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EDUCATION.

John Bright On Education In England.

"We are," said Mr Bright, "according to the admission of all the world, a great nation. We have a population within these islands of thirty millions of people. We control the destinies to a large extent of nearly two hundred millions of men in other and distant portions of the globe. We have wealth which some people believe, and those who levy and decree the taxes appear to believe, to be inexhaustible. We have power which stretches to the ends of the earth. The English language, our English literature, our English morals, and our English freedom, affect the interests of mankind, not in those countries only that are subject to our sway, but in every part of the earth's surface where a civilized man or family exists. But though this is a grand picture, of which we are and ought constantly to be proud, yet, if we look at home, with all our greatness and all our wealth, we find amongst our population a mass of poverty, and of ignorance, and of suffering of which a Christian nation ought to be ashamed. I agree with an opinion which has been frequently expressed by my friend Mr Dixon, that at the basis of this vast mass of suffering which we would relieve is to be found the great ignorance in which two or three, or more millions of our people are brought up. What we want, at the very basis of society, is more intelligence, more instruction, more self-respect, and more hope. There are multitudes amongst us who are born and who live even to old age without apparently the slightest hope of improving their condition. Now, I have been an advocate for Parliamentary Reform especially with this object: that we might call in the great body of the people to frame the Parliament which shall govern us, chiefly for this purpose—that we might devise such a policy and such a means as shall, if possible, lay hold of this vast mass of ignorance and raise it many degrees in the social scale, and remove from amongst us that which is a discredit and a shame to our civilization and to our religion.

"I said that three years would not pass after the householders of the United Kingdom were enfranchised, before we should see some grand effort to give to the lowest, the humblest, the poorest classes of the community, that instruction, and the equal of that, which is given to the children of what are called the middle classes. I am weary, as I travel through the country, of looking upon the vast fabrics that rise up, which are, if you ask their names, poorhouses or lunatic asylums. We ought to have —throughout the length and breadth of a great and intelligent country like this— we ought to have buildings which shall strike the eye of every traveller through the country, and every foreigner who visits it, which shall be consecrated to the greatest

and noblest of all purposes—that of instructing the great mass of the people, and raising them up to the position to which they have a right to aspire, and which God intends them to occupy. Up to thirty years ago, we had no pretence even to a system of general education. The voluntary system, as it is called, because it had no organization, was shewn to have entirely failed. There were many persons who thought it needless or dangerous to educate the working classes. Less than a hundred years ago, Dr. Johnson said something of this kind—that it was a very difficult thing to say how far the education of the masses of the people might be carried with a view to their own advantage, and to the safety of those above them. There was a general impression that some things which men consider venerable, I suppose because they are old, might not be safe if the people were so far instructed as to be able fairly to examine them, and particularly to look at their foundations. But thirty years ago an effort was made—a small and feeble effort. It was small and feeble to a great extent because the party to which we are opposed resisted the attempt. But an attempt was made by the distribution of funds voted by Parliament to establish or encourage the establishment of schools in many parts of the country. The system had one great source of weakness. It proposed only to give money to districts where money was already raised; and, therefore, in those districts which are poorest, in which there are no rich and benevolent men willing to give—to those districts the hand of the Government did not reach; and the poorest of all, the most needy of all, were left unprovided for in this system of Government education. I put it to the heart and head of every man here, whether, during the last thirty years, far less has not been done than should have been done, and whether much more does not remain to be done than has ever yet been attempted. Shall I be mistaken in the prediction, that within three years after the extension of the franchise we should have some attempt to establish a grand system of education throughout the kingdom ?

" Cannot we apply to the ignorance of the people some scheme of great reform, which all men shall think worth attempting and accepting, and which all men shall feel will, if established and adopted, change the whole face and the whole character of large portions of the population, within another or a succeeding generation ? What do people do in other countries ? I will not go into the particulars of some of the German States, or what is done in Prussia, or what is done in Switzerland. But I might say what was done in some of the Australian colonies, and what has been done for generations in the New England States. I will suppose that our counties are too irregular in size and population,—too extensive, many of them,—to form anything like a well-working municipality for purposes of education. Our parishes are so irregular also, in extent and population, that they probably would not be a good division of the country for this purpose. But we have Poor-law unions, which probably might afford a basis for the establishment of such a system as I would recommend. Every ratepayer now in a burgh has a vote; every ratepayer in a poor-law union has, or might have, a vote. What should prevent the passing of a law to enable the ratepayers of every poor law union to elect a certain number of their residents as a school committee, for the purpose of undertaking the great work of establishing in the local district the general system of education to which we are approaching ? If a committee were appointed, I presume it would be chosen from the intelligent and earnest men of the district. They could easily have a map of the union. The population is known. Every school now existing might be marked upon this map, and it would easily be seen where there is a deficiency of schools. Then there comes the question of funds. It would be possible for the Act of Parliament to give the school committee so elected power to borrow a sufficient sum of money, within a reasonable time, to put up sufficient buildings for schoolhouses, and to levy from all the property of the district a sufficient rate to repay in time the money borrowed, and at the same time to support the schools. But I shall be asked what I would do with the present schools. I would leave them at present as they are. They would work on, doing their meritorious work, and without interfering with any of the new schools which would be created. But the new system would fill up every gap, would supply every want, would fill up every system which is now meagre and poor to the last degree; and the schools established by this new law would be able to furnish the other schools with all the implements of instruction, such as books and maps, in a manner so complete and so admirable, and the shools thus established would be in all points so good, that gradually all disinclination on the part of friends of the present schools would vanish; and I look to the time,—and not at a remote period,—when all the existing schools,—I am speaking now of schools more for the working classes than for the richer people,—would be given up to the new and general system, until at last the whole education of the country would be placed under the general, broad system of district or municipal management. Every man who paid would have the greatest interest in the school being well managed, and every working man whose children attended the school would look upon it as the very saviour of his family from so many disasters which now happen; and I believe it would be impossible to devise anything which would be of greater and more permanent value to the whole population of the kingdom. I recollect, some years ago, speaking to the American Minister, who was the son and the grandson of Presidents of the United States, and he received his education in their common schools. The material by which their education is conveyed,—their books, and so on,—very far exceed anything we know of. The best school books we have are those prepared by the National Board of Education in Ireland, but the educational school books of New England, which I have examined are, on the whole, superior to them. I do not underrate the difficulty of doing in this country all that we want for education. There is always difficulty in great achievements; there is great difficulty in every great step which the nation makes forward; but, though there be a difficulty, is it one that we cannot surmount ? And if you look forward and behold all the population, brought up two, or three, or four years in good schools of this kind, let me ask you, fathers of families,—and if your wives were here I would ask them, mothers of your families,—whether a better system of instruction for your children would not be of incalculable advantage to them and even to you ? I may be told that the great difficulty is called the religious difficulty. Perhaps it is. But that is a difficulty which every day is lessening. (1)

" Possibly some persons may think that there are rates enough, and to add a school rate would be only to add burden to burden. But let me remind you that, as the school rate would rise if it were well employed, the poor rate and the criminal rate would fall. Every man in the kingdom knows perfectly well that the want of instruction is the cause of a very large amount of the intemperance, the profligacy, the idleness, the poverty, and the crime by which our country is disfigured. Besides, we all know that those who have property would always feel not only that their property was more secure, but that it was more valuable, in the midst of an instructed population. We should not so often hear from judges and from associations established for the purpose of promoting education, with regard to the crime and suffering which are found in our towns. We are a great people now, but how much greater should we be then! We are a people of great wealth, but how much greater would our wealth, be then! For every instructed man is twice the instrument for the production of wealth that an uninstructed man is, and the enormous waste which is caused in this country by the recklessness and idleness, and the intemperance of the uninstructed is incalculable. I take this opportunity to make this statement because I feel, I think, a greater responsibility with regard to the course taken by the great constituencies probably than most other men in this country. I am told by my friends that I

(1) Mr. Bright of course refers to England.

have, with more labour, with greater pertinacity, with more elaborate speeches, urged the enfranchisement of my countrymen than any other man. I have not done this that I might be for a moment the favourite or the idol of the multitude. My speeches during the last twenty five years have been as free from flattery of the poor as from submission to the rich. But, feeling this responsibility, and having you before me, and this great constituency about to pronounce a great verdict, I venture to tell you what I think ought to be done, and what the constituency of Birmingham, acting with the other great counstituencies in the kingdom, may soon do, and that you may give the lie to every man who said it was not safe to trust you with the franchise. The great council of the nation is now summoned, and this question of education is one of the greatest and foremost questions which you will be called upon to decide.

" I have proposed to-day a scheme, not with any elaboration, not with any pretence that it is not capable of great improvement, but one which would, I think, be the basis of a scheme by which we should stretch out a hand to the poorest and the humblest, and the most degraded, and the most hopeless, and say, 'Friend and brother, come up to the level on which we stand.' And in taking this course—and it is the course that I have ever taken during my public life—I have appealed, not to the prejudices of my country-men, but to their intelligence and to their virtue; and it is to this great quality that I appeal now, and I have the most undoubting confidence that you will listen to that appeal. The world is a great deal better than it was, and England is a great deal better than it was, and Birmingham is a great deal better than it was. One of our poets has said—and I take comfort in remembering his words—

> 'The time has gone by when oppressions and error,
> Like the mist on the mountains, enveloped the world;
> The time has gone by when the demon of terror,
> Leagued with wild superstition, his banners unfurled.'

And I can see in the course of this and of other contests that greater and nobler principles are constantly, from year to year, making their way, and taking their seats in the very hearts of this people. Depend upon it that it is not a question between this man and that man: it is a question of great and solemn principles, of great and solemn import to you, and to your families, and to your posterity. We are fighting no mean battle. It is a battle of light as against darkness; it is a battle of justice against selfishness; it is a battle of instruction and intelligence against prejudice and against wrong.—*The Museum.*

The Dignity of the Teacher's Profession.

In the *Western Monthly* published in Chicago, we find an excellent address, entitled " *The Education of the Heart,*" from the pen of *Hon. Schuyler Colfax,* Vice President of the United States, from which we make the following extract:

* * * * * * * * *

" Of all the earthly professions, I know of none more honorable, more useful, wider reaching in its influence, than the profession of the teacher. If faithful in this vocation, they have a right to claim, as JOHN HOWARD did, that their monument should be a sun-dial, not ceasing to be useful even after death. They are to so fill the fountains of the minds committed to their charge, that thence shall ever flow streams fertilizing and beneficent; and they are to be the exemplars for the young before them in healthful, moral influence, which is the foundation of character.

" As no one is fit to be an officer in war who has not heroic blood in his veins, or to be an artist who has no æsthetic taste, or to be a poet who does not understand the power of rhythm or meter, or to be a historian or a statesman without a broad and comprehensive mind, so no one should be a teacher who has not a heart full of love for the profession, and an energy and enthusiasm willing joyously to confront all its responsiblilties. It requires great patience, untiring industry, abounding kindness pure unselfishness, and fidelity to duty and principle. And when happily combined, success is absolutely assured.

" And first let me say, as children resemble their parents in feature, so will they resemble in character the teacher who trains their youthful years. If that teacher has an excess of the gall of bitterness instead of the milk of human kindness, its daily exhibition will assist in the development of the evil side of all who witness it. But if, on the contrary, he or she bring sunshine into the room when they enter — diffuses happiness, by genial conduct, on all around them — plays on the heart-strings of their pupils by the mystic power of love -- the very atmosphere they thus create will be warm with affection and trusting confidence; and that better nature which is ever struggling in us for the mastery over evil, will be strengthened and developed into an activity which will give it healthful power for all after life.

" It is for this reason the teacher should ever be just what he would have his pupils become, that they may learn by the precept of *example,* as well as by the precept of *instruction.* He should find the way to the heart of every one within his circle, and lead him thereby into the walks of knowledge and virtue, not *driving* by will but *attracting* by love; and, if he searches faithfully, he will find the heart of the most wayward. It may be overlaid with temper, selfishness, even with wickedness; but it can be, it *must* be, reached and touched.

" The teacher, too, should be an exemplar in punctuality, order and discipline, for in all these his pupils will copy him. He can only *obtain* obedience by himself obeying the laws he is to enforce. A minister who does not practice what he preaches will find that his most earnest exhortations fall heedless on leaden ears; and children of both a smaller and larger growth quickly detect similar inconsistencies. Whoever would rightly guide youthful footsteps must lead correctly himself; and one of our humorous writers has compressed a whole volume into a sentence, when he says, " To train up a child in the way he should go, *walk in it yourself.*"

" Finally, let the teacher, recognizing the true nobility and the far-reaching influence of his profession, stretching beyond mature years, or middle age, or even the last of earth, and beyond the stars to a deathless eternity, pursue his daily duties with ardor, with earnestness of purpose, with tireless energy. And let him feel that as a State is honored by its worthiest sons — as Kentucky enshrines the name of her CLAY, and Tennessee her JACKSON, and Massachusetts her ADAMS, WEBSTER and EVERETT, and Rhode Island her ROGER WILLIAMS, and Pennsylvania her FRANKLIN, and Illinois her LINCOLN, and New York and Virginia their scores of illustrious sons — so will his pupils rise up to honor him if he so trains them as to be worthy of their honor. Success *will* be his if he but deserves it. GOV. BOUTWELL, who added to his fame as chief magistrate of Massachusetts by gracing for years the superintendency of her unrivalled educational system, said truly and tersely, " Those who succeed are the men who believe they can succeed; and those who fail are those to whom success would have been a surprise." — *Normal, Ill.*

The Rewards of the Teacher.

THE SHADY SIDE.

Perhaps it is no more than fair to publish, in connection with the preceding article, the comments thereon by the Editor of *The Chicagoan.*

" Now, this is all very fine, and perhaps in the abstract true. But if we look at the veritable relation of our teachers to society, we find that they occupy a very subordinate position. The teacher is, for the most part, simply a servant, who, in a social point of view, stands next above the family nurse. The great

body of our teachers are almost shut out from "society." The groom who drives Madam out for a ride, and sits on the top of the carriage waiting for her to come out of the theatre or the church, is neatly dressed; but the humble teacher who helps Edgar through his Algebra and Greek, wears a threadbare coat all his life. He has spent the years of early manhood in study, He can tell Edgar all about MOSES, DAVID, PAUL, HOMER, PLATO, DEMOSTHENES, CÆSAR, HERACLITUS and CICERO; and can even inspire him with admiration for the songs of SOLOMON. Yet, with all his learning and his faithfulness in the most honorable of earthly professions, he is always out at the elbows, and is not half as well fed or paid as Madam's milliner. If he happens to be a professor in a college, his prospects are a little brighter, but even then, unless he acquires fame in some other walk besides that of teaching, his reward is usually that good old cheap affair that any body can throw in his face — the reward of well-doing.

"Take the teachers of our public schools in this city, for example: As a class they are not clothed in purple and fine linen, and are seldom seen in "society," though a more laborious, deserving class of workers is seldom to be found. Coming to the "rewards," what have they beyond their meagre pay? What teacher ever worked hard enough, in this noble enterprise, to have a school-house named after him or her? Is there a street in Chicago named in honor of any of the worthy teachers who have for thirty years been laboring, with might and main, in this noble profession? Is there a statue, or even a bust of any of these noble teachers to be found in our library or in any of our public buildings or school houses? Mr. COLFAX' address shows how much easier it was for him to remember Mr. BOUTWELL, the *Governor*, of Massachusetts, than to even mention HORACE MANN or MARK HOPKINS, eminent *Teachers* of that Commonwealth.

"The fact is, the nobility of teaching is a good subject for declamation; but let no young man or woman be deceived thereby. However noble it may be intrinsically, it is practically the most laborious and thankless of all professions, and is not as apt to lead to wealth, or what the world calls honor, or even to "society," as the business of selling peanuts or popcorn." —*Ib.*

What Every Young Man Should Do.

1. Every young man should make the most of himself, intellectually, morally, socially, and physically.

2. He should depend on his own efforts to accomplish these results.

3. He should be willing to take advice from those competent to give it, and to follow such advice, unless his own judgment or convictions, properly founded, should otherwise direct.

4. If he is unfortunate enough to have a rich and indulgent father, he must do the best he can under the circumstances, which will be to conduct himself very much as though he had not that obstacle to overcome.

5. He should remember that young men, if they live, grow old, and that the habits of youth are oftener than otherwise perpetuated in the mature man; Knowing this fact he should govern himself accordingly.

6. He should never be discouraged by small beginnings, but remember that nearly all great results have been brought out from apparently slight causes.

7. He should never, under any circumstances, be idle. If he cannot find the employment he prefers, let him come as near his desires as possible, he will thus reach the object of his ambition.

8. All young men have "inalienable rights," among which none is greater or more assured than the privilege to be "somebody."—*Exchange.*

Children's Selfishness.

A love of property is generally considered so harmless in a child that it is encouraged rather than controlled. But surely it would be wiser, as well as more in accordance with truth, to bring up a child with the idea that almost all that it enjoys is lent or given to it by others, and that very little is really its own. Out of that little, not out of other people's property, should come the gifts of the child; the constant sharing with others of all which it most enjoys, not being enforced as a painful duty, but permitted as a privilege, without which no good thing would be either truly good or sweet.

