the value of such an institution to the industrial progress of the country. The introduction of schools of design in England, he believed, was due to Prince Albert, and the necessity for them was clearly shown at the first national exhibition in London. There, though the material and intrinsic value of British manufactured articles were quite equal to those of continental manufacture, yet in beauty of design they were inferior. Since the establishment of those schools articles of British manufacture had greatly improved. It had been long ago remarked that articles of plate, &c., manufac-

tured in Dublin, were superior in artistic design to similar articles manufactured in England, and this was found to be in consequence of the school of design, established a hundred years ago, in the Royal Dublin Academy. He thought that the best models should be placed before the mechanic, that he might be able to investigate the principles of correct taste. Art does not better genius, but shows it the right path in which to proceed.

A short address and bouquets were presented to Lady Young by three of the young lady pupils of M. Chabert. The address being presented by Mde. Placide Grison, and the bouquets by Miss Eliza Armstrong and Miss Mary Ann Trotter.—*Ottawa Times*.

#### Books and Exchanges Received. (1)

*The Pennsylvania School Journal* for July.

*Indiana School Journal and Teacher* for July.

*Journal of Education*, Province of Ontario, for June.

*The Young Crusader*, No. 8, for August.

*The Canadian Messenger*, Devoted to Temperance, Agriculture, Science, and Education, for June.

Report of the Fifth Annual Convention of the Provincial Association of Protestant Teachers of the Province of Quebec, held in Richmond, August 27th and 28th, 1868.

*The Manufacturer and Builder* for July.

*Peters' Musical Monthly* for July, contains "I Kissed Her at the Gate,"—song and chorus; "She waits by the River for Me"; "Daisy O'Lynn,"—song and chorus; "O, Let me Kiss the Baby"; "The Loving face that won me"; "Home, Sweet Home"; "Congenial Hearts,"—Polka de Salon; "Good Humour Waltz"; "Rain on the Roof,"—Quartet for mixed voices, with Piano or Melodeon accompaniment; "Little Maud,"—Quartet for mixed voices, with Piano and Melodeon accompaniment; "Our Daily Toil is over now,"—Sacred Quartet for mixed voices, with Piano or Melodeon accompaniment; "Say, Sinner hath a Voice,"—Quartet for mixed voices; and "Praise the Lord; Ye Heavens! Adore Him!" If this, independently of half a dozen pages of reading matter, is not enough for 30 cents, we should like to be informed of where there is more to be had. Send to J. L. Peters, Publisher, 198 Broadway, N. Y., for a copy.

*The Massachusetts Teacher* for July and August.

*The National Normal* for July. Edited and Published by R. H. Holbrook, 176 Elm St., Cincinnati, O.

*The Minnesota Teacher and Journal of Education* for July.

*Advertisers Gazette* for July.

*The Cincinnati Medical Repertory* for July;—Edited by J. A. Thacker, Esq., M. D.

*Kentucky Journal of Education* for June and July.

*The Maine Journal of Education* for July.

*Hearth and Home* (July 17th 1869) contains the song for which a Prize of \$100 was offered by the publishers and paid to Wm. Rankin on the award of Miss Alice Cary, Bayard Taylor, Esq., and C. A. Dana, Esq.

*The Mount Auburn Index* for July

*American Educational Monthly*, August, 1869.

*Southern Illinois Teacher* for July.

"Tommy Try, and what he did in Science"—This is a very well got up book of 300 pages written by Charles O. G. Napier, F. G. S. a member of the celebrated *Merchiston* family. Like the other works of this author, Tommy Try will be found to be a delightful introduction to the study of a number of branches of popular science. It is written in familiar language, without sacrifice of accuracy in description or setting aside the necessary use of technical expressions, which, after all are the best that can be employed, although, in a work intended to be attractive and serviceable to young people their skilful introduction requires something more than mere scientific knowledge on the part of a writer or teacher.

Amongst the objects brought under the notice of the reader are Museums, Botany, Birds and Birds' Eggs, Chemistry, Insects, Shells, Fossils, Aquaria, &c. The book is full of anecdotes, which with various incidents of the life of Tommy Try, from a tender age up to that of sixteen years, will be found well calculated to sustain the interest of the youthful mind.