There are parents who conscientiously make their children always pick off a little crumb from their cake for the mother, the nurse, or perhaps the elder sister, who has conscientiously received the crumb into their mouths with many grimaces, indicating the immense value and magnitude of the gift, while the little hero who has conferred this vast benefit sits down with satisfaction and gobbles up his huge slice of cake. This is considered to be making the child generous; but alas! how little is this generosity like that which will be required of him afterwards, perhaps at some heart-rending sacrifice, before he can be a truly generous man.

I know of nothing more likely to produce the effect desired with regard to property than the making of an equal distribution, wherever this can be done. The child, I think, should give as much as he takes himself, just as we are required to do in after-life by good manners and good feeling. And here would be another useful lesson, that of teaching the child to share the common lot without complaining, than which there are few lessons more desirable to be learned in early life, few more difficult to learn for the first time in mature age.—*Harper's Weekly.*

Permanent Teachers. (1)

In nearly one-half of our schools, teachers are changed twice a year. This glaring evil of perpetual change claims special attention. In chemistry, in the arts and agriculture, experiments, however expensive, are often necessary and useful. Persevering trials and repeated failures usually precede, and sometimes suggest valuable inventions. But for all experimenting, the most needless, costly, and fruitless, and yet the most common, is the practice of "placing a new hand at the wheel" annually, or even twice a year, in our school-houses. When passing Hurl Gate in a storm, some weeks since, I observed how much the apprehensions of passengers were quieted by the simple statement "Our good captain has run safely on the Sound for forty years." The assurance that an experienced hand guided the helm at once inspired hope and confidence. But if false economy, prejudice, caprice, or favoritism, placed new captains or pilots twice a year on our noble "Sound steamers," how soon would they be condemned and forsaken by an indignant public! And yet not a few committees in our districts, from mere whim or pique, or more often from open nepotism, practice a system of change in teachers which introduces confusion, waste, weakness, discouragement, and often retrogression, in the place of system, economy, efficiency, and progress. This is the prolific source of most serious defects now hindering the usefulness of our schools. True, there has been an encouraging advance for some years in respect to the permanency of teachers. But my own observation convinces me that there is a pressing need of far greater progress in this direction.

There are still many towns which retain the old system of semi-annual changes, male teachers in the winter and female in the summer, and even in each successive summer and winter the same teachers are too seldom reemployed. In such places, I find

(1) Changing, perhaps *twice* a year into *once*, this article applies equally to Canada as to Connecticut; therefore would we call the *earnest attention* of parents, in general, and School Commissioners and Trustees, in particular, to its vital importance.

the schools in the lowest condition, with no uniform methods, or well-arranged plan consistently and persistenly sustained. This system, or rather want of system, is to so great an extent, sacrificing the benefit of experience, and hindering thoroughness of instruction, that the subject demands the consideration of the people. In no other way can the genuine improvement of our schools be so easily and economically secured, as by employing better qualified and more permanent teachers.

It often requires nearly a term to initiate a new teacher into the policy of the school visitors who officially direct his course. He cannot perhaps in less time correct the mistakes and bad habits formed under his predecessor, and get his own plans and processes fully into operation, and the result is very likely to be neglect of system. The conviction that there will not be time to carry out any settled policy, and that, if commenced, it may be wholly counteracted by an incompetent successor, discourages the attempt. It has long been a conceded point among successful teachers that a second term in the same school is worth at least one-third more than the first. The school-room is the most unfortunate place for these experiments which "rotation in office" must here involve—entailing a dead loss of more than thirty per cent of the expenditure made for schools.

A teacher must learn the character of his pupils, intellectual and moral, before be can successfully teach them. He must make each child a study, and discover both the faults and virtues of his heart, and the difficult and easy processes of his mind. He must avail himself of every means to find out his entire character, as a discriminating physician watches closely all the symptoms of his patient, in order to understand what ought to be done for him. Until he knows the peculiarities, the attainments and wants of each pupil, he cannot adapt himself to them, and must work in the dark. There is a great variety of methods of illustrating and simplifying each branch and lesson, and only the teacher who understands both his profession and the character of his pupils can adapt these countless varieties of methods to the endless diversities of mind and character. The difficulty of understanding little children is exceeded only by its importance. The internal history of a child is veiled from us, because it no longer lies within the view of our present consciousness and experience. In our eagerness to "put away childish things," we too soon forget how we "spake as a child," "understood as a child," and "thought as a child." But putting himself in the place of his pupil, and becoming literally childlike, renewing his youth, and by the help of imagination, where memory fails, reproducing his own early feelings, impressions, difficulties, and varying experience, the teacher can best prepare himself to appreciate the instinctive tendencies, danger, weaknesses, wants, and primal aspirations of the juvenile mind and heart. He who can thus come down where children are, and be a child again, instead of growing old in heart with advancing years, will ever maintain that rare grace and beautiful ornament of age, the vernal freshness of youthful feeling. Such vivid reminiscences of childhood, and such knowledge of the juvenile character, bring the teacher into close contact and conscious sympathy with his pupils, open their hearts, secure their confidence, and win their love.

The man who retains a school for a single term only has little opportunity or motive to acquire this accurate discernment of character, this sympathy and sensibility to penetrate the youthful spirit and arouse its dormant faculties, this keen and practised eye to discern what motives to urge upon this pupil, what passions to repress in that, what habits to check in one, what good tendencies to foster in another, what weak points to strengthen here, and what peculiar gifts to develop there. The teacher must thoroughly understand his pupils before he can discover, in each particular case, the best methods to subdue the obstinate, to stimulate the indolent, to arouse the stupid, to make the careless hunger and thirst for knowledge, and to win the confidence and affections of all. Surely, this is a great work, in which the most exalted talent, enriched by the treasures of science and *experience*, will find ample employment for all their resources. However large the school, the teacher should regard an intimate knowledge of each pupil as essential to his thorough instruction. This knowledge cannot be obtained intuitively, nor by the facile process of phrenology. It is the result of patient and long-continued observation of individual children, and it is well worth all the labor it costs. This most valuable acquisition belongs only to the permanent teacher. It is his most available capital. Some days usually pass before a stranger in the school-room learns the names and former classification of his pupils. Weeks or months are gone before he is fully prepared to judge of the propriety of this classification; and then so little time of his short term remains that it seems inexpedient to introduce any changes, however needful.

How different is the position of the permanent teacher on reopening his school! He is cordially greeted and welcomed as a friend and benefactor, by the pupils, whose respect and love he has won. He knows every class and every scholar. On the first day, the school is in working order. The teacher and scholars alike enter upon the new term without any abatement of interest, and at the outset he is able to suit his modes of instruction to the character and standing of each pupil. The teacher, for the time being, stands in the place of the parent. And what results would be realized in the family, were a new stepfather or stepmother to be semi-annually invested with parental authority? The picture of anarchy and alienation which this question suggests needs not here be drawn. The evil is hardly less serious in the school than it would be in the household. What would be the effect of a semi-annual change of clerks and book keepers in our mercantile establishments, or of agents and overseers in our manufactories, or of financiers in our banks, or of masters of our merchantmen, or commanders of our iron-clads, or of doctors in our families, or of pastors in our parishes? Shrewd men never make such blunders in business matters, although such frequent changes would be less disastrous to worldly enterprises than they are to the best interests of school. Let us not practically deny the value of experience in the most vital interest committed to our charge, the training of our children.—B. G. NORTHROP, *Sec'y State Board of Education, Ct.*

The Most Precious Possession.

I envy no quality of mind or intellect in others, be it genius, power, wit, or fancy; but if I could choose what would be most delightful, and I believe most useful to me, I should prefer a firm religious belief to every other blessing; for it makes life a discipline of goodness; creates new hopes when all earthly hopes vanish; and throws over the decay, the destruction of existence, the most gorgeous of all lights; awakens life even in death, and from corruption and decay calls up beauty and divinity; makes an instrument of torture and shame the ladder of ascent to Paradise; and, far above all combinations of earthly hopes, calls up the most delightful visions of palms and amaranths, the gardens of the blessed, the security of everlasting joys, where the sensualist and sceptic view only gloom, decay, annihilation and despair. —SIR HUMPHREY DAVY.

The True Life.

The mere lapse of years is not life. To eat, and drink, and sleep; to be exposed to darkness and the light; to pace around the mill of habit; to turn the wheel of wealth; to make reason our book-keeper, and turn thought into an implement of trade,—this is not life. In all this, but a poor fraction of the consciousness of humanity is awakened; and the sanctities still slumber which make it most worth while to be.

Knowledge, truth, love, beauty, goodness, faith, alone give vitality to the mechanism of existence. The laugh of mirth which vibrates through the heart; the tears which freshen the dry wastes within; the music which brings childhood back; the

prayer that calls the future near; the doubt which makes us meditate; the death which startles us with mystery; the hardships that force us to struggle; the anxiety that ends in trust,—these are the true nourishments of our natural being.

—*Exchange.*

Enduring Influence of Human Actions.

We see not in this life the end of human actions. Their influence never dies. In ever-widening circles it reaches beyond the grave. Death removes us from this to an eternal world; time determines what shall be our condition in that world. Every morning, when we go forth, we lay the moulding hand to our destiny; and every evening, when we have done, we have left a deathless impression upon our character. We touch not a wire but vibrates in eternity,—we breathe not a thought, but reports at the Throne of God. Let youth especially think of these things; and let every one remember that, in this world, where character is in its formation state, it is a serious thing to think, to speak, to act.—*Ib.*

Why I Want the Boys to Learn Farming.

BY HORACE GREELEY.

Every pursuit or calling that ministers to the sustenance, comfort, or enlightenment of mankind is honorable and laudable. That is a narrow and essentially false conception which regards the farmer as more a benefactor than a beneficiary, and stigmatizes as drones and cormorants all who do not directly contribute to the production and increase of material wealth. The upright, able lawyer; the studious, skilful physician; the pious, loving clergyman, are workingmen, as truly and quite as nobly as though they were wood-choppers or bricklayers. He who, by whatever means, helps to diminish the fearful aggregate of ignorance, sin, and suffering in the world, and diffuse instead knowledge, virtue, and happines, is worthy of all honor, and far from me be the wish to discourage and degrade him. And yet I hold it the duty of every father to look well to the physical and industrial training of his sons and daughters—to see that each of them is early inured to some form of manual labor, and thoroughly trained to efficiency in some pursuit which ministers directly to the material or physical needs of mankind. My reasons for this conviction are summed up as follows:

I. The demand for intellectual labor or its products, and even for mercantile capacity, is exceedingly capricious. In a season of commercial prosperity, a great city affords employment to thousands as clerks, book-keepers, teachers of music, languages, etc., etc., who will nearly all be left high and dry by the ebb of the tide. War, pestilence, a bad harvest, a business revulsion, throws them suddenly out of employment, and no merit or excellence on their part can avert the catastrophe. I would have every one so armed and equipped for the battle of life that, if suddenly unhorsed, he can fight on efficiently and undismayedly on foot.

II. The professions are fearfully overcrowded. A Western village is half peopled by doctors and lawyers, who have rushed in ahead of the expected flood of immigration. Like miners in the Sierra Nevada or Rocky Mountains, they have severally staked out their claims, and are waiting for others to come in and help to develop and work them to mutual profit. But "while the grass grows, the steed starves." Whatever may be their fortune ten or twenty years hence—and events are constantly interposing to blast their sanguine hopes—doctors, lawyers, are often winning but a meagre, precarious support for the present. "I cannot dig; to beg I am ashamed," is the plaint which many would utter if they could afford to be frank and outspoken. Thousands suffer and stagger on, oppressed by want and ever-increasing debt, who would gladly take refuge in productive industry, if they had been trained to familiarity with pitchforks and plough-handles. They would outgrow their present embarrassments if it were not for the *new* doctors and lawyers, annually ground out to compete with them for practice and whose training is as helplessly one-sided as their own. I would qualify the professional men who shall henceforth be trained for a broader and more assured usefulness than that of their elder brethren.

III. New-York City swarms with hungry, needy, shivering, cowering, cringing fellow-mortals, all in eager, imploring, hopeless quest of "something to do." To the reproach of what passes for education, I must say that a majority of these have had considerable money spent in schooling them for lives of usefulness. They are qualified (I presume) to keep books, or copy manuscripts, or teach languages, or act as governesses, or follow some other of the frightfully over-stocked vocations. But when I say to one of them, "The work you seek is positively not to be had, since ten want to do it where one wants it done; you must strike off into the broad, free country, and ask farmer after farmer to give you work till you find it," the general response, "I know nothing of farming," strikes on my ear like a knell. Even at seasons when the farmers were intensely hurried by their summer harvest, and ready to pay largely for any help that was not hindrance, I have known our city to be thronged with weary, sad petitioners for "something to do." If our current education were not a plunder or a fraud, this could not be.

I live when I can in the country, though most of my sleeping and nearly all my waking hours are given to work which calls me to the city. My neighbors are mainly farmers, generally in fair circumstances, whose children are fairly educated, or may be if they will. I regret to say that a majority of them prefer not to follow their father's vocation, but want to live by trade, by office, or something else than farming. And the reason to my mind, is clear: *their education and their whole intellectual culture lead away from the farm.* Their school-books contain nothing calculated to make them love agriculture or qualify them to excel in it; their fireside reading is not of chemistry, geology, and the related sciences, but of knights and fairies, troubadours and tournaments—in short, all things calculated to make them detest farming as a coarse, plodding, hum-drum pursuit, fit only for inveterate dunces and illiterate boors. I protest against this as false, misleading, pernicious, and demand an education and a literature which shall win our farmers' sons to prize and honor the calling of their fathers.

A political economist has observed that labor, unless used at the moment of production, is lost forever. In most vocations, it is impossible to produce beyond the day's needs. The doctor can only cure diseases as they manifest themselves; the best lawyer cannot anticipate next year's legal business; the carpenter and mason cannot build houses except as they are wanted. The farmer, on the contrary, may grow corn or cattle, flax, wool, or cotton in excess of the current demand, and store it against the time of need. Better still: he may drain, and subsoil, and fertilize; may plant trees, and graft, and prune, so as to double his product in the future by a judicious expenditure of effort in the present. If a hundred thousand additional lawyers and doctors were let loose upon the community, I do not feel sure that the net result would be more justice or less disease and death, while I am quite sure that the national wealth would not be increased thereby; but a hundred thousand enlightened, efficient farmers added to those we already have could hardly fail to add one hundred millions per annum to the property which shall be the heritage or our children.

My contrymen! let us each do his best to increase the proportion of useful workers to pestilent idlers in the community. Nay, more; let us try to increase the proportion of producers to exchangers or distributors of wealth. Fences, and padlocks, and policemen, and revenue officers may be necessities of our present condition—I presume them to be so; but we might have our country so well fenced, and padlocked, and policed that we should

all starve to death. There is no shadow of danger that too few will seek to live by law, physic, trade, etc., etc., while there is great danger that trade and the professions will be overcrowded, to the neglect and detriment of productive industry. Let us face the foe that menaces our position, and defeat him if we can.

—*Hearth and Home.*

LITERATURE.

POETRY.

(Written for *The Journal of Education.*)

THE FINDING OF CHRIST IN THE TEMPLE.

By Mrs. Leprohon.

In all its gorgeous splendour the Temple proudly rose,
A source of joy to Israel—of envy to her foes—
Its altars bright with gilding, odorous with rare perfumes,
Rich with the costly fabrics of far famed Tyrian looms.
Yet none gazed on its glories though filled the holy place
With high priests and with Doctors, and the Levite's favoured race,
Old men whose lives pure, blameless, had been passed within those walls,
Whose thoughts had seldom wandered beyond its outer halls.

And there thronged stately Pharisees, skilled in deceptive arts,
Self righteous in their looks and tones, self righteous in their hearts,
Their broad phylacteries round their brows, worn with such boastful pride,
These were not men to learn from a Saviour crucified!
All stood in compact circle, listening in wond'ring awe
To one more deeply learnéd than the Doctors of the law,
Who every doubt refuted—the darkest point made bright,
With a more than earthly wisdom, a more than earthly light.

And He, on whose strange eloquence that crowd suspended hung—
Who words of abstruse science uttered with that silver tongue,
Was a boy of but twelve summers with golden curling hair,
Worn, parted, as by Nazarenes, adown his forehead fair.
His eyes were strangely luminous as with an inward light,
Though the face was that of childhood—his skin its pearly white—
T'was but by his deep Wisdom that He made the power felt
Of the God-head's full perfection that there within Him dwelt.

But softly stealing towards Him see a matron, gentle, fair—
With the same deep orbs, calm, holy,—the same sun-tinted hair,—
Followed by a man, poor, aged, yet of reverend, tranquil mien;
In their garments, threadbare, worn, their humble rank was seen.
A hard task t'was for Mary to speak out before that crowd
Of priests and doctors hoary, Levites, Scribes, Pharisees proud,
But at length she softly questioned, as courage borrowing,
"Why hast thou done so to us Son? We have sought thee sorrowing."

Then the boy-God gently answered in tone with music fraught,
As he looked towards his young mother; "Why have you me thus sought?
"Know you not?"—and look more solemn to lips and brow were given,—
"I must be about the business of my Father who's in Heaven!"
Then rising He went out with them and down the temple hill—
Journeyed into Nazareth and was subject to their will,
He—Saviour and Creator—and the Gospel tells us then,
"He grew in grace and wisdom before angels also men."

Watt Institution and School of Arts.

Some kind, unknown friend sent us the Edinburgh Daily Review of December 1, 1868, containing an abstract of a lecture on "The Study of French," delivered by Monsieur C. A. Schneider, M. R. C. P., before the students of the above named institution,—Dr. Donaldson of the High School occupying the Chair. The following is the address:

STUDY OF FRENCH AN AID TO MENTAL CULTURE.

It is acknowledged by all those most competent to form and to express an opinion on the subject, that there is no means so well adapted as the study of a new language to secure a thorough mental culture. Viewed simply in this light, the study of French has strong claims on your regard. It is not alone that the analysis of the grammatical structure and idiomatic expressions of a foreign language affords the best possible whetstone on which to sharpen the mental faculties; nor even this other fact, that translating from another language is perhaps the best means of enabling us thoroughly to master our own; but, in addition to, and beyond all that, the knowledge of a new language brings us into contact with the mind of another nation; it withdraws us from that narrow and contracted domain of thought within which we would otherwise be confined; it helps to free us from those partial and one-sided ideas and theories by which we are so often sadly hampered, and the real truth of things so much obscured or distorted — in a word, every language that a man learns multiplies his individual nature, and brings himself one step nearer to the general collective mind of man.

ADAPTABILITY OF FRENCH AS A MEANS OF COMMUNICATION.

The utility of the French language as a branch of education is incontestable. If the industry, the commerce, the navigation of the Anglo-Saxon race have established the language of England among vast populations in distant colonies, so numerous throughout the world that on them the sun never sets, various causes, equally great in their effects, have given to the language of a country within sight of the English shores an extension which has everywhere kept pace with the progress of refined civilization. Voltaire tells us, that of all the modern languages, the French ought to be the most generally spoken, for it is the one most fitted for conversation. In fact, it is distinguished by the clearness, the order, the precision, and purity of its phraseology. It is the language of princes, of their ambassadors, of the great, and of all men throughout Europe whose education has been cultivated with care. Travel where you may out of France, and you will find the French language used for the mutual interchange of thought among well-educated foreigners. To them French is a universal communication, and, in matters of education, they appear to consider it as next in importance to their vernacular tongue. It is not too much to say that French is the language of the Continent: it is the language most commonly used and most generally understood.

ADVANTAGES OF FRENCH.

In travelling, the most efficacious passport is to speak fluently the language of that country which we may happen to visit; we can then act in a direct manner on the minds of those who surround us, and reap the full advantage from the manifold opportunities of observation and improvement which foreign travel affords.

CHARACTERISTICS OF THE LANGUAGE.

The nature of the French language has been most conducive to the useful purpose of its adoption. Its chief characters are precision and clearness; and these qualities do not in any way check the freedom of that copious phraseology required in familiar and intimate conversation. With regard to its vocabulary and to certain grammatical forms, the French language is chiefly derived from the Latin tongue.

A RETROSPECTIVE VIEW.

No vestiges of the language spoken by the French people in those dark ages when the kingdom of France first took its rise have been obtained. The earliest national records which bear undoubted authority are dated from the subsequent period of Charlemagne, the imperial successor of the decayed Merovingians. Under him France made rapid progress in civilization. He founded public schools, which became the precursors of the University of Paris, and he was the first monarch of France who attempted to organize for the people a system of secular education based on Christian principles.

LATIN AN AID TO THE STUDY OF FRENCH.

A pupil who learns Latin, independent of that thorough drilling of the intellect which results from the labour of mastering its difficult inflections, soon becomes possessed of a vocabulary which serves him for the living languages of Europe. After learning the syntax of the Latin grammar, the student of French descends, as it were, from higher and more difficult constructions, to a simple and easy one. Having pointed out the value of a knowledge of the derivation of words, he proceeded to describe the effect which the Norman rule had upon the language of this country. For a time two languages were spoken in Great Britain — the Norman-French by the upper classes, and the Saxon tongue by the peasantry. In this manner a large number of French words were imported into the language, and the meaning of which could only be understood by an etymological knowledge of their French origin.

USE OF FRENCH IN THE COMMERCIAL WORLD.

In regard to commerce, I need only remind you that French is the language of the continental world; and so much and so justly is the knowledge of French regarded by some mercantile men, that any one absolutely unacquainted with the language would find it difficult to obtain an introduction into their counting-houses. The same language is indispensable if you aspire to a clerkship in a Government office. To the skilled mechanic, also, I should think the language most valuable, affording, as it does, a key not only to a vast storehouse of mechanical and mathematical knowledge, but also to all those mechanical inventions that French ingenuity is daily bringing forth.

FRENCH LITERATURE.

I have scarcely time do no more than allude to what I would be disposed to regard as the strongest stimulus to the student of French—I mean the exceeding value of the literature to which the knowledge of French is the key. It is true that many of those works have been translated into your own language, but allow me to tell you that almost every translation, however good it may be, may be compared to a carpet turned wrong side upwards, if not worse. Before coming into England, I read a good translation of Walter Scott's novels, with which I was much pleased; but reading them a second time in English gave me far more pleasure. And yet the works of Walter Scott are not difficult to translate. In every department of literature, science, and philosophy, the student of French will here find authors who will bear honourable comparison with those of any age or country. I need only refer to the names of Molière, Corneille, Racine, Fénélon, Massillon, Bossuet, Pascal, La Place, Voltaire, d'Alembert, Cousin, Arago, Lamartine, Châteaubriand, Victor Hugo, &c., and a host of others as celebrated, whom even to name would be tedious. The lecturer then read various extracts from some of the more distinguished French writers, both in prose and verse, translating each piece as he proceeded, to the great gratification of the audience. In conclusion, having offered a few words of advice to those about to begin the study of the French language he said—My last words are an earnest appeal to those young students among my auditory. An opportunity is now offered to you to propagate the good of this noble institution, and to disseminate afar its many advantages. Let us unite our energies for the prosperity of the School of Arts. Let us anticipate the day when with grateful recollection you may acknowledge the blessings of the education given and received within these walls.

On the motion of the CHAIRMAN, a hearty vote of thanks was awarded to Monsieur Schneider for his excellent lecture.

French Canadian Poets.

Lecture by the REV. ÆNEAS MCDONELL DAWSON on the Poets of Canada.

(Concluded from our last.)

This audience will not I am sure, be displeased to hear something about those amongst our Poets who have written in French and who are for the most part, of French Canadian origin. It is, indeed, time that after hearing so much about English Poets, you should be invited to listen to some discourse about those sons of Genius and the Muses who have done honor to your own people and tongue,—have done so much by their highly finished compositions, to preserve the sweet and musical language of old France. You will allow me to dispense with any fixed order, (a privilege which I claimed in regard to the English Poets) in enumerating the authors of French Poems who have won for themselves a name in these Provinces. The gift of Genius, it is scarcely necessary to observe, is conferred without reference to nationality. But as regards Literature and Literary pursuits, the French Canadian people have greater difficulties to contend with than their fellow-countrymen of British origin. The chief of these, perhaps, is the circumstance that the ranks of their literary men are not recruited from the Parent Land, whilst British men of letters who have won honors at the Schools and Universities of the United Kingdom, or have attained there to more or less literary distinction, are constantly taking up their abode in Canada. It is, besides, deserving of remark, that the French language, however beautiful when wielded by an accomplished Poet, presents difficulties to the aspiring Bard that are unknown to the composer of English verse. Both langnages, indeed, must be handled by a master-hand when there is question of rising to Poetic excellence. But of the two, considered as weapons at the disposal of the Poet, the French is undoubtedly the more difficult. Honor then to the Poets of Canadian origin who have cultivated and enriched the language of their race! In recounting them, we wonder not that they are comparatively so few, but rather that their numbers are so much greater than could well be hoped for.

As I have not decided on any order whether alphabetical or according to merit or seniority, you will not conclude that I consider Mr. BENJAMIN SULTE as positively the most meritorious of our French Canadian Poets, nor yet that I set him down as in any respect, inferior, and so commence at the foot of the ladder. His name and age suggest that I should present him to you, and I do so with no ordinary pleasure, as the BENJAMIN of the Poet family.

Born at Three Rivers in 1841, he was early distinguished by his taste for letters. Whilst still a resident of his native city, he laboured assiduously to promote the elevation of Literature amongst his fellow-countrymen. With a view to this noble end, he founded a club known as '*The Three Rivers Literary Institute.*' He became, its first president, and, it flourished under his fostering care. I am not aware that his poems have appeared as yet, in a collected form, but, many elegant compositions from his pen have figured most favorably in the periodicals of the time;—such as *the Revue Canadienne*, the *Echo du Cabinet de Lecture Paroissiale*, and the *Journal de l'Instruction Publique*. The critics, among the rest, HECTOR FABRE, highly eulogize his style, describing it as at once simple and graceful, vigorous and perspicuous. All agree in foretelling that he will occupy one day, the highest rank among the gifted sons of Genius. The Literary men of Ottawa ratified this verdict and marked their appreciation of the success which he has already achieved as a Poet, by inviting him to a public banquet at which the Mayor of the City filled the chair, on occasion of his departure for Montreal where he was asked to accept the office of Secretary to an importaut manufacturing company. This need not, and we may rely upon it, will not, sever him from the society of the Muses.

I shall not pretend to say which of all Mr. Sulte's numerous compositions is the best,—his master-piece. I would rather refer to a few pieces selected at random. In his "*Canada Français à l'Angleterre,*" —a Poem in which—it were hard to say whether patriotic indignation combined with the most generous sentiments, or elegant poetic expression, abound the more.

As I must quote something, according to my programme, and still more, according to my inclination when there is question of Mr. Sulte's compositions, I shall ask you to listen for a moment, whilst I read to you that amusing popular ballad:

LA BELLE MEUNIÈRE.

—Par les chemins, qui donc, ma belle,
Vous attire si bon matin?—
Et rougissant la jouvencelle
Dit: "Seigneur, je vais au moulin."

—Le cristal bleu de la rivière
A bien moins de limpidité
Que ton joyeux regard, ma chère.
—"Monseigneur est plein de bonté."

—Quel frais minois! quel port de reine!
Approche, enfant: vrai! tu me plais!
A tant de grâce souveraine
Il faut pour logis un palais.

Monte en croupe et sois ma maîtresse,
Viens! je suis chevalier-baron....
....Mais pourquoi cet air de tristesse
Et cet incarnat sur ton front?

Ne fuyez pas, mademoiselle,
Vous aurez mon titre et mon cœur;
Je vous conduis à la chapelle.
—"Merci, c'est beaucoup trop d'honneur."

—Qui donc êtes-vous, ma charmante,
Pour refuser un chevalier?
Quelque dame riche et puissante?
—"Je suis la fille du meunier."

—Quoi, du meunier!—Dieu me pardonne!
J'en suis marri pour ton bonheur:
Je ne puis t'épouser, ma bonne.
—"Qui vous a demandé, Seigneur?"

At the risk of changing your mirth to sadness, I shall now read a short Poem of a quite different character,—one that is more in keep-

ing with Mr. Sulte's cast of mind. Although not one of his greatest poems, it shews admirably that he is eminently serious, pensive and inclined to melancholy.

LUCIE.

Je la voyais dans mon enfance,
La blonde enfant aux grands yeux bleus,
Mêlée avec insouciance
Aux bruyants éclats de nos jeux.
" Sa rêverie est singulière,"
Disaient les gens des alentours,
" Pourtant elle est douce et peu fière,
" Lucie, où donc sont tes amours ?"

Dans sa jeunesse radieuse
Je la revis à dix-huit ans,
Bonne, indulgente et gracieuse,
Mais le désespoir des amants !
Son front où rayonne une flamme,
Pensif est le même toujours.
Qui donc préoccupe ton âme ?
Lucie, où donc sont tes amours ?

Pour elle les plaisirs du monde
Remplissent en vain la cité ;
Partout où la misère gronde,
C'est l'ange de la charité !
On dirait que la Providence
Sans elle ne suivrait son cours,
Tant elle est chère à l'indigence....
Lucie, as-tu là tes amours ?

Belle à voiler un marbre antique,
Esprit calme et délicieux,
Couverte d'un reflet mystique,
Qui rêve d'elle songe aux cieux....
Hier, passant au cimetière,
J'entends prier, sitôt j'accours,
Je vois des fleurs sur une bière :
Lucie est avec ses amours.

Louis Honoré Fréchette.—A very young Poet also. He was born at Lévis in 1839. Canada claims him not only for his birth, but also on account of his education. He studied successively at the Seminary of Quebec, St. Ann's College and Nicolet. His profession is that of a lawyer. He was called to the bar of Canada East in 1864. Mr. Fréchette is one of the few who can claim to be a dramatic Poet. Not only has he contributed many lyrical pieces of great merit to the "*Foyer Canadien*" and the "*Soirées Canadiennes*", he has also attempted, and not without success, a dramatic composition. His drama of "*Félix Poutré ou l'échappé de la Potence, Episode de la Révolution de* 1838," has been often publicly performed at Montreal and Quebec. No doubt the subject of this play was highly popular among the French Canadians. But, it could not, if devoid of poetical merit, have appeared so frequently on the stage. *Théodore Vibert* a French critic, in discussing Mr. Fréchette's merits, speaks of Canada as having " given birth to writers worthy in every way of (what he calls) its glorious metropolis," meaning, I suppose, the French Capital. He alludes, moreover, to Mr. Fréchette as " one among a hundred, who on account of his youth and genius, sheds on his Father land a gleam of his own glory." Mr. Fréchette no thanks to his former fellow citizens of either the commercial or the other capital, on whom he shed so much lustre, is now a citizen of Chicago.

Mr. Eustache Prud'homme, in the few pieces from his pen which I have had the good fortune to meet with, shews wonderful descriptive powers and the true feeling of a Poet. Some of his compositions and among the rest, "*Mon Village*" may be seen in the "*Revue Canadienne.*"

Mr. Edouard Sempé, a native of France, has contributed since he came to Canada, many highly meritorious Poems to the news papers and other more important periodicals. His *Cantate* in honor of the Prince of Wales does him much credit as a writer of verse. There is more, however, of the true spirit of Poesy in his sentimental and reflective pieces. His *Cimetière* is very fine.

You will allow me to quote two lines of this poem as a specimen of some very beautiful stanzas :

Que pour l'homme rêvant dans ces vastes ruines
L'Univers est petit et ses pompes mesquines !

There is much power of imagination in the following stanzas :

Toi, dont le char vainqueur, émule du tonnerre,
Sur des monceaux de corps a sillonné la terre,
Homicide géant, où sont tes fiers soldats ?
Comme un éclair, a fui ta gloire passagère,
Et tu dors sous un tertre, inutile poussière,
Malgré tes longs combats.

En vain sur tes débris, de pompeux mausolées
Elèvent jusqu'aux cieux leurs cimes désolées ;
Sans ranimer ta cendre ils disent ton orgueil ;
La mort te tient captif, sous la dalle glacée,
Et d'un nom qui n'est plus la splendeur effacée
Git au fond d'un cercueil.

Et la pourpre des rois et les lauriers du brave,
Et les haillons du pauvre et les fers de l'esclave,
Tout au sein du sépulcre un jour s'évanouit.
Telle, après avoir un instant battu la rive,
Dans le gouffre des mers la vague fugitive
Se plonge et s'engloutit.

Mr. Alfred Garneau must now be mentioned, not as some of you might suppose, on account of his Father's high name who as you are all aware, has won renown as the historian of Canada, but on account of his own merits as a Poet. Fabre, the rigid critic of Lower Canada, speaks of him as a *brilliant versifier*. This is great praise from a critic of confirmed habits, to a young Poet. May it encourage him to greater and more sustained efforts ! You will find that the critic was not too indulgent (what critic ever was ?) whenever it shall please you to read Mr. Garneau's poetical compositions in the periodicals of Quebec and Montreal. I cannot do more at present, than present to you a few lines from his "*Bon Pauvre*" which appeared in the "Foyer Canadien." You will like myself be at a loss to decide whether sound philosophy or true poetic expression abound the more :

.....

Non, jamais je ne dis une parole amère ;
Mon regard troublé par les pleurs,
Ne s'est jamais dressé contre la main sévère
Qui m'a brisé dans les douleurs.

O Christ ! devant ton front que les épines ceignent
Je bénis mon sort et ta loi.
N'as-tu pas dit : " Heureux celui dont les pieds saignent
" Sur les ronces derrière moi ?

" Il faut que l'homme souffre en son corps, en son âme ;
" Seule une larme est un trésor.
" Les pauvres brilleront au ciel comme une flamme,
" Et tiendront une palme d'or."