There are forty-six good illustrations.

"*Appleten's Journal*" Monthly parts Nos. 1 and 2 have been received. This work is devoted to Literature, Science and Art—and is abundantly illustrated with wood cuts.

The type, paper, and execution of the illustrations are all very good, and the articles on various subjects of literary and scientific interest.

This periodical is sure to take a high stand among the periodicals published in the U. S.

N. B.—The above two works are introduced by the enterprising house of Dawson Brothers, Montreal.

(1) Press of matter prevents our doing more than simply acknowledging receipt of the above-named.

1 No list accompanied this report.

MONTHLY SUMMARY.

EDUCATIONAL INTELLIGENCE.

—*Pensions to Aged School Teachers.*—The LORD PRESIDENT and VICE-PRESIDENT received a deputation, on May 8, at the Council Office, of teachers, both Churchmen and Dissenters, to explain the particulars of a proposed scheme for granting annuities to aged teachers. The deputation was introduced by Mr. WHITWELL, M. P., Mr. AKROYD, M. P., and Mr. E. CHADWICK. Mr. WHITWELL having explained the object of the visit, a memorial embodying the views of the applicants was presented by Mr. Akroyd. It was explained that the scheme merely proposed that a small percentage of the annual grant now dispensed to schools and training colleges by the Privy Council might be devoted to making a provision for old age and infirmity, by way of annuity. Mr. LAWSON, the secretary of the London Association of Church Schoolmasters added that a detailed scheme drawn up by Mr. Hill, the master of the British Schools at Kendal, estimated that a deduction of 1 per cent, from the annual government grants would provide pensions of £30 a year each for about 200 disabled teachers, which was a larger number than was likely to require them, at all events, at present. Mr. MANSFIELD, the Secretary of the Wesleyan Training College, having spoken, Mr. DAY presented a memorial from the north-eastern district, and other members of the deputation handed in similar memorials from other localities. In reply to questions put by Earl DE GREY and RYON and Mr. FORSTER, it was stated that the teachers did not contemplate any claim to pension until after twenty years' service in one or more elementary schools, and were prepared to sacrifice the slight deduction that might be made from their salaries during service if the full period of 20 years should not be completed. It was anticipated that the number of claims would for some years be so limited that a reserve might be formed out of the surplus sufficient to provide amply for any increase that might arise hereafter. Earl DE GREY and RYON could not hold out any hope that this question would be taken up separately from that of education generally, in respect to which the views of the Government would, he hoped, be laid before Parliament next year. He, however, promised on behalf of himself and his right hon. friend the VICE-PRESIDENT, the most careful considerations of the representations made to them by the memorialists and the gentlemen who had addressed them.—*Paper for the Schoolmaster.*

—*Deputation of the National Teachers of Ireland to His Excellency the Lord Lieutenant.*—A deputation from the national teachers of Ireland waited on His Excellency, the Lord Lieutenant, at the Viceregal Lodge, on the 31st March, for the purpose of presenting a memorial praying his Excellency to use his influence with the Government to obtain a redress of their grievances.

Mr. VERN FOSTER having introduced the other members of the deputation to his Excellency, stated the object of the deputation, and then handed to his Excellency the memorial, which had affixed to it 3,385 signatures.

Mr. JOHN HARTE then called attention to the three points contained in the memorial, first the shameful inadequacy of the class salaries of the national school teachers of Ireland; second, the absolute want of retiring pensions for our teachers, the same as for all other public servants under the crown, when rendered unfit by age or other infirmity from effectually discharging their duties; third—the utter ruin which the 'payment by result' system would be certain to entail on the national school teachers of Ireland in the absence of compulsory attendance of the pupils. Mr. Harte then dwelt with much force and ability upon the present miserable condition of the national teachers, and urged that, even for this year, Parliament should vote such a liberal sum as a supplement to the already forwarded estimate for national education in Ireland, as would enable the Commissioners to largely increase the pittance now received by the Irish national school teacher, that the income from all sources (at present that income averages for the 8,326 literary teachers in the Board's service, at end of year 1867, just twelve shillings and eight pence a week) of the third (or lowest) class teacher might compare with that now received by the stonemason, the carpenter, or the bricklayer.