Tu comptes tous nos pas, nos peines infinies
Tu le dis, soudain je te crois....
Frappe donc, ô douleur ! redoublez, avanies,
Que je tombe sous votre poids !

Louis Joseph Cyprien Fiset holds a high place among Canadian Poets. At an early age, and whilst yet a student at Quebec his native city, he shewed a remarkable taste for literature, and gave proof by the excellence of his compositions, that he had become perfectly master of his mother tongue. He studied law with success, and became a Barrister. But his professional studies by no means deadened his poetic fire or lessened his liking for literary pursuits. Fabre gives him the praise of fascinating, imaginative power, delicate and graceful expression, elegant versification. Most of his Poems have appeared in the Literary periodicals of Quebec and Montreal. Such was his reputation as a Poet in the former city, that the high honor was done him of being requested to write the Ode of Welcome to the Prince of Wales, on occasion of the Royal Progress through Canada in 1860. It is superfluous to say that this composition by a Poet so highly distinguished, elicited an appropriate eulogium from the Youthful Prince, inspired, no doubt, by the able and learned mentors who surrounded him.

I must refrain from quoting from Mr. Fiset, and proceed to tell you someting about another eminent Poet of Lower Canada.

Mr Joseph Lenoir.—This eminent Canadian Poet whose too early death, all friends of the muses sincerely lamented, was born at St. Henry, Lower Canada, on the 25th September 1822. His death on

3rd September 1861 closed a brilliant, but unfortunately for his country and the cause of letters, a brief career. He studied law and became a Barrister. The severer study which his profession required, did not hinder him from cultivating that poetical genius, and it was of the highest order, of which he gave proof whilst yet at school. He wrote chiefly in "*L'Avenir*" and the "*Journal de l'Instruction Publique.*" Of the latter publication he was for some time assistant editor. Some of his poetical compositions have been selected for publication in the "*Répertoire National.*" Of these an oriental piece, "*Dayelle*", remarkable for its flowing lines, its eastern imagery and ardour; "*The Dying Huron to his Favorite Oak Tree,*" equally flowing, but wherein the Indian does not appear in his usual stoical character; his "*Genius of the Forests*" which combines boldness with elegance,—may be all safely mentioned, I conceive, as fair specimens of the productions of Mr. Lenoir's genius. His "*Fête du Peuple*" will always be read with pleasure in Canada. And they of foreign climes, who mayhap cannot admire its nationality which, however, it sets forth in a very amiable light, will be compelled to acknowledge its poetical merit and its truth of sentiment. This elegant composition pays well deserved homage to the Canadian people. Long may they retain the unsophisticated and amiable character which it so truly ascribes to them!

.....
.....
L'érable est sa couronne;
L'écharpe qu'il se donne,
Quoique noble, rayonne
Moins que sa gaité franche et ses regards sereins!

.....
.....
Cette bannière qui déploie
Nos couleurs sur l'or et la soie
N'est-elle pas bien belle à voir?
Dirait-on pas que cette brise
Qui fait ployer sa lance grise
Anime son beau castor noir!

Amis! j'ai vu de douces choses,
Des filles, des perles, des roses,
Mais pour se contenter, il faut
Voir ce navire aux pleines voiles,
Disant: "Je voguerai plus haut!"

Quand il a déroulé les plis de ses bannières,
Quand le parvis du temple a brui sous son pied,
Le peuple était sublime!... Oh! j'aime les prières
Et les chants de ce Temple où tout homme s'assied!

.....

Time will not admit of more quotations or a longer review. I must now in obedience to its demands, take leave of MR. LENOIR and proceed to make some mention of other distinguished Poets who have written in French. You will not be surprised to hear that I number among these sons of Canada who have done so much honor to their country, the HON. PIERRE J. O. CHAUVEAU, LL. D., &c. Although this gentleman may be said to have commenced his career as a Poet, and was first known as an author, by his poetical efforts, he has since become so eminent as a parliamentary orator and a statesman, that we can hardly think of him as a writer of verse. And yet, it is in this last capacity only that we can consider him here this evening, and offer him the well won meed of a passing eulogium. I cannot now, it is so late, enter upon a detailed review of Mr. Chauveau's poetical productions. Nor is it necessary that I should do so. His fellow country-men—the most competent judges,—have already pronounced their verdict. I need not say that it is a favorable one, and highly complimentary to his poetical genius. Many of his earlier Poems which appeared in the '*Canadian*,' and other publications, were republished in the 'Répertoire National' (1850),—an undoubted proof of the high appreciation in which they were held. Although an able prose writer, Mr. Chauveau has never ceased to contribute in verse to the peridiocals of the time. '*Le Castor*,' '*Le Canadien*,' '*Le Fantasque*,' '*La Revue Canadienne*,' '*Le Journal de l'Instruction Publique*' and '*Les Soirées Canadiennes*' have all been enriched by his compositions and have become monuments to his fame as a Poet, whilst they shew at the same time, how ably and how elegantly he could wield the powerful weapon of vigorous prose in the cause of his country and his country's Literature.

The Honble. Mr. Chauveau now for the third time, holds high office in the state, as Premier of Quebec, having previously been Solicitor-General for Lower Canada, and Provincial Secretary. I must now conclude, but not without expressing my sincere wish and earnest hope that neither his great honors and arduous labours in the State, nor his important and useful efforts in the cause of Education and the intellectual improvement of his fellow country-men, will ever hinder him from cultivating as he has hitherto so nobly and successfully done, the Society of the Muses.

I shall now invite you to consider the merits, as a Poet, of an author whose principal work is the History of Canada. You already divine that I allude to MR. F. X. GARNEAU. When I mention the History of Canada as the one great literary achievement of this eminent Canadian, I speak more according to the opinion generally prevalent in Canada, than my own judgment. This opinion is no doubt well founded, for it is entertained and expressed by the leading *Litterateurs* of the Country. But it must be acknowledged that the Canadian people, literary men and all, could not fail to be agreeably affected when they found that the tale of their earlier settlement and their more recent colonial existence could be handled by a man of such talent and high culture as Mr. Garneau, and that it came from his elegant and flowing pen—a work of such calibre and importance as to be dignified with the name of History. I am far from denying that it is a History. It is moreover, and surely justice demands this admission, a work which gives proof of wonderful ability as well as of untiring industry. But, it might have been the fruit of less exalted genius than that by which Mr. F. X. Garneau was distinguished. His early education, his travels, his conversations with some of the most eminent literary characters of Europe—with Campbell the Poet, Mrs. Gore, the Historian and Statist, McGregor, the patriotic Czartoriski, the Poet Niemcewicz,—his intimate relations above all, with the Patriot Statesman of Canada, Mr. Viger, who introduced him to the scientific world of the French Capital, together with superior talent and a taste for study, might alone have qualified him to become a writer of history. But none of these things,—not all of them combined could have enabled him to write so much as one of his many beautiful Poems. I ask no excuse therefore, when I claim Mr. F. X. Garneau as a Poet, and maintain that as the author of so many exquisite poetical compositions, he holds a far higher position than as a writer of history. Talent with labour and apportunity makes an Orator, an Essayist, a Historian. The Poet derives his inspirations from a higher source—from genius even, and if there be anything higher he can claim than this high gift, from that also.

Allow me now to give you an idea in a few words, of the opinion which eminent critics have expressed in regard to Mr. Garneau's efforts as a historian. I shall then impart to you my view of his poetical powers. The Rev. Abbé Casgrain alluding to his history says: "C'est dans un élan d'enthousiasme patriotique, de fierté nationale blessée qu'il a conçu la pensée de son livre, que sa vocation d'historien lui est apparue. Ce sentiment qui s'exhalait à mesure qu'il écrivait, a empreint son style d'une beauté mâle, d'une ardeur de conviction, d'une chaleur et d'une vivacité d'expression qui entraînent et passionnent,—surtout le lecteur Canadien. On sent partout que le frisson du patriotisme a passé sur ses pages."

The Count de Montalembert, himself so well known as an Orator, Essayist, Critic, Historian and Statesman, also speaking of Mr. Garneau's historical efforts admits that he was struck with admiration. "Je dirais volontiers, avec ce patriotique écrivain, "Que les Canadiens soient fidèles à eux-mêmes, et j'ajouterai qu'ils se consolent d'avoir été séparés par la fortune de la guerre de leur mère-patrie, en songeant que cette séparation leur a donné des libertés et des droits que la France n'a su ni pratiquer, ni conserver, ni regretter!" The country of which such a man as M. de Montalembert could thus speak is surely entitled to its place in history; and it is destined, no doubt, to fill a brighter page than it has been possible as yet to write.

I do not think that my judgment even as regards French Poetry, will be questioned when I pronounce Mr. Garneau the Lamartine of Canada. The same ardour, the same enthusiasm, the same vigour of thought and power of imagination characterize his compositions. His versification like Lamartine's, is bold, but like his also, correct, elegant and flowing. He has not written so much; and in this he has done well, and has left only Poems that do honor to his memory and will secure his fame. I shall not pretend to say which are his more excellent pieces. Such of his poetical works as I have seen, are in point of style beyond any criticism I might think of exercising. But the subjects of some must necessarily interest more than others, and readers generally will make their choice, not rigidly according to merit, but rather according to the memories and associations that will be revived in their minds. The "*Rêve du Soldat*" is a very fine historical Poem; "*La Presse,*" a politico-philosophical piece, is nothwithstanding its subject, full of grand poetical ideas and splendid imagery; "*Les Oiseaux Blancs*" is replete with fine feeling expressed as a Poet only can express it. "*Les Exilés*" in addition to being

highly poetical and patriotic, shews how the author could appreciate the love of country; "*L'hiver*" is a charming composition, and "*Le Dernier Huron*" has been pronounced Monsieur Garneau's masterpiece and even more, the masterpiece of Canadian Poetry. There are some who deny it this honor. But as so good a critic and competent judge of French poetry as the Hon. Mr. Chauveau, insists upon such high praise, I am by no means inclined to call it in question. Allow me now before taking leave of Mr. Garneau, to quote a few words from that intensely patriotic Poem: "*Au Canada*." The Poet introduces some sinister oracle or evil genius anathematizing the Canadian people after this fashion:

" .....Laissons tomber ce peuple sans flambeau,
Errant à l'aventure;
Son génie est éteint, et que la nuit obscure
Nous cache son tombeau.

III

Pourquoi te traînes-tu comme un homme à la chaîne,
Loin, oui, bien loin du siècle, où tu vis en oubli?
L'on dirait que vaincu par le temps qui t'entraîne,
A l'ombre de sa faulx tu t'es enseveli?

Vois donc partout dans la carrière,
Les peuples briller tour à tour.
Les arts, les sciences et la guerre
Chez eux signalent chaque jour.

Dans l'histoire de la nature,
Audubon porte le flambeau;
La lyre de Cowper murmure,
Et l'Europe attentive à cette voix si pure
Applaudit ce chantre nouveau.

Enfant de la jeune Amérique,
Les lauriers sont encore verts;
Laisse dans sa route apathique
L'Indien périr dans les déserts.

Mais toi, comme ta mère, élève à ton génie
Un monument qui vive dans les temps;
Il servira de fort à tes enfants
Faisant par l'étranger respecter leur patrie:

Cependant quand tu vois au milieu des gazons
S'élever une fleur qui devance l'aurore,
Protége la contre les aquilons
Afin qu'elle puisse éclore.

Honore les talents, prête leur ton appui;
Ils dissiperont la nuit
Qui te cache la carrière:
Chaque génie est un flot de lumière."

The poet now recalls the great intellectual efforts that were made under the ancient civilisations of Rome and Grece, and then resumes his despairing strains:

" Mais pourquoi rappeler ce sujet dans mes chants?
La coupe des plaisirs efféminé nos âmes;
Le salpêtre étouffé ne jette point de flammes;
Dans l'air se perdent mes accents.

Non, pour nous plus d'espoir, notre étoile s'efface,
Et nous disparaissons du monde inaperçus.
Je vois le temps venir et de sa voix de glace
Dire, il était; mais il n'est plus.

.....

Peuple, pas un seul nom n'a surgi de ta cendre
Pas un, pour conserver tes souvenirs, tes chants,
Ni même pour nous apprendre
S'il existait depuis des siècles ou des ans.
Non! tout dort avec lui, langue, exploits, nom, histoire;
Ses sages, ses héros, ses bardes, sa mémoire
Tout est enseveli dans ces riches vallons
Où l'on voit se courber, se dresser les moissons.
Rien n'atteste au passant même son existence;
S'il fut, l'oubli le sait et garde le silence."

This is more than poetry. It expresses in such language as the poet only can command, the profound convictions of the author, convictions which impelled him and sustained him in the execution of his herculean task, the labour of his life-time, his history of Canada, which has so nobly given the lie to his melancholy forebodings and snatched from oblivion the memories, the traditions and the people that were so dear to him.

After this lengthened notice of so popular an author and poet as Mr. F. X. Garneau, you would not easily pardon me many details concerning several distinguised poets who however, cannot be passed over in silence. Their names, so well known to their fellow-countrymen of Eastern Canada, must suffice on this occasion. There is not time for biography and critical appreciations of their works. Among these honored names which the Literature of their country has enshrined, are Pierre Petitclair, A. S. Soulard, J. T. Loranger, Levesque, Laviolette, Hon. Justice Morin, Jeanmenne, Plamondon, Barthe, Dérome, Gérin Lajoie, Arthur Casgrain, Jean Charles Taché, Achille Fréchette, Quesnel, Bibaud, Aubin, Bédard, and last, but not least, Joseph Octave Crémazie to whom that Prince of Canadian Critics, Hector Fabre, assigns the highest rank among the Poets of his country. A few extracts from the poetical works of this eminent Poet would no doubt be acceptable. But, I must remember that this is only a Lecture, and shall now hasten to a conclusion. An Ottawa audience would not however easily excuse me, if I closed my remarks, without some allusion to a Poet whose name must ever remain an honor to our City. M. Léon Pamphile Lemay although a native of Lotbinière, Province of Quebec, claims affinity with Ottawa. Whilst he was yet a student unknown to fame, and the City of the woods was no less obscure than the future Poet whose genius was maturing within its walls, Ottawa became for a considerable time, the scene of his persevering studies. He aspired at that time to the Christian Priesthood. But the requisite study and discipline were too much for his delicate health, and after persevering with the most commendable zeal, for no less a period than two years, he devoted himself once more to literary pursuits. In this congenial field of intellectual labour he has met with more than ordinary success. Not only have his earlier poetical compositions which appeared in the literary periodicals of Lower Canada, attracted the notice and elicited the highest eulogiums of the *Literati* of his native Province; they have also been the subjects of eulogistic criticism in France and the United States of America,—thus imparting to distant and jealous lands, a distinct and unmistakeable knowledge of the fact that learning and talent can find an asylum,—an honored home, on the banks of the remote St. Lawrence and the remoter Ottawa.

Mr. Lemay has published a volume containing a highly finished translation of Longfellow's "*Evangeline*," and a considerable number of lesser Poems. You will allow me to say that the translation is an improvement on the original. All the fine feeling of Longfellow is preserved. His lines of intolerable length are changed as if by some magic power, into the elegant and flowing and never tiresome measures of the French Poet.

A very beautiful Poem from the pen of M. Lemay has since appeared in "*La Revue Canadienne*" (No for April 1867,) entitled "*La Débacle du St. Laurent.*" This is a composition of some length in the Epic style. It is full of masterly descriptions and breathes, throughout, the finest feeling. Hear how the Poet appreciates the joys of spring.

" Avril! Avril! ton souffle est plein de volupté!
Tes matins et tes soirs, ô beau mois enchanté,
Naissent dans l'harmonie et les flots de lumière!
Avril, c'est toi qui viens égayer la chaumière,
Dont la bise d'hiver attristait le foyer!
Avril, c'est toi qui fais sous ton souffle ondoyer,
Les flots du St. Laurent redevenus dociles,
Quand tes feux ont fendu leurs cristaux immobiles."

.....
.....

There is no time for a longer quotation. Let these few lines suffice for an introduction to a fine descriptive passage. Whilst he was yet indulging in such strains,

" Un barde jeune et bon,
Doué du plus fatal mais du plus noble don;
Et pendant qu'il chantait, son œil mélancolique,
Suivait avec ivresse une scène magique:
C'était le St. Laurent qui, las d'être captif,
S'agitait sur son lit comme un coursier rétif,

Secouait le fardeau de ses glaces massives,
En éclats scintillants les poussait sur ses rives,
Les broyait sur son sein avec un bruit affreux
Comme un bruit de volcan par un soir ténébreux,
Ou les traînait au loin dans sa fuite rapide,
Comme au fond des forêts un lion intrépide
Emporte les lambeaux de ces liens honteux,
Qu'un dompteur osa mettre à son pied généreux."

I cannot without regret take leave so soon of our gifted fellow-citizen. But my lecture must come to an end. M. Lemay is still young, (born in 1837.) What great things may we not hope for from his genius and well known industry?

And now, craving your indulgence, and nothing less than a plenary one, for the many omissions of this necessarily hurried discourse—but what do I see? There's old Fadladeen again! will there be no end to cant? Criticism—sound criticism—all must bow to. But the cant thereof! Of all the cants that are canted in this canting world, although indeed, it cannot be denied that the cant of hypocrisy is the worst—the most criminal, the cant of criticism is the most pretentious and the most tormenting It never has been known to be productive of good. Evil only can arise from its application. It is one of those things which appear to exist for no other purpose than the punishment of mankind. By its stolid persistency, it ruffles the sweetest temper, makes the warm current of life grow chill and stagnate in the veins, sours the very soul itself, and like vermin on the expanding buds of spring, seizes with deadly grasp, the most promising seeds of genius the moment they have begun to germinate. It is the "malignant star" under the influence of which the most gifted among the sons of song are doomed, not unfrequently, to wither away and perish. (*The pompous Fadladeen desires to be heard*). Why my Lord Fadladeen, I thought you were gone: "I did not go far. I rejoice in being here, not for any pleasure I have enjoyed, but because it affords me an opportunity of protesting against such lecturing. The dignity of the sublime art of oratory requires a more sustained and formal style. It is completely thrown from its exalted sphere when it descends to the familiar forms of conversation. So great an art was never designed for any less important purposes than to influence the judges of mankinc or to move vast assemblies. I grant, indeed, that oratory may be employed in order to inform the minds of men. But when so employed, it must appear in its proper garb. When stripped of its befitting ornaments, and exposed in rags and almost nude, before the rude world, it can no longer be recognised as oratory. It sinks into that contempt which is the well deserved lot of those, who whilst they might be, and ought to be, rich and distinguished, aim at finding happiness in poverty and obscurity. It will be pretended, perhaps, that when oratory becomes conversational and discursive, it is capable of embracing a greater variety of topics and of discussing them more copiously and completely. But it cannot be maintained that any purpose however good and noble, can be sought by means that are unworthy. The diffusion of knowledge no doubt, is a great end. But can it justify the most ignoble means? Ought the divine power of oratory to be sacrificed for the sake of communicating information which may be acquired by reading and in many other ways? Ought the goddess of the sublime gift of speech to be stripped of her garments, torn from her pedestal and dragged in the mud, in order that people may be told in a homely style quite unsuited to godlike eloquence, how many songs have been written for their amusement? "I deny that Poetry is intended only for amusement." "Let me proceed, if you please; you hold that by adopting that undignified conversational manner, you can discourse more freely and impart knowledge which could not be conveyed in the more lofty and appropriate style of oratory. But, what have you done? You have talked only of some poets who, you say, are more distinguished. You have indeed given dates of birth and other circumstances which have their proper place in a Parish register, but which are quite superfluous and irrelevant in a discourse on the noble art of Poetry. It would have been more to the purpose if you had spoken more at large and in language suited to so high a theme, of all our talented youth who have been favored with the divine *afflatus*. It is well known that there are many in this privileged land, where the language of the primitive Bards and Troubadours is still spoken, who are gifted bejond their fellows. It is notorious that there are many such. But who they are is not so generally manifest. To withdraw these sons of genius and the muses from their unmerited obscurity, is a task worthy of the sublimest oratory as well as of that learning which, you say, can be imparted in an undignified *tête-à-tête* fashion, but which, I insist upon it, ought never to be degraded any more than oratory itself, by the trivial and colloquial manner of the drawing room,—a manner, I am sorry to observe, which is passing from the fashionable circles to the lecture room, and must speedily corrupt, if it does not meet with some salutary check, that eloquence which if allowed to appear only in its native grandeur, could not fail to maintain its empire over the minds of men."

Nothwithstanding all this pompous criticism, the Lecturer was honored with a unanimous vote of thanks. He bowed his acknowledgments, and lest even a work of supererogation should go without its reward, he proposed three cheers for that Prince of critics, MY LORD FADLADEEN!

CANADIAN HISTORY.

Memoirs of the Richelieu.

No. 6.—ROUVILLE MOUNTAIN.

The chain of mountains named Rouville, Rougemont, St. Pie, and St. Thérèse is doubtless part of the system in which the White and Green mountains are included. The first of these is a distinctive feature of the Richelieu river, and for that reason, claims our attention in these historic papers. It commands the stream from Rouse's point to Sorel. It is visible in every part of it, and forms in the different windings a variety of views which are one of the peculiar beauties of the Richelieu landscape.

The mountain takes its name from the Sieur Hertel de Rouville, who was the first Seignior of the domain on which it stands.

It is also called *Belœil* or *St. Hilaire* mountain, after the two villages that lie at its base.

Besides being one of the highest elevations in Lower Canada, it has other characteristics which give it a special picturesqueness. Its side from the river is a pricipitous crag of syenitic rock, but its land-sides are beautifully undulated in gradual slopes. It was for a long time famous for its *sucreries*, that is its abundant growth of superior maple, which yield unusual supplies of the saccharine water. In old times, the declivities of Rouville mountain were merry with laughter and song, when the white March sunlight played in among the fair girls that braided St. Catherine's tresses, or in plainer language, made taffy under the bleeding maples,

Rouville Mountain was likewise celebrated for its apple orchards. These have not yet entirely disappeared, but they are not what they used to be, when the *Grise* and *Fameuse* were among the glories of this boreal climate.

The mountain possessess a geological curiosity, which is, of itself, sufficient to deserve a visit. It is a beautiful lake, nearly on its summit, and situated between two slopes. A ramble over the mountain in summer and sailing on this lake, would well repay any tourist in an artistic or scientific point of view.

The history of Rouville Mountain is limited to an imposing religious ceremony, which took place on the 6th October, 1841.

The celebrated preacher, Forbin de Janson, Bishop of Nancy, France, after some missionary labors in Canada, proposed to erect a *Via Crucis* on the slopes of the mountain, and plant a colossal cross on its highest point.

On the day just mentioned, the Catholic Bishops of Montreal, Kingston, Sydime and Nancy left the Seignorial Manor, in the state coach of the Hon. Hertel de Rouville, and commenced the ascent, accompanied by an immense multitude of carriages, horsemen and foot pilgrims. When they reached the mills of the Seignior, the prelates were met by a host of clergymen, who had come from every quarter of the country, and bent their way towards the beautiful lake. There the Bishops put on their Pontifical vestments, then stepped on a raft which had been prepared for the occasion, and launched out some thirty or forty yards from the shore. There an impressive discourse was pronounced by the Missionary Bishop. His audience was immense—some 25 or 30,000 persons all pressed together on the shore, in the trees, on the impending rocks. An old man, who witnessed the scene, assured us he could never forget it. It reminded him of our Blessed Saviour preaching at Lake Tiberias.

After the discourse, the procession formed again for the ascent to the summit. The women led the way, the clergy formed the centre, and the men closed the march. They stopped at every one of the stations of the *Via Crucis*, and recited the appointed prayers, after the blessing by the Bishop.

On the pinnacle of the mountain, a gigantic cross had been erected, one hundred feet high, six wide and four thick. It was fastened in the rock by twelve enormous chains. At the foot of the cross, a chapel, twenty feet square, was built and intended for religious service. There, in that presence, at that height, under these most solemn circumstances, the emblem of our redemption was blessed and a magnificent sermon delivered by Bishop Janson. Among the spectators, was seen a solitary Indian, standing aloft on the angle of a rock and gazing with troubled eye on a spectacle so novel to him. He looked like a mysterious apparition of the past, a representative of those extinct tribes sent by the primitive masters of these realms to inquire into the strange noises that disturbed their slumbers.

For six years from that date, the cross of Rouville Mountain stood there, amid the tempests and the convulsions of the elements like a benediction on the good people of Canada, followers of the Crucified. From the St. Lawrence, the Richelieu, the Yamaska, it could be seen towering in the high heavens, and travellers of every creed, looking up to it, exclaim in the words of the old mediæval chant—

O Crux! Ave! Spes Unica!

But the situation of the cross was too much exposed, or else it was not sufficiently well fastened to the crags of the mountain, for in November 1847, it was blown down during a severe storm of thunder and lightning. Nothing remained of it but the pedestal, which it still left standing as a memorial of a beautiful ceremony, and a religious enthusiasm.

The view from the top of Rouville Mountain is unique in the country. It extends over a radius of fifty miles. The whole of Montreal Island, the Ottawa, Lake St. Francis, the whole of the Richelieu Valley from Lake Champlain to Sorel, portions of Vermont, New Hampshire and New York, most of the Eastern Townships, rivers, lakes, forests, villages, towns, cities, stretches of field and prairie, all enter within the marvellous vision.

As a place of summer resort for families, there is none finer in Canada. We wonder that something is not done to utilize it for that purpose, and the more, that mountain scenery is comparatively rare in that part of the country.

The whole mountain is private property. It has passed from the male line of the Rouvilles into the hands of Major Campbell, who resides at St. Hilaire. That gentleman places little or no restriction, however, on travellers who desire to explore the mountain.—*St. John's News.*

SCIENCE.

The Origin of Minute Life.

BY HENRY J. SLACK, F.G.S., SEC. ROYAL MIC. SOC.

Controversies about "spontaneous generation" ought in these days to be replaced by inquiries into the conditions under which organisms of a low character can exist, or become developed. "Spontaneous generation" is a bad term, involving a metaphysical idea not properly belonging to physical science, or to biological science either. The term would indicate that something is generated of its own accord—a notion barely intelligible, and bordering upon absurdity. What one set of investigators meant by it was, that, under certain circumstances, physical and chemical forces aggregated inorganic matter in such a way as to produce organic matter, or an organized being, which had no connection of hereditary descent with previously existing beings of the same species, or of any species whatever. Were it desirable to investigate this belief in an accurate manner, we should have to consider what various writers meant by physical and chemical forces; and by "nature," which was supposed to call them into action, and whether those terms were made to include what vitalists would call vital powers. The notion of life arising from a fortuitous concourse of atoms is an absurdity not contained in any speculations to which we need now pay attention, but there are two schools whose theories continue to exert a practical influence upon experimental inquiries and methods of reasoning. The one, in the words of Pouchet, affirms that, "under the influence of forces still unexplained, and, as Cabanis says, which will remain truly inexplicable, either in animals themselves or elsewhere, there is a manifestation of a plastic force which tends to group molecules together, and impose upon them a special mode of vitality, from which results a new being, corresponding with the medium in which its elements were primitively drawn together (*puiser*)." (1) This plastic force is much like the "vital force" of a recent school of physiologists, but I do not understand where M. Pouchet supposes it to reside; but, however that may be, he says that it does not create an adult being, but operates in the same way as sexual generation.

The second school, at present of importance, adopts the idea of Otho Frederick Müller, cited by Pouchet, to the effect that animals and vegetables decompose into organic particles endowed with vitality, and capable of developing as germs. Pouchet also quotes J. Müller as admitting a spontaneous generation, which is only the result of the decomposition of large organisms, whose molecules dissociating themselves, become animalcules.

A few years ago, Mr. H. J. Clark, of Cambridge, U. S., communicated a paper to the American Academy, which I find published in the "Annual of Scientific Discovery for 1860," in which he states, that a portion of the muscle of a Sagitta in a decomposing state formed vibrios out of its separating fibrillæ. He said that "what would be declared by competent authority to be a living being, and accounted a species of vibrio, is nothing but dead muscle." I have often observed, when soft creatures like freshwater worms, or large infusoria, break up, that some of their molecules behave very much like living beings, but appearances of this description do not give much help in settling the question. Vibrio-like things may result from a physical coalescence of particles, and move by some force quite distinct from vital. Unless they can be *proved* to perform some vital action, it may be unwise to conclude too positively that they are alive.

The experiments of Dr. Montgomery with myeline show how readily certain objects comport themselves like organic cells, although they are really nothing of the kind. To obtain myeline, the yolk of an egg is boiled with about one ounce of alcohol; the liquid is filtered, and the sediment, myeline, collected. Dr. Montgomery states, (2) that the least particle of this myeline sediment will exhibit under the microscope, with the addition of water, the curious spectacle of tubes shooting forth, and wriggling about. When mixed with white of egg, bright globules formed instead of tubes. Very dilute nitric acid, added to the above, coagulated the albumen in the artificial cell, and gave the appearance of mucous nuclei. Blood serum answered better, and the resulting artificial cells are described resembling corpuscles of saliva. In other experiments various cell appearances were obtained, including those multiplications by divisions. I have nothing to do with Dr. Montgomery's reasonings upon these experiments; I adduce them simply for the purpose of showing that things which are not alive may, from physical agencies, go through a series of performances that might easily cause them to be taken for living beings, or for organic units, if that term be preferred, which is, perhaps, advisable.

When a microscopist has to deal with objects of very minute size, it is clear that, unless great caution is used, he may ascribe life to them without sufficient reasons. Even with objects as large as Dr. Montgomery's cells, deceptive appearances would be very likely to mislead. An observer might see a mother cell give rise to daughter cells, and forthwith pronounce them alive. He tells us of "the most splendid examples of 'cells,' in all stages of fissiparous division," resulting from the processes above described. In cases of true living cells, the physical results of absorption of water, or other fluid, the mechanical enlargement of the plastic material, fission, etc., probably takes place in simple accordance with natural laws. The old notions that life controlled and modified chemical and physical laws is exploded by the progress of discovery, especially in organic chemistry, and there is strong evidence that organic sub-

(1) "Heterogenie," pp. 7, 8.

(2) "On the Formation of so-called Cells in Animal Bodies;" by Edmund Montgomery, M.D., late Demonstrator of Morbid Anatomy at St. Thomas's Hospital. Churchill.

stances are formed in living bodies exactly in the same way as the chemist can imitate many of them in his laboratory, although his apparatus is very inferior to that which nature employs.

We conclude a simple plant like the yeast-cell to be truly alive, because it not only changes the food-matter with which it comes into contact, but assimilates it, and passes through a real growth. In Dr. Montgomery's experiments his particles of myeline did not transform any adjacent matter. They absorbed water, which enlarged them, and they exhibited purely physical change, varied according to the viscidity or limpidity of the fluids surrounding them. In this there was nothing truly resembling life, though the process may be identical with *some* of the processes which living cells exhibit. When we come to consider what we mean by calling a simple cell *alive* we have to discard all the higher conceptions of life, as it exists in animals, or in man. The yeast-plant, for example, consists of little bladders or cells, containing a substance in which nitrogen figures as a constituent. It takes in surrounding matter, it appropriates it, works a chemical change in it, enlarges itself, and makes offspring, or buds, with one portion of the material, and leaves the rest as the alcohol and carbonic acid which result from fermentation. The chemist can trace the nature of these operations, which differ from his own experiments chiefly in this, that the yeast-plant, which is a chemical apparatus for transforming sugar according to a definite formula, reproduces itself, and gives rise to a numerous progeny, all capable of doing the same work. But the yeast-plant is only one of a series of forms capable of acting as ferments, though not limited to the alcholic kind.

Smaller than the yeast-plant, and the blue moulds, and other forms which belong to the same series, and are more or less convertible one into the other, are the vibrions, bacteriums, and similar organisms. The vibrions are, as most of my readers know, minute beaded chains, more or less spiral, from about 1—430″ to 1—9200, or less, in length, and of proportionate tenuity. Bacteriums are stiff, rod-like bodies, equally, and more minute: and spirium is an elegant and very delicate helix, moving with a beautiful screw motion. Many microscopists, especially in France, call these things, or most of them, *animals*, but they are probably either vegetable, or should be arranged in a group by themselves. Little regard can be paid to divisions of them into *species*, if by that is meant that their off-spring will always resemble their parents, but distinct forms have specific powers as ferments. When organic matter is decomposed under ordinary conditions, some of these organisms invariably appear, and they seem to act as the chief agents of the chemical changes that occur. By what means they move is not known. Dujardin and Ehrenberg have ascribed locomotive filaments to some of them, but I have never seen anything of the kind, and conjecture their motions are the consequence of actions of endosmose, exosmose, and contraction and expansion, arising therefrom.

Minute objects of this kind are usually the subjects of discussion when the spontaneous generation controversy crops up, and from their extreme smallness, and the facility with which they appear, it is very difficult to trace either their structure or their origin. A single cell is probably capable of producing them, and that may be so small, that a negative decision as to its existence in any fluid or solid cannot be worth much, except we can satisfy ourselves that we have rendered all life impossible in the *substance* to which reference is made.