Mr. FOSTER then said that in consequence of insufficiency of salary, it was annually becoming more difficult to obtain qualified teachers; that 35 years' experience had demonstrated the futility of expecting any considerable amount of voluntary local contribution; that even in England according to a report published a few years ago by the Royal Commissioner there were 10,000 parishes which had failed, not through want of will to qualify by local contributions for the Government grant. If that were the case in rich England, what could be expected in poor Ireland? Parliament he confessed, had acted with more liberality towards England, and as the Commissioners of National Education had always administered the funds at their disposal in a generous spirit towards the teachers, it would therefore, perhaps, be unreasonable to expect an increase of the Parliamentary grant. He agreed in the view taken by the Government on the establishment of a national system, that the schools should be supported in a considerable degree by local contributions, but believed that the only prospect

of obtaining such local aid was by means of a compulsory local rate. In his opinion, and in that of the majority of the national teachers, salaries should depend chiefly, say four-fifths, on classification, and one-fifth on the proficiency of the school, the former portion possessing the necessary element of certainty, while the latter portion would be sufficient to act as a stimulant to the teachers.

Earl SPENCER promised the deputation that their views would be considered attentively by Her Majesty's Government.—*Id.*

LITERARY INTELLIGENCE.

—*Lambeth Library.*—The Ven. Archdeacon Hale has accepted the honorary curatorship of the Archbishop's Library at Lambeth. This is good news for literature. In his care facility of access and accommodation for consultation may be relied upon. Literary men should feel indebted to the Archdeacon for taking an office which can have no recommendation, unless it can be found in a desire to render the library an honour to the see and an advantage to men of letters.—*Notes and Queries.*

—*The Rev. D. Silvan Evans,*—Rector of Llanymawddwy, Merionethshire, is preparing "A Dictionary of the Welsh language, from Original Sources."

—*The French Academy,* has awarded a prize of 3,000 francs to M. Edouard Grenier for a poem on "The Jews in the East."

—*A Brazilian Present to the Poet J. G. Whittier.*—A curious present has been sent to the American poet Whittier from Brazil. One of the poet's most beautiful pieces is the "Cry of a Lost Soul," founded on a tradition of Northern Brazil, to the effect that the lonely nocturnal cry of the bird called by the people of the Amazon the *Alma de Coboelo*, or *Alma perdida* (the Soul of the Indian, or the Lost Soul), is not the cry of a bird, but of—

"The pained soul of some infidel  
Or cursed heretic that cries from hell."

This poem so interested the Emperor of Brazil that he translated it very faithfully and poetically into Portuguese, and sent an autograph copy to Whittier. It was also translated by Pedro Linz, a Brazilian poet, and published widely in South America. The Emperor furthermore sent to Mr. Whittier two fine stuffed specimens of the *Alma Perdida* (the *Piaya Cayena*, Lin.), but through the honesty of the captain of the vessel, or of the New-York Custom-house, the birds never reached Amesbury. A few weeks ago two other unstuffed specimens were sent from Brazil to the poet, and have recently been "set up" here, and have attracted much attention.—*Boston Transcript.*

—Literary merit has lately been recognized by Spain, the Provisional Government at Madrid having conferred a Knight Commander's Cross of the distinguished Order of Charles III, upon Mr. Frederick W. Cozens, of Clapham Park. The diploma, signed by Marshal Serrano, was granted for services rendered to the literature and arts, as well as to the commerce of the country. This distinction is the first which the present Spanish Ministry have awarded to a foreigner; and the honour is well deserved.—*Athenæum*

METEOROLOGICAL INTELLIGENCE.

—Meteorological observations taken at Quebec during the month of June, 1869—Lat. 46°48'30" North; Longitude 71°12'15" West; height above St. Lawrence, 230 feet,—by Sergt. John Thurling, A.H.C.