M. Pouchet is now the leader of those whom it is the custom in England to call "Spontaneous Generationists," but that term is incorrectly applied to him and to his colleagues, MM. Jolly, Musset, and others. Pouchet adopts the term, "heterogenesis," which, as we have shown, he describes as a method of generation differing from that by means of eggs, or buds, and yet in affinity with it. As an account of Pouchet's theories was given in the "Intellectual Observer" vol. i., p. 85, I need not now describe it at length, but shall advert to one or two points. He says, "If, in our experiments, proto-organisms develope themselves by contact of divers bodies, we must not suppose the cause of their appearance is absolutely under the influence of affinities; this would be to lower creation to the level of chemical attraction;" and he goes on to profess his agreement with Bremser, who alleges "spirit" to be the principal cause of life, which he declares does not arise from such a mingling of substances as the chemist can produce. Pouchet considers that it is "an immense error to regard reproduction as an act accomplished by the mother." The mother, he says, does not make the egg, which he supposes to be animated with a "vital force" of its own from the moment its two first molecules come together. He considers that fermentations and putrefactions "disengage organic molecules," and prepare the way for fresh combinations. First, he says, may be noticed in infusions a pellicle, which grows thicker, and becomes what he calls the "prolific pellicle." It is, he says, composed of the remains of animalcules, and acts as an improvised ovary, in which others are generated. At first, organizable matter in infusions, according to his views, in a state of solution, but in the course of fifteen or twenty hours, at a sufficient temperature, and under the influence of air, minute corpuscules appear, at first motionless, but afterwards moving in a way that distinguishes them from inorganic particles in molecular motion; they are, he says, monads of the smallest kinds.

Passing from theories of heterogenesis to experiments, the thing to be ascertained is whether any bodies possessing organic life vegetable or animal, are produced in solutions or fluids in which all germs have been destroyed, and from which they are excluded. The opponents of heterogeny and similar hypotheses, explain the appearance of animalcules in solutions exposed to the air, by referring them to germs, or eggs, floating about in the atmosphere, and ready for development if they fall under suitable conditions. M. Pouchet calls those who hold this view "Panspermists," and challenges them to prove the existence of the quantity of diffused germs their theory requires. He likewise continues, year after year, to adduce experiments in which Infusoria appear, although the fluids in which they occur have been boiled, and the only air admitted has been passed through red-hot tubes, or sulphuric acid. In another class of his experiments he obtains special growths under special conditions, and asks if we can believe that the air contains a great variety of germs capable of such varied development. He affirms that, "by varying to infinity the solid substance of an Infusoria, where the same air and water are used, the Infusoria will equally vary infinitely as the character of the solution varies." This may be tested by any microscopist, and I think the result will scarcely correspond with the very wide assertions M. Pouchet makes. One of his experiments in free air is a very pretty one, from his description, but I cannot speak of it from my own experience. He places some paste, made with wheat flour and boiling water, in a flat porcelain trough, so as to form a layer about one centimetre thick. When the paste begins to solidify, he traces letters on it with a brush, dipped in a strong infusion of galls which has been filtered. He covers the vessel over with a plate of glass, and in four days finds the letters in *black*, composed of a microscopic fungus he calls *Aspergillus primigenius*. He tells us that only where the infusion of galls has acted do any organisms appear.

In opposition to a multitude of experiments by M. Pouchet and his companions, MM. Joly, Musset, etc., M. Pasteur adduces a quantity of his own experiments, the result of which is to show that if organisms and germs are destroyed by boiling, and the vessels sealed, or only allowed access to air deprived of germs, no life of any kind appears. M. Pasteur's experiments have been usually regarded as conclusive in this country, and they certainly seem to be more exact than most of those adduced on the other side; but he does not use high powers with his microscope, and it is difficult to reject counter experiments which are alleged to have yielded opposite results, and to have been made with equal care.

Among the most noteworthy of these experiments are those which Dr. Gilbert W. Child has brought before the Royal Society, and which are collected together, with some additional matter, in a volume just published. (1) Dr. Child's first set of experiments were made with milk, and fragments of meat and water, placed in glass bulbs about two inches and a half in diameter, and having two narrow and long necks. "In one series the bulbs were filled with air previously passed through a porcelain tube containing fragments of pumice-stone, and heated to vivid redness in a furnace. In the others they were respectively filled with carbonic acid, hydrogen, oxygen, and nitrogen gases." The matter in some bulbs was boiled, and in others not. The joints of the apparatus were formed by nonvulcanized india-rubber tubing and india-rubber corks, previously boiled in a solution of potash. In every case but one, in which the substances had not been boiled, low organisms were found, and the bulb in which these were not seen burst from some fermentation, probably associated with life. In the boiled bulbs, no sign of life appeared in those filled with carbonic acid, or in those filled with hydrogen; but organisms did appear in that filled with the heated air, and in the milk bulb filled with oxygen. The oxygen and meat bulb burst spontaneously.

In another set of experiments Dr. Child used a porcelain tube partly filled with grounded pumice, one end being connected with a gasholder, and the other with the bulb holding the putrescible matter. The bulbs had two necks as before, one connected by means of an india-rubber cork with the porcelain tube, and the other bent and inserted in sulphuric acid. "The central part of the tube con-

(1) "Essays on Physiological Subjects." By Gilbert W. Child, M.D., F.L.S., F.C.S., of Exeter College, Oxford. Longmans.

taining the pumice was heated red hot by a furnace, the bulb joined to it when it attained a vivid heat; the end of the porcelain tube which projects from the furnace being made thoroughly hot immediately before the cork is inserted, the cork itself being taken out of boiling water, and the neck of the bulb heated in a spirit-lamp immediately before it is inserted into the cork." A stream of heated air was passed through the apparatus, and the bulb boiled for ten or fifteen minutes. When cool the bulb was sealed. Peameal, hay, coarse flour, sage-leaves, and celery were the substances employed for the infusion; and Dr. Lionel Beale was present when some of them were examined on September 9. Small organisms were found in a bulb filled May 18 with peamal and water, and also in another filled with hay-water on July 18, and in a similar bulb filled the same day. Some dumb-bell crystals were also seen. In another bulb the result was "unsatisfactory;" even with high powers no certain evidence could be obtained, as was the case in other instances when "minute round spore-like bodies were seen moving about the field." Other series of experiments were undertaken.

Dr. Childs says, "Now, if we omit from these two series of experiments those which I have already shown reason to distrust, we have in all, seven in the first, and six in the second series, which seem fairly to test the question; and these having been examined by Dr. Beale as well as myself, bacteriums were found and seen by both of us in three out of the first seven, and five out of the remaining six."

Dr. Childs ascribes the discrepancy between his results and those of M. Pasteur to the fact of his having employed high powers, Ross's one twelfth and Lealand's one-twenty-fifth; while the French chemist contented himself with a power of three hundred and fifty diameters, which is certainly very insufficient. I have paid considerable attention to the exhibition of minute-headed structures in investigations of various kinds, and I have found the most delicate can only be rendered visible by powers double, treble, and quadruple those used by Pasteur, and by very careful illumination. Further than this the eye must get accustomed to the objects, just as astronomers know is necessary in separating close double stars.

Dr. Childs states that the cloudy appearance of a fluid is no indication of its containing bacteriums, or the reverse. He has now "no doubt of the fact that bacteriums can be produced in hermetically sealed vessels containing an infusion of organic matter, whether animal or vegetable, though supplied only with air passed through a red-hot tube, with all necessary precautions for ensuring the thorough heating of every portion, and though the infusion itself be thoroughly boiled. But how far this affects the question of spontaneous generation is quite another matter." It seems, as Dr. Childs says, that either the germs of bacterium can resist boiling water, that they are spontaneously generated, or that they are not organisms at all. The last he rejects, and there remain the two former, on which he does not decide.

Dr. Childs cites some similar experiments of Dr. Wyman, "in which organisms certainly appear under the same circumstances as they did in his own, and as they never did in M. Pasteur's; yet if the infusion were boiled for six hours no organisms ever appeared." This looks as if the germs were only destructible by prolonged boiling, but it does *prove* all that is wanted. M. Lemaire has shown "that the mere fact of an infusion being enclosed within a hermetically-sealed vessel, even without any application of heat, is in itself sufficient to check the production of organisms, for in such circumstances fermentation begins, but cannot continue." I have observed that if a small piece of organic matter is placed on Professor Smith's growing cell, and covered with thin glass pressed close upon it, though bacteriums appear, they soon die, and do not propagate.

My object in this paper is neither to advocate nor to oppose any theory, but simply to show what experimenters are doing on the subject, and what are their results.

It seems difficult to account for a large class of Pouchet's facts, upon the supposition that organic germs abound in the air, without ascribing to them a far greater minuteness than has hitherto been supposed, and without also presuming that the germs of simple organisms are capable of being developed into whole groups of organisms, commonly reckoned as distinct species. In one passage Pouchet says that air would be as heavy as lead if it contained all the germs the panspermists suppose; and if the phraseology be a little exaggerated, we ought not to discard too summarily the reasoning on which it is based.

M. Pasteur has collected, by means of an aspirator, the minute particles floating in the air, and entangled them in a tuft of gun cotton, which, being dissolved, left them behind, and he raised a crop of organisms from the germs the air contained. These objects were distinguishable with the low powers he employed; but who shall say what is the smallest germ, or what portion of a minute globule to which that name is assigned is the real germ? The question of the size of germs is not altogether unconnected with that of their destruction by heat or acids. Probably the germ of a higher animal or vegetable is a highly complex structure; in fact, a congeries of simple germs arranged in a definite manner. This may be accepted whether Darwin's remarkable theory be correct or not, and heat, or the action of an acid like sulphuric, abstracting water, may destroy the vitality of a compound germ by dispersing the particles, taking away their freedom of motion, or altering the order in which they are arranged. A single germ may be far more indestructible, and may survive a temperature or the action of a re-agent that would be quickly fatal to a complex germ.

Important discoveries always cause a surprise, except to a few minds who have had some prevision of them. To ordinary mortals that which seemed impossible is very likely to be true, and although the mystery of life will probably remain inscrutable, honest researches into the origin of minute forms are sure to reveal striking and unexpected truths. I therefore recommend English observers to enter upon their investigation without compromising themselves by adopting theories upon insufficient grounds.—*The Student.*

Address of Principal Dawson at the Annual Conversazione of the Natural History Society of Montreal, Feb., 1869.

Ladies and Gentlemen.—It is my pleasing duty to bid you welcome to the Seventh Annual Conversazione of this Society—a Society which has not ceased, since its incorporation in 1832, to labour for the promotion in this city of a taste for natural science and allied subjects; and this, with marked success. In addition to its Lectures and Meetings, I may mention as a permanent monument of its utility, the issue of nine volumes of its Proceedings, containing more than 4,000 pages of matter of the highest scientific value, and of the utmost importance to the knowledge of nature as it exists in this country, and to the development of our resources. No other institution in Canada can pretend to have made any contribution to the Natural History of this continent approaching this in value and extent. I may also mention its Museum, which has within the last few years made great progress, under the care of Mr. Whiteaves, and by the patient labour of our cabinet-keeper, Mr Hunter. When I look through this museum to day, and observe its admirable arrangement and the great amount of scientific material of real value which it contains, I can scarcely believe that it has grown from the confused and paltry collection which was huddled together in our former rooms in Little St. James street. Nor has its growth ceased. The additions made within the last six months amount to 200 species of vertebrate animals, a large number of invertebrates, and about 200 fossils, besides many other objects. Taking together, the collections of this Society, of the Geological Survey and of the McGill University, Montreal now stands far in advance of any other city of this Dominion in its museums of Natural Science; and thus affords greater facilities than any other to the student of Canadian Natural History and Geology. This is no mean advantage, and is especially appropriate to a commercial and manufacturing metropolis; and it will be far more strongly felt when we shall have in connection with the University, or with any other agency that may be established, Schools of Science for the training of our young men in the practical application of Science to the Arts. In this respect, this Society has all along been in advance of the age; because here, as elsewhere, the accumulation of museums must always precede the establishment in any large and effectual way of the higher grade of scientific schools. A knowledge of this fact, has, I confess stimulated my own efforts in behalf of this museum and that of the university, since I hoped that here, as in the old world, the collection of object swould afford a safe basis for the erection of scientific education. There are some branches of knowledge and culture, and these very valuable in themselves and the training they afford, which require nothing but teachers and books for their successful prosecution. But training in science, to attain to any useful results, must have large preparatory appliances in collections and apparatus. This along with the apathy which naturally exists as to anything of which the public has had no previous experience, is no doubt, a cause of the lamentable fact that Canada has not yet attained to the establishment of one scientific school, while in the mother country, in the various states of the continent of Europe, and also in the United States of America, such schools largely supported and amirably appointed exist in great numbers, and are productive of immense results in the promotion of the scientific arts and manufactures. In the Christmas vacation I enjoyed the pleasure of visiting some of these institutions in the United States, in which the means of old University foundations are made

available, along with modern donations and grants, for the cultivation of practical science. Such institutions are furnished with laboratories, museums, scientific libraries, and apparatus; and their courses of study embrace such subjects as mining, Metallurgy, Agriculture, Botany, Zoology, Geology, Mineralogy, Engineering, Architecture, Drawing, Military Science and Tactics, Practical Mechanics, Astronomy; all eminently practical, and arranged so as to suit the wants of young men entering on a variety of useful trades and professions. Although these institutions are numerous and largely attended, they have not yet reached the limits of the demand for their work, and large grants in their aid have recently been made by Congress, while State Legislature and the munificence of private individuals are daily adding to their number and efficiency. It should be a fact that requires but to be mentioned to excite earnest enquiry and effort, that while all the older universities in the United States have scientific schools, and while multitudes of similar schools are supported by the several States and the general government, we have in this Domion four States, certainly equal in resources to any of those in the American Union, without one scientific school. In the mother country the subject is attracting great attention. I have just read a report presented to the House of Commons last year by a select Committee on Scientific Instruction, which, after hearing the evidence of a number of leading Professors, Teachers and Educationists, strongly recommends to Parliament to proced at once to organize the technical education of the country, and to add to the existing means as far as possible; and further, to recognize natural science as an indispensable element in such education. This report will, no doubt, be acted on soon, probably before anything can be done in this country, and we shall have the satisfaction of being another step behind the mother country in this most important matter. It may be asked what connection has all this with this Society, and with the present occasion. One such connection is, that this Soctety would derive aid from every graduate of any Scientific school established here; and on the other hand, it can never attain for its collections their full utility, until there should be such schools. Another is, that while as President of this Society I have its immediate interests in view, I have also at heart the advantage of the young men growing up among us, and whom I should wish to see rising to something higher than the position of subordinates to men trained in other countries; and with this feeling, I propose, on every fitting occasion, and I regard this as one, to insist as strongly as I can on the necessity of schools of practical science to the welfare and progress of this country.

ART.

The New Art of Fresco-Painting.

The art of stereochromy must be considered as involving an entirely new mode of creating durable pictures upon walls, inasmuch as a new binding material is applied, which differs from any employed in the usual modes of mural painting. By this binding material, which is the soluble glass of commerce, the colors become, as it were, silicified; and pictures executed in this way are distinguished by a certain freshness and a power of resisting atmospheric influences which ordinary frescoes do not possess.

In giving an account of this interesting mode of painting, we shall confine ourselves to a general outline of the method by which Kaulbach, the celebrated artist of Munich, and Echter, have executed, in the new museum at Berlin, four large pictures, which are generally acnowledged to exhibit a great advance in the art of mural painting. The wall to be painted is first coated with a layer of ordinary lime-mortar, in order to equalize its unevenness. The sand employed, which may be either silicious or calcareous, must be of even grain and well washed beforehand. Lime must be sparingly employed, so as to render the cement rather poor than otherwise. In this and in all the subseqnent operations, pure rain-water must be used. The plaster, thus prepared, must be well dried and exposed to the air for several days, so as to become entirely carbonated. Caustic lime would decompose the soluble glass. Fuchs, the inventor of stereochromy, recommends the moistening of the wall several times with a solution of carbonate of ammonia, so as to accelerate the saturation of the lime. When dry, it is washed over several times with a moderately diluted solution of the so-called "double water-glass," allowing it to dry each time.

The ground being thus prepared, the upper layer may be soon after added. It consists, like the lower one, of a lime-mortar, and is spread to the thickness of about one tenth of an inch. The sand employed must be well washed, and of a grain not exceeding a certain size. Very fine powder must be rejected; and for this reason it is best to pass it through a sieve. A rough grain is rather advantageous; Kaulbach says "it ought to feel like a rasp." For a picture to be viewed at a great distance, a coarser grain is required than for one designed for closer inspection.

When the coating is perfectly dry, it is sometimes rubbed with a sharp sandstone, in order to remove the layer formed of carbonate of lime. It is better, however, to accomplish this by means of diluted phosphoric acid. The phosphate of lime thus formed binds the soluble glass, a solution of which, when the coat is dry, is spread over the surface. The same is diluted with its equal bulk of water, and the operation is twice repeated. Too much water-glass prevents the ground from taking the colors. The ground being thus prepared, the painting may be at once proceeded with; some delay, however, increases the capacity for absorption. The colors to be used must be ground with pure water, (we will speak of their preparation in a subsequent article,) and the wall has also to be frequently sprinkled with water, in order to displace the air from the pores, and to insure thus the adherence of the colors. Nothing further remains to be done than to fix the colors properly with a solution of the soluble glass referred to, which operation is accomplished by sprinkling the painting in the form of a fine shower or mist, then letting it dry, and repeating the operation until the colors adhere so firmly that they can not be any more rubbed off by the finger.—*The Manufacturer and Builder.* (1)

Imitation-Marble.

It can not be gainsaid that a quality of imitation marble, or "*Hallenenstein,*" as it is sometimes called by the German, is now being produced in the arts, which, in comparison to native marble, comes up very nearly to the highest point in the way of perfection. Indeed, in the old Roman times the most beautiful structures were ornamented in their interior parts with pieces of marble which consisted commonly of sand, lime, and gypsum, and which even yet exist. But in order the more to perfect this art, it was necessary that one of the many secrets of nature should be won from her keeping. Some two years ago, a manufacturer in Cassel, of the name of Thiel, succeeded in producing an artificial stone, known under the above name which is said to exceed in its excellences any that have been made heretofore. It is prepared by means of chemico-physical methods, which are known only to the discoverer and a few manufacturers. The writer of an article in the *Polytechnisches Notizblatt,* to whom we are indebted for these facts, states that in one manufactory large four-cornered slabs are made, having a length of ten feet, width of five feet, and a thickness of one foot. After one day of drying, under the influence of an ordinary temperature, these slabs are cut into smaller ones, out of which plates or slabs for the tops of washstands, tables, mantels, etc., are manufactured.

But above all else, however, this material is adapted to building and decorative purposes. It is stated, moreover, that the castle in Brunswick, Germany, which was very much injured by fire not long ago, is to be ornamented with this imitation-marble, as also the new music-hall in Hamburg. Besides these uses, very tasteful mosaic-work can be made from it. This is done by first sketching the figure or figures upon the stone; they are next neatly cut out with fine instruments, and then, finally, filled in again with the same artificial mass of the desired shades of color. The surface is then polished as though it were native marble, until it has taken on a perfect lustre.

In so far as the name "*Hallenenstein*" is concerned, it may be remarked that the nature of the mass is such that one can imitate, even to the point of deception, the most excellent and purest kinds of marble obtained from the Hellenic Mountains of Greece. Nor, as giving rise to quite a new branch of industry, does the imitation, in any respect, fall far behind those rare kinds of Grecian native marble. Slabs for building purposes, cornice-work, etc., are manufactured in large blocks. These are afterwards further wrought by means of steam power, under the circular saw and the planing machine; then, finally, they come into the hands of the worker, who finishes them in accordance with the purposes for which they are designed. *Ib.*

(1) A new candidate for favor which we would take this opportunity of recommending to our readers. It is a marvel of cheapness.

OFFICIAL NOTICES.

Ministry of Public Instruction.

APPOINTMENTS:

SCHOOL COMMISSIONERS.

The Lieutenant-Governor, by an Order in Council, dated the 30th Jan., 1869, was pleased to appoint the following School Commissioners, for the hereinafter mentioned Municipalities:

Ste. Flore, Co. of Champlain: Messrs. Onésime Desaulniers and Jérôme Deschaines, in the room and stead of Messrs. Fabien Levêque and Jean Baptiste Bélanger, whose terms of office had expired,—the *election* not having been held within the legal time.

St. Germain du Lac Etchemin: Messrs. Bélarmin Lapierre, Louis Laflamme, Antoine Rancourt, Olivier Rancourt, and Narcisse Martin,—New Municipality.

Ste. Perpétue, Co. of Nicolet: Mr. Onésime Rousseau, in the room and stead of Mr. Etienne Rousseau, appointed the 25th September last, but who does not reside in the Municipality.

Ste. Victoire, Co. of Richelieu; Mr. Olivier Cournoyer in the room and stead of Mr. Pierre Laporte who has finally left the Municipality—the *election* not having been held within the legal time.

St. Polycarpe, Co. of Soulanges: Messrs. James William Bain, Paul Vincent, Pierre Isaïe Prieur, Nicholas Gallagher, and Antoine D'Aout—the *elections* of preceding years having been irregular.

ERECTIONS, &c., OF SCHOOL MUNICIPALITIES.

The Lieutenant-Governor, by an Order in Council dated the 30th Jan, 1869, was pleased:

To erect into a School Municipality the "Mission of St. Germain du Lac Etchemin," in the Co. of Dorchester, comprising:

1. A part of the Township of Ware, namely, the 1st, 2nd, 3rd, 4th and 5th Ranges: from River Etchemin to River Famine for the 1st and 2nd Ranges; to the 33rd lot for the 3rd and 4th Ranges, and to the 25th lot exclusively for the 5th Range;

2. A part of the Township of Standon, namely, the 1st, 2nd, 3rd, and 4th Ranges, from the River des Fleurs to the River Etchemin;

3. A part of the township of Cranbourne, namely, the 4th, 5th, 6th, 7th, 8th, 9th, 10th, 11th, 12th, 13th, and 14th Ranges, from the 44th lot to the 30th exclusively.

To reannex, to Laterrière, the Northern half of lot No. 5, and lots 6, 7, and 3 of the Western Range of the Township of Laterrière, and lots 1, 2, 3, and 4 of the 2nd Range, all of which were detached, the 24th June, 1865, to be annexed to Chicoutimi.

DIPLOMAS GRANTED BY BOARDS OF EXAMINERS.

GASPÉ BOARD.

Session of February 2nd 1869.

ELEMENTARY SCHOOL DIPLOMA, (Eng.) *1st Class*:—Mr. George Gaudin.

E. J. FLYNN, Secretary.

AYLMER BOARD.

Session of February 2nd 1869.

ELEMENTARY SCHOOL DIPLOMA, (Eng.) *1st Class*:—Miss Margaret McMillan, Messrs. James Kearney and Malcolm S. Boyd.

2nd Class:—Miss Henrietta Hugg.

J. R. WOODS, Secretary.

SHERBROOKE BOARD.

Session of February 2nd 1869.

ACADEMY DIPLOMA, (Eng.) *1st Class*:—Miss Mary A. Rugg.

ELEMENTARY SCHOOL DIPLOMA, *1st Class*:—Misses Isabella A. Brown, Phœbe D. Farnsworth, and Mr. William Traynor.

2nd Class:—Misses Hannah E. Rand, Eunice Nash, and Cynthia A. Bowen.

S. A. HURD, Secretary.

PONTIAC BOARD.

Session of May 5th 1868.

ELEMENTARY SCHOOL DIPLOMA, (Eng.) *1st Class*:—Messrs. Hugh McIver, Malcolm Blakely, and Duncan Campbell.

2nd Class:—Misses Hannah Hodgins, Elizabeth Wilson, and Mr. William Fanning.

OVIDE LEBLANC, Secretary.

Session of August 4th 1868.

ELEMENTARY SCHOOL DIPLOMA, (Eng.) *2nd Class*:—Miss Mary Ann Wilson.

OVIDE LEBLANC, Secretary.

Session of November 3rd 1868.

ELEMENTARY SCHOOL DIPLOMA, (Eng.) *1st Class*:—Mr. Joseph Totton.

2nd Class:—Mr. Robert Robinson.

OVIDE LEBLANC, Secretary.

Session of February 2nd 1869.

ELEMENTARY SCHOOL DIPLOMA, (Eng.) *1st Class*:—Messrs. Terence Maverly Shipman, William Hains Boyle, and Miss Janet Graham.

2nd Class:—Miss Ruth Hodgins.

OVIDE LEBLANC, Secretary.

RIMOUSKI BOARD.

Session of February 2nd 1869.

ELEMENTARY SCHOOL DIPLOMA, (F.) *1st Class*:—Miss Arthémise Bélanger

2nd Class:—Misses Annie Brough (Eng.), and Luce Dumont (F.).

P. G. DUMAS, Secretary.

ASSISTANT TEACHER WANTED.

Wanted for the Boys' Department, Quebec National School, a Male or Female Assistant Teacher, holding an Elementary Diploma.

Salary for Male Teacher, £60. Do. for Female Teacher, £40.

Application till 25th March to be addressed, REV. GEO. V. HOUSMAN, Quebec.

WANTED IMMEDIATELY

A Protestant Teacher able to give a Sound English Education. Stipend, £60 per annum with dwelling and small glebe. Address, with references, George A. Corbin, Secretary-Treasurer School Municipality of Cox, County of Bonaventure, Q.

THE JOURNAL OF EDUCATION.

QUEBEC, PROVINCE OF QUEBEC, FEBRUARY AND MARCH, 1869.

To Our Correspondents.

We are pleased to find that some of our readers have responded to the invitation contained in our issue of last December, relative to original articles of a practical nature and suitable for publication, wholly or in part, in the Journal. Together with Dr. Dawson's address at the annual conversazione of the Montreal Natural History which is printed in the present double number, we have, on hand the following: An Essay read by Archibald Duff, M. A., before the Teachers' Association in connection with McGill Normal School entitled "*Notes on Education in the Eastern Townships;*" a paper read before the same association upon the means of providing for "*The Support and Education of Neglected and Destitute Children,*" by Mr. Todd, Montreal; and a paper on some of the "*Physical Characteristics of the Sun,*" by Capt. Ashe, R. N., Quebec. We cannot, of course, in one limited space undertake always to find room for the whole of each article. At the same time, in availing ourselves of the discretionary powers conceded to us by the contributors of such articles, we shall endeavour to do the best we can both by them and our other readers.

Meeting of American Philologists.

We have been requested to notice a printed circular announcing that a Convention of American Philologists will be held in *Poughkeepsie, N.-Y.*, commencing on Tuesday, July 27, 1869, and continuing in session several days.

Among other business to come before the Convention will be the discussion of a series of questions relating to different collegiate studies, as to their order of precedence, time to be allotted, methods most efficient for prosecuting the Classics, and the English, as well as other Modern languages, pronunciation of Latin and Greek, means of preserving from destruction the languages of the American aborigines, &c., &c.

All Collegiate and other Professors of Language and persons interested in the cultivation of Philological Studies are invited to attend. The invitation is signed by about 100 gentlemen, the majority of whom are Professors, and including several Heads of public institutions of learning, and Superintendents of Education. Those intending to be present are requested to communicate, before July 1st with the Chairman of the Committee on Organization, Prof. G. F. Comfort, Franklin Square, New-York.

Technical Education and Scientific Schools in the United States.

In most European countries the subject of *technical Education* has long received attention. The well known result has been that even England, though at the head of nations in regard to manufacturing importance, yet, neglecting that object in her Educational institutions, found herself falling behind both in the knowledge of the principles upon which the carrying on of the practical arts and manufactures is based, and also in the quality of the products of the skill and industry of her workmen. This disagreeable fact, well established at various competitive exhibitions held in the old world, was, of course, of too momentous a nature to be long disregarded; so that, at present, there is no lack of interest in the way of devising and perfecting remedial measures.

Canada, as is forcibly stated in an address given in another column of this number of our Journal, has not yet accomplished anything towards furnishing her sons with those opportunities of special scientific instruction and training which are indispensably necessary if they are ever to excel, or even to equal the skilled workers of other countries. This remark, it is obvious, applies not only to the exercise of many callings already established in this country, but also to the development of some of our natural resources, lying neglected quite as much through deficiency of capital; and thus our young men must go abroad to qualify themselves and to seek employment.

In the United States our practical neighbours have followed the example of Continental Europe rather than that of England. While attracting skilled workmen from other parts of the world they have provided already such opportunities in their principal centres of population as render it certain that they will hereafter retain for their own citizens a foremost rank for excellence in the arts and manufactures. Some idea of the truth of what is here stated may be derived from the perusal of the following list of *Scientific Schools*, which is taken from a recent number of the *Pennsylvania School Journal.*

The following list of Scientific Schools of the United States was carefully prepared by Prof. Warren of Troy, New York, in 1866, and appeared in the N. Y. Tribune, Aug., 21, 1868:

1. The Rensselaer Polytechnic Institute (Independent) in Troy, N. Y., was founded 1824. It has courses of Civil Engineering, Mechanical Engineering, Topographical Engineering and Natural Science. The length of each course is four years. The total attendance in 1865 was 150. The age for admission is 16 years. The degrees conferred are C. E., M. E., T. E. and B. S.

2. The scientific course at Union College, Schenectady, N. Y., founded in 1845. Course: Applied Chemistry and Engineering—two years each. Age for admission, 16 years. The attendance in 1865 was 40. The degree conferred is C. E.

3. The Sheffield Scientific School, (one of the professional schools around Yale College,) New Haven, Conn., founded 1847. The courses are: General course—Chemistry and Natural Science, Engineering, Engineering (higher), Agriculture and Mechanic arts. The length of all the courses, except the fourth mentioned, (which is two,) being three years. Age for admission, 16 years. The degrees conferred are Bachelor of Philosophy and C. E. The attendance in 1865 was 57.

4. The Lawrence Scientific School, Cambridge, Mass., (one of the professional schools around Harvard College,) was founded in 1848. The age for admission is 18 years. The courses are: Chemistry, general and technical; Zoology and Geology, Engineering, Botany, Comparative Anatomy and Physiology, Mineralogy—all one year each. The degree conferred is B. S. The attendance in 1864 was 75.

5. The Polytechnic College of Pennsylvania, (Independent,) in Philadelphia, founded in 1852. The age for admission is 16. The courses are: General School, Civil Engineering, Mechanical Engineering, Practical Chemistry, Agriculture, Mines, Architecture—all of which are two years, except the first mentioned, which is one year. The degrees conferred are: Bach. of Civ. Eng., Bach. of Mech. Eng., Bach. of Chem. Eng, Bach. of Agri. Eng., Bach. of Min. Eng, and Bach. of Arch. The total attendance in 1865 was 136.

6. The Chandler Scientific School, (one of the professional schools around Dartmouth College,) Hanover, N. H., founded in 1852. Age for admission not stated. It has four courses, viz: General course, (three years,) Engineering, Commercial, and higher general courses, one year each. The degree conferred is B. S. The total attendance in 1865 was 48.

7. She scientific courses in the University of Michigan, Ann Arbor, Mich., are Civil Engineering in general science course, (three years); Civil Engineering in special course, (one year); Natural History, General and Technical Chemistry, Mines—indefinite. The age for admission is not stated. The degrees conferred are C. E., B. S., and M. E. Total attendance in 1865, 82.

8. "Professional (Scientific) Department." (among the Professional Schools of the University of New York city,) founded in 1856. Courses: Civil Engineering and Architecture, Analytic and Practical Chemistry—the former three and the latter two years. Age for admission not stated. The degrees conferred are C. E., B. S. and Ph. D. Total attendance in 1865, 31.

9. The Scientific Section of Washington University, St. Louis, Mo., founded in 1857, has a General Science and a Technical Course of three years. The age for admission is 16 years. The attendance in 1864 was 7. The degree conferred is B. S.

10. Cooper Union for the advancement of Science and art, (Independent), New York city, founded in 1859, has a Free Night School of Science and a Free Night School of Art, a School of Design for Women, and (to be established) a Scientific (Polytechnic Day) School. For the first two the course is five years; for the latter two, not over four years. The age for admission is 16 years. In the night schools a diploma and medals are given, and in the others degrees are conferred. The attendance at the night schools in 1864 was 1,281; in the School of Design, 173.

11. The Collegiate and Engineering Institute, (Independent), New York city, founded in 1862, has a course of two years. The age for admission is not stated. A diploma is awarded at the end of the course.

12. The School of Mines of Columbia College, New York city, founded 1864, has a course of three years. The age for admission is 16 years. The degrees conferred are: M. E., Ph. B. and Ph. E. The attendance in 1865 was 33.

13. The Massachusetts Institute of Technology, (Independent,) Boston. Founded in 1865. Full course, four years. General course common to all the following special courses, three years: Mechanical Engineering, Civil and Topographical Engineering, Practical Chemistry, Geology and Mining, Building and Architecture, higher General Science, etc.—two years each. The age for admission is 16 years. Degrees are conferred in these several special courses. The attendance in 1865 was 72.

Besides the above mentioned, there are the Worcester County Free Industrial Institute, (Independent,) Worcester, Mass.; the University of the South, Sewanee, Tenn.; the Delaware Literary Institute and Engineering School, Franklin, N. Y., and the School of Mines in conection with Harvard College, Cambridge, Mass., all of which are soon to be put in operation.

In the Brown University at Providence, R. I., there is a department of Chemistry and Engineering; in the Scientific School of the New York Free Academy, founded in 1853, there was an attendance of 482 in 1864. The Brooklyn Collegiate and Polytechnic Institute was founded in 1855. The University of Pensylvania, at Philadelphia, has a department of Mines, Arts and Manufactures, and the Washington College, at Lexington, Va., has a department of practical mechanics, founded in 1866.

Visit of His Excellency Sir John Young to Montreal.

McGill University.—On Wednesday afternoon, (3rd Feb.) His Excellency the Governor-General visited McGill College, accompanied by His Worship the Mayor, Lieut.-Governor Howland, the Hon. John Rose, the Hon. John Young, the Hon. Mr. Campbell, W. H. Lee, Esq., Clerk of the Privy Council, Col. McNeil, A. D. C., Col. Duchesnay, P. A. D. C.; Mr. Turville, Private Secretary, and other gentlemen. He was received by the Governors, Professors, Graduates, and Under-graduates of the three Faculties, in the William Molson Hall, which was well filled on the occasion.