Barometer, highest reading on the 9th.....	30.165 inches.
" lowest " 5th.....	29.305
" range of pressure.....	0.860
" mean for month reduced to 32°.....	29.643
Thermometer, highest reading on the 4th.....	86.2 degrees;
" lowest " 7th.....	39.0
" range in month.....	47.2
" mean for month.....	62.7
" mean of maximum in sun's-rays, black bulb..	112.8
" mean of minimum on grass.....	50.3
Hygrometer, mean of dry bulb.....	65.0
" wet bulb.....	56.9
" dew point.....	50.3
Elastic force of vapour.....	.365 inches.
Vapour in a cubic foot of air.....	4.1 grains.
" required to saturate, do.....	2.7 "
Mean degree of humidity (Sat. 100).....	59
Average weight of a cubic foot of air.....	522.5 grains.
Cloud, mean amount of (0-10).....	6.3
Ozone " " (0-10).....	1.2
Wind, general direction.....	N. E. and W.
Mean daily horizontal movement.....	120.9 miles.
Rain, number of days it fell.....	17
Amount collected on ground.....	7.27 inches.

The following SUMMARY of OBSERVATIONS taken at the METEOROLOGICAL STATION, BRISBANE, during the Month of March, 1869, is published for general information.

General Post Office,  
Brisbane, Queensland, 3rd April, 1869.

By His Excellency's Command.  
J. DOUGLAS.

SUMMARY OF METEOROLOGICAL OBSERVATIONS TAKEN AT BRISBANE, DURING THE MONTH OF MARCH, 1869.

LATITUDE, 27° S.; LONGITUDE, 153° E.; HEIGHT OF OBSERVATORY ABOVE MEAN SEA LEVEL, 140 FEET.

Barometer (corrected to 32° Fahrenheit and reduced to mean sea level.)	Thermometer.						Hygrometer.			Self-registering Thermometers.				Rain In 24 hours.	Average Pres- sure in lbs. per sq. during previous hours.	Wind.			Cloud. 0-10.	Ozone.											
	Temperature of Air.			Temperature of Evaporation			Elastic Force of Vapor.			Humidity.			Maximum Sun.			Minimum Grass.	Maximum Shade.	Minimum Shade.		Diurnal Range.	Summary of Direction.	12 Hours. (Day).	24 Hours.								
Inches.	a.m.	p.m.	a.m.	p.m.	a.m.	p.m.	a.m.	p.m.	a.m.	p.m.	a.m.	p.m.	a.m.	p.m.	a.m.	p.m.	a.m.	9 a.m.	3 p.m.	9 p.m.	a.m.	p.m.	p.m.	12 Hours. (Day).	24 Hours.						
Maximum.....	30.226	30.151	30.186	32.0	30.0	29.0	75.6	76.0	79.0	83.0	.790	.840	.800	.72	.74	.72	137.0	70.6	98.5	73.5	25.0	1.940	.305	N.O. NW 4.	N.O. NW 0.	10	10	10	3.60	5	8
Mean.....	30.032	29.982	29.992	76.1	80.6	71.5	71.6	73.1	69.2	.69	.68	.67	114.7	65.0	84.6	64.1	17.3	.291	.118	N.O. SW 0.	W.O. SW 0.	W.O. SW 0.	6-5	5-9	5-0	.186	3-6	6-5			
Minimum.....	29.894	29.767	29.945	68.0	69.0	66.0	67.0	67.5	65.0	.64	.64	.63	83.0	59.5	74.0	62.0	8.0	.010	.082	E. S. NE 4.	E. S. NE 11.	E. 7. NE 10.	0	0	0	.060	2	5			
Summary of March, 1869. Mean Temperature, 76.0 degrees. Rain fell on 19 days. Total Rainfall, 9.02 inches. Evaporation, 5.770 inches. Electrical Observation—13 Positive; 80 Negative																															
"	1868..	"	"	75.3	"	"	"	"	"	"	"	"	9	"	"	"	0.60	"	"	"	"	"	4.365	"	"	"	51	"	42	"	"
"	1867..	"	"	74.6	"	"	"	"	"	"	"	"	18	"	"	"	5.37	"	"	"	"	"	3.395	"	"	"	19	"	74	"	"
"	1866..	"	"	76.5	"	"	"	"	"	"	"	"	10	"	"	"	0.81	"	"	"	"	"	6.842	"	"	"	63	"	30	"	"
"	1865..	"	"	76.2	"	"	"	"	"	"	"	"	2	"	"	"	0.70	"	"	"	"	"	5.836	"	"	"	78	"	15	"	"
"	1864..	"	"	75.3	"	"	"	"	"	"	"	"	12	"	"	"	10.54	"	"	"	"	"	4.923	"	"	"	25	"	68	"	"
"	1863..	"	"	76.1	"	"	"	"	"	"	"	"	23	"	"	"	14.36	"	"	"	"	"	3.937	"	"	"	22	"	71	"	"
"	1862..	"	"	76.2	"	"	"	"	"	"	"	"	15	"	"	"	6.87	"	"	"	"	"	5.544	"	"	"	38	"	55	"	"

The rainfall has been greater than that of any previous month since February, 1867, when 12.66 inches fell. Rain has fallen on 19 days—a distribution over a greater number of days than any month since March, 1863, when 14.36 inches fell in 23 days. A severe storm took place on the 5th, commencing from W. at 10 p.m., changing by midnight to S., and ending at 2 p.m. from E. During the storm, 1.25 inches rain fell. Large lunar halos were visible on 26th and 27th.

E. MACDONNELL,  
Meteorological Observer.

— From the Records of the Montreal Observatory, Lat. 45° 31' North; Long. 4h. 54m. 11sec. West of Greenwich, and 182 feet above mean sea level for June, 1869,—By Charles Smallwood, M.D., LL.D., D.C.L.

DAYS.	Barometer corrected at 32°			Temperature of the Air.			Direction of Wind.			Miles in 24 hours.
	7 a.m.	2 p.m.	9 p.m.	7 a.m.	2 p.m.	9 p.m.	7 a.m.	2 p.m.	9 p.m.	
1	29.501	29.552	29.651	64.7	80.0	63.0	w	w	w	124.10
2	.800	.792	.790	57.3	78.9	66.2	w	w	w	229.11
3	.787	.744	.700	62.1	80.3	70.4	w	w	w	101.17
4	.680	.517	.451	66.2	78.9	67.4	w	wby N	w	94.74
5	.298	.312	.400	66.0	71.8	50.1	w	w	w	104.10
6	.790	.877	.901	48.0	56.1	50.9	w	wby N	wby N	198.24
7	.982	.904	.949	46.7	58.4	52.0	w	w	w	124.10
8	.950	30.061	30.110	51.7	68.3	56.0	N E	N E	N E	89.74
9	30.201	.117	.001	53.2	73.1	58.0	N E	N E	w	84.29
10	29.861	29.742	29.689	55.3	68.3	48.3	w	s w	s w	94.00
11	.511	.507	.499	47.8	60.2	50.1	w	w	w	127.10
12	.670	.674	.689	52.0	65.2	56.1	w	w	w	97.44
13	.602	.531	.390	57.2	70.0	63.4	s	s	s	90.10
14	.301	.309	.311	64.0	66.9	62.2	w s w	w s w	w	101.24
15	.352	.379	.451	60.1	70.0	54.8	w	w s w	s w	198.22
16	.604	.600	.136	54.0	54.0	54.3	w s w	w s w	w s w	247.10
17	.749	.844	.900	55.1	71.7	60.2	w	w	w	211.20
18	.901	.704	.702	57.0	56.1	54.2	w	s w	s w	99.10
19	.843	.850	.861	56.0	69.4	63.0	s w	s w	s w	104.21
20	.747	.600	.600	58.1	59.1	56.8	E by S	E by S	E by S	88.11
21	.701	.700	.699	59.7	74.9	64.1	E by S	w s w	w s w	101.24
22	.650	.647	.701	62.4	63.5	57.4	s w	s	s w	85.24
23	.675	.631	.730	55.1	65.0	60.1	s w	s w	w	109.20
24	.851	.817	.759	58.1	76.1	62.9	w	w	w	211.44
25	.951	.954	.960	56.1	75.9	60.2	w	wby N	wby N	204.00
26	.961	.900	.811	51.3	75.2	64.1	wby N	w	w	197.11
27	.775	.747	.711	62.0	81.0	66.2	w	w	w	97.19
28	.549	.501	.499	66.0	67.1	59.7	w	s w	s w	88.20
29	.680	.669	.701	59.7	79.4	67.7	w	w	w	94.44
30	.500	.611	.701	62.1	64.0	55.6	N E	N E	N E	104.00

REMARKS.

The highest reading of the Barometer was on the 9th day, and indicated 30.201 inches; the lowest reading was on the 5th day, and was 29.298 inches, giving a monthly range of 0.903 inches.

The highest reading of the Thermometer was 81°, and the lowest 45° 2', showing a range or climatic difference of 34° 8'. The mean temperature of the month was 58° 84, which is nearly 9° lower than the Isotherm for Montreal, for the month of June reduced from observation during a long series of years.

Rain fell on 12 days; amounting to inches; it was accompanied by thunder on one day.

Light frost occurred on the morning of the 7th day.

ADVERTISEMENT.

COBDEN CLUB.

The subject of the Prize Essay for the GOLD MEDAL of the CLUB for the year 1869, is

“Free Trade in its Relation to the Colonies and Dependencies of Great Britain.”

The Essays, identified by a Motto (with the names and addresses of the writers enclosed in a sealed envelope), must be sent to Thomas Cayley Potter, M. P. Reform Club, London, before the 1st January, 1870.

No Essays to exceed in length fifty pages of the “Quarterly” or North American” Reviews.

The Committee reserve the right of publishing the successful Essay.

McGILL UNIVERSITY.

MONTREAL—SESSION 1869-70.

FACULTY OF ARTS. — The classes will re-open on MONDAY, SEPT. 20.

FACULTY OF MEDICINE. — The classes will re-open on TUESDAY, NOV. 2nd.

FACULTY OF LAW.—The classes will re-open on TUESDAY, NOV. 2nd.

The Calendar of the University, containing all necessary information, may be obtained on application, post-paid, to the undersigned.

W. C. BAYNES, B.A.  
Secretary McGill College.

PRACTICAL GEOLOGY AND MINING.

Young men desiring to qualify themselves for Geological Exploration or the Management of Mining Operations, may be admitted as Partial Students in MCGILL COLLEGE, and will have the benefit of the courses of Geology, Mineralogy, Chemistry, Physics, Mathematics, as well as courses in Metallurgy and Mining. The classes will commence on MONDAY, SEPT. 20.

For information as to details, apply to the Principal of the University, or to the undersigned.

W. C. BAYNES, B.A.  
Secretary.

MCGILL NORMAL SCHOOL.

The THIRTEENTH SESSION of this SCHOOL will commence on WEDNESDAY, SEPT. 1st, 1869.

Candidates for admission must be 16 years of age, of good moral character, and must come under obligation to teach for three years in some public school in the Province of Quebec. They must pass an entrance examination in Reading, Writing, and the Elements of Arithmetic, Grammar and Geography.

On complying with the above conditions, they will be recognized as Teachers in Training, and as such will be entitled to free tuition, with the use of text books, and to bursaries in aid of their board, in the case of those not resident in Montreal.

At the close of the first year of study they may apply for examination for Diplomas giving the right to teach in Elementary Schools; and after two years' study, or if found qualified at the close of the first year, they will, on examination, be entitled to Diplomas as Teachers of Model Schools. Students having passed their examination in the Model School Class or having advanced to the requisite knowledge, may go on to the Academy Class, and on examination, may obtain the Academy Diploma.

The announcement of the School, containing all necessary information and terms of application, may be obtained of the undersigned.

W. C. BAYNES, B.A.  
Secretary.

THE JOURNAL OF EDUCATION FOR THE PROVINCE OF QUEBEC

The Journal of Education,—published under the direction of the Hon. the Minister of Public Instruction and edited by H. H. MILES Esq., LL.D. D.C.L. and P. DELANEY Esq., of that Department,—offers an advantageous medium for advertising on matters appertaining exclusively to Education or the Arts and Sciences.

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