The Governor-General having taken his seat on the dais, the following address was read by the Hon. James Ferrier:—

To His Excellency the Right Hon. Sir John Young, Baronet, K. G. C. B., G. C. M. G., &c., &c.

May it Please Your Excellency:—

We, the Governors, Principal, and Fellows of McGill College, beg leave to approach Your Excellency to express our gratification on account of your present visit to the City of Montreal.

We, in common with all the loyal subjects of Her Majesty the Queen, are happy in the belief that Her Majesty in appointing Your Excellency to preside over the Government of Canada, selected one in all respects well qualified worthily to represent our Gracious Sovereign and to advance the interest of this Dominion.

We may be pardoned on this occasion for alluding to the official connection of Your Excellency with this University as its visitor under the Royal Charter, and for inviting the special attention and countenance of Your Excellency to the important work committed to us in connection with the higher education, the claims of which, as well as its difficulties in this country, Your Excellency, we are persuaded will readily estimate.

We pray that Almighty God may so bless Your Excellency's government that it may yield you much happiness and honour, and be attended with prosperity to this Dominion of Canada.

Dated February, 1869.

His Excellency then read the following

REPLY.

The Governors, Principal and Fellows of McGill College.

Gentlemen,—I beg to tender you my sincere thanks for your loyal address.

As official visitor of your University I freely recognize the several claims which you have to my co-operation, in your endeavours to promote its interest and secure its welfare.

The work in which you are engaged is one the importance of which it is impossible to overrate, and most earnestly do I pray that your efforts may be crowned with the best success, and that this University may be the means of sowing broad-cast the seeds of wisdom which may bear fruit a hundred fold in the general diffusion of knowledge throughout the Dominion.

JOHN YOUNG.

Mr. W. C. BAYNES, B. A., Registrar and Bursar, then announced that the Vice-Chancellor would read the Annual Report.

Principal DAWSON, after alluding to the absence of the Chancellor, Judge Day, gave some interesting facts in connection with the University. He said

May it Please Your Excellency,

We have to regret on this occasion the unavoidable absence of our Chancellor, the Hon. Judge Day, who has taken a leading part in the organization and development of this University. In his absence, I beg leave as Vice-Chancellor to present to your Excellency the annual report of the University, in which at the close of each year it presents its condition and history to the notice of the visitor. In doing so on this occasion, I may notice briefly the origin of McGill University, in 1811 by the bequest of a citizen of Montreal, the Hon. James McGill—so that it is the oldest University in Canada proper. Its growth, however, was slow, and though organized in 1828, and from that time taking an important place in the work of higher education in Lower Canada, it was not till its reorganization under its amended charter in 1852 that its rapid rise began. At that time and shortly after, by aid rendered by the Legislature, and by the increase in value of the McGill estate, and the liberal subscriptions of citizens of Montreal to the amount of £15,000, it was enabled to complete its staff of Professors in the Faculties of Arts, Medicine and Law, and to establish a standard of education equal to that of any University in this country. Subseqnently, its liberal benefactor, Mr. William Molson, presented to it the building in which we are now assembled, together with those occupied by the Museum and Chemical Laboratory.

The present position of the University justifies the hopes entertained by its founder, and the subsequent efforts of his fellow citizens for the endowment of a University in Montreal. We now number 26 Professors in the Arts, Law and Medicine, and in the McGill College proper we have in the present session 258 students in these faculties. We have two affiliated colleges, the Morrin College, Quebec, and the St. Francis College, Richmond, each with a number of students. Being Protestant, but not denominational, the University has no Theological Faculty; but under its statutes, it admits Theological Colleges to affiliation. Of these it has now two representing two of the leading religious denominations.

Our High School department, a preparatory school for the University, and one of the oldest classical schools in Canada, has 218 pupils. The Protestant Normal School, for the training of teachers, has been placed under our management, and has 74 teachers in training, while the Model Schools have 343 pupils. There are thus in all more than 900 students and pupils under our care, and of these, at least, 200 are not resident in Montreal, but have resorted thither from various parts of the Dominion to avail themselves of the educational advantages offered by the University.

Even within the last year we have received additional tokens of the liberality and good will of the people of this city. A subscription of $2,000 has enabled us largely to increase our philosophical apparatus. Another subscription of a similar amount has erected for us an extension of our museum. A lady has given for competition as an exhibition an annual sum of $100, and our friend, Mr. Molson, has presented to us Mr. Marshall Wood's Bust of His Royal Highness the Prince of Wales.

Thus aided and supported by the wealth of the commercial metropolis of this country, we may entertain large hopes of usefulness. Yet we are fully aware that in many respects this is an embryo university, and we have been especialy desirous to add to our attractions for students, bursaries and scholarships, similar to those of the Universities of the old world, and to extend our course in the direction of practical and scientific education in its application to the industrial arts. We are now moving in these subjects, and are placing them before the Government of this Province and our friends in Montreal, in the hope that adequate means may be supplied.

It gives us much pleasure to receive Your Excellency so soon after your arrival in this country, and to assure you that we are thoroughly in earnest in exercising, for the benefit of education, the powers graciously conferred on us by our Royal Charter to the utmost extent in our power, and in perfecting that loyalty and patriotism which are inherent in the young men of this country by the refining and ennobling influence of liberal culture.

The following members of the University were now presented to His Excellency:—

Governors.—The Hon. James Ferrier, M.L.C.; William Molson, Esq.; the Hon. John Rose, Q. C., M. P; Peter Redpath, Esq.; George Moffatt, Esq.

Principal.—John William Dawson, LL.D., F. R. S., F. G. S. Vice-Chancellor.

Fellows.—Ven Archdeacon Leach, D. C. L., LL. D., Vice-Principal, and Dean of the Faculty of Arts; Geo. W. Campbell, M.A, M.D, Dean of the Faculty of Medicine; Alexander Johnson, LL. D., Professor of Mathematics and Natural Philosophy, McGill University: Rev. George Cornish, M.A, Professor of Classical Literature, McGill University; W. Fraser, M. A, Professor of Institutes of Medicine, McGill University; P. R. Lafrenaye, B. C. L., Professor of Jurisprudence, McGill University; T. K. Ramsay, Q. C., M. A, Professor of Civil Law, Morrin College; Robert A. Leach, M. A. B.C L.; Robert T. Godfrey, M. D., Dr. Leprohon, Rev. D. H. McVicar.

Secretary, Registrar, and Bursar.—William Craig Baynes' B. A.

The Professors, Doctors of Medicine, Masters of Arts, Bachelors of Civil Law, and Bachelors of Arts.

His EXCELLENCY the Governor-General, on rising said, he was not prepared to make any address on the subject of education, though had he had longer notice he might have done so; the facts which had just been given by the Vice-Chancellor, indeed, scarcely needed a reply. He felt the deepest interest in the progress of education, both as regarded this country and at home. Education had now become not a luxury, but a necessity, for where the franchise was widely diffused, education was absolutely necessary. There was nothing so noxious to freedom as ignorance, and every one that wished well to the country must strive to foster education. The interest of the citizens of Montreal in the University had been shown by the liberal donations frequently repeated, and he trusted that the University would continue to flourish in the future as it had done in the past.

The proceedings were now brought to a close, and the Governor-General and his *suite* were conducted through the museum, and shown other points of interest in the college, after which they took their departure for the Natural History Society.

Museum of the Natural History Society.—A little after four o'clock, His Excellency paid a visit to the museum of the Natural History Society. At the Society's Rooms, His Excellency was received by the President, Principal Dawson, Rev. Dr. DeSola, Hon. Jas. Ferrier, Jas. Ferrier, jr, Dr. J. B. Edwards, Dr. Smallwood, Prof. Darey, D. R. McCord and others. His Excellency examined, with great care, the collection of Canadian Birds and Mammalia, the more interesting features of which were explained by Principal Dawson and Mr. J. F. Whiteaves. The visit lasted nearly an hour, during which the Governor-General expressed his gratification at the interest taken in the study of Natural History, and the pleasure which the visit had given him.—*Montreal Gazette.*

Monklands.—His Excellency also visited the educational establishment for young ladies conducted by the Sisters of the Congregation, and formerly the residence of Lord Elgin. The morning was somewhat stormy, but thanks to covered sleighs, His Excellency and party reached Monklands very comfortably about noon. His Excellency was accompanied by His Worship the Mayor, the Hon. J. Rose, Hon. Mr. Campbell, Hon. J. Young, Colonel McNeil, A. D. C., Colonel Duchesnay, P. A. D. C. and Mr. Turville, Secretary.

The Governor General on his arrival, was received by Messrs. Leblanc, Pominville, Beaudry, and others. The party were immediately conducted to the large hall, by the Superioress, Sister Nativity. Here they were received by the young ladies standing, while a piece of music was performed by the Misses Tremblay, Leprohon, Pouliot and Vanner on the harp, Miss Chaput on the organ and Miss Coyle at the piano. At the head of the room chairs were provided for the distinguished visitors. Among those present were Mr. Victor Hudon, Dr. Trudelle, Messrs. F. P. Pomminville, Louis Betournay, Chas. A. Leblanc, Louis Beaudry, J. C. Baker, A. M. DeLisle, Mrs. and Miss DeLisle, Mesdames Young, Pominville, Moat, Leblanc, Miss Symes and Miss Des Rivières.

Miss DOYLE now advanced and read (in English) in clear and distinct tones the following address to His Excellency.

YOUR EXCELLENCY: Ere your arrival in our western clime, fame had made you known to us, even on this our mountain solitude, and anxiously did we anticipate, the advent of the illustrious representative of Her Most Gracious Majesty, he who has done so much not only at home, but in distant lands for the honor and glory of the Empire whose sun never sets. Warm and sincere was the welcome which greeted Your Excellency in this noble city of Mount Royal, yet no less warm, no less sincere, is that which we proffer you, when we hasten to inscribe with pride your name amongst those of the illustrious visitors who have honored with their presence this Villa, once the residence of the Governors of Canada. Eloquence has done its best to felicitate Your Excellency on your arrival in this city, and every feeling of loyalty, devotedness and regard, finds a faithful echo in our young hearts.

Fain would we strew the way with flowers, as when your noble Predecessor and his gracious lady came in the lovely summer time to crown our efforts at the termination of the scholastic year, but though stern winter has blighted the fair scenes, we can proffer Your Excellency flowers which shall never fade,—fervent wishes for your happiness—a future no less brilliant than the past. May your name, Excellency, be enshrined in Canadian hearts, associated with all that is most prosperous, great and glorious in the history of this new nation over whose destiny you come to preside.

Miss Leblanc, and Miss Newcombe then advanced towards His Excellency when the former delivered a short extempore address in French congratulating His Excellency on his arrival amongst them, and referring to Lady Young in flattering terms.

Miss Newcombe now approached Sir John Young, and presented him with a bouquet of flowers for Lady Young.

His Excellency then made the following reply:

MESDAMES AND MESDEMOISELLES:

I thank you very cordially for the words of welcome that you have addressed to me by the mouth of that charming young lady, and also for the magnificent bouquet that you have presented me with.

I am happy to have had the opportunity, as representing Her Majesty, of visiting this institution for the education of youth, this sweet and pleasant retreat, consecrated to study and direction, and the practise of those amiable and solid qualities which constitute the angelic domestic woman. Here, ladies, you may learn to imitate in a more modest sphere the domestic virtues of our Gracious Sovereign on the throne, so beautiful an example to the Christian world. I will keep in agreeable remembrance the moments I have enjoyed amongst you. I thank you for the good wishes you have expressed for the happiness of Lady Young, and I will not forget to communicate them to her in remitting to her your handsome bouquet. I do not know any more gracious or more accurate interpretation of your sentiments than that conveyed by the beautiful flowers which compose it.

JOHN YOUNG.

The ceremony, though brief, was a very pretty one. The national anthem now sounded from harp and organ as His Excellency and suite passed down the broad avenue lined by the bright young faces, which it is needless to say were not the least attraction of the scene.

The Governor-General and guests were now conducted to the drawing-room where wine and cake were provided.

The Superioress then conducted the Governor-General and visitors through the dormitories, fairy regions of neatness and order, the beds being arranged end to end down two long well-ventilated corridors. The visit having come to a conclusion His Excellency and suite left in their sleighs.

In point of situation, salubrity and picturesque scenery, this Institution seems unrivalled; the grounds are extensive, and comprise a delightful grove and lovely little lake. The house for the pupils, being the former residence of Lord Elgin, is large and commodious, and is fitted up in a style of comfort, and in some degree of elegance, not surpassed by any educational establishment of the kind.

One of the best features in the educational course is that in addition to all the branches of a liberal education, the advanced young ladies are instructed in that most neglected of female accomplishments, the culinary art.—*Ib.*

The Christian Brothers.—On Friday, 5th Feb., His Excellency visited the Schools of the Christian Brothers, Coté Street. The Governor was accompanied by His Worship the Mayor, the Hon. J. Rose, the Hon. J. Young, the Hon. M. Campbell, Colonel McNeil, A.D.C., Col. Duchesnay, P.A.D.C., A. M. Delisle, Esq., and Mr. Turville, Private Secretary.

The Governor and his cortege were received at the door by the Rev. Brother Anthony, Director and Dr. DeBonald, one of the physicians to the Institution.

His entrance into the hall, which was crowded with pupils, a number of gentlemen, professors and teachers, was heralded by the juveniles' brass band playing "St. Patricks's Day," and "God Save the Queen."

After His Excellency and suite had taken their seats on the raised *dais*, the singing class under Brother Flamian, Professor of music, sang a couple of national airs with great effect.

Two addresses were then presented to the Governor, one in English and the other in French. James Wilson read the following:—

To His Excellency, the Right Honorable Sir John Young, Bart., G. C. B., &c. &c., Governor General of the Dominion of Canada, &c. &c., &c.

May it Please Your Excellency:—

We the pupils of the Christian Brothers' Schools of Montreal, request Your Excellency to accept the unfeigned sentiments of gratitude that cause our youthful hearts to palpitate with jubilation at the sight of your flattering presence within our Institution.

Long before your foot pressed the soil of our New Dominion, we had been made acquainted with the sterling qualities that distinguish Your Excellency,—qualities which will be, no doubt, one of the main-springs of the prosperity and happiness of the country which has been placed beneath the ægis of your able administration.

We beg to assure Your Excellency that we shall ever consider it an incumbent, but most agreeable, duty to offer up our prayers to the Throne of the Most High, that He may favor Your Excellency with the wisdom and fortitude requisite for those in whose hands the reins

of Government are placed, and on whom the destiny of nations so greatly depends.

On account of the favor conferred on us by the thrice welcome visit of Her Most Gracious Majesty's worthy representative, this day shall ever be cherished among the happiest of our life; and when the halcyon season of our school-days shall be numbered with the past, and we have gone forth to meet 'the rough realities of life,' we will look back with fond recollection to this memorable day.

Might we presume to request Your Excellency to tender Lady Young our most sincere respects and best wishes for her health and happiness.

THE PUPILS OF THE CHRISTIAN BROTHERS' SCHOOLS.

His Excellency responded in French and in English. The following is the English reply:

It has given me much pleasure to receive your kind addresses of welcome, and I am sure they will give equal pleasure to Lady Young when I inform her, as I shall not fail to do, of the kindly mention you make of her name.

The youthful spirit of patriotism which they breathe, amply proves that you are treading in the footsteps of those, your seniors in years, from whom during my short sojourn amongst you, I have already received so many convincing proofs of loyalty to the throne and attachment to British institutions.

In due time their places will be yours, and your task will be to complete and consolidate institutions of which they are wisely laying the foundations.

No fitter preparation for the work can be devised than a good christian education. This, the institution in which we are now assembled offers and places within the reach of each one of you.

To beg of you to avail yourselves of the precious offering, and to entreat you to make good use of the golden hours of youth would only be to reiterate advice which I am sure is daily inculcated; but, if by chance, a passing word of mine should weigh with even one here present and fructify as the seed in the good ground, I shall deem myself more than amply rewarded for my attendance to day at the Institution of the Christian Brothers of Montreal.

JOHN YOUNG.

At the Governor General's request the Director presented to him the Brothers with each of whom he cordially shook hands. He then granted the pupils a holiday which they gladly accepted and in return greeted him with a beautiful chorus.

The band having played "La Canadienne" and "God Save the Queen" His Excellency departed leaving a pleasant impression on all present.—*Gazette.*

Quebec Literary and Historical Society.

The soiree on Saturday evening, (6th. Feb.) in Morrin College Hall, was the first given under the auspices of this institution since their removal to that building.

The audience included many of the prominent citizens of Quebec. The interesting features of the occasion were the addresses which the Hon. Mr. Chauveau, Premier, and the Lord Bishop of Quebec had consented to deliver.

The Hon. Mr. Chauveau began by mentioning an article written on the history of the old Government House in Montreal, by l'Abbé Verreau, which terminated by a quotation from Terentianus Maurus: *Habent sua fata libelli;* with this trifling change "Habent sua fata monumenta"—which could never apply so strikingly as to the old jail converted into a college and literary institution. The speaker then reviewed the many changes which have taken place in the public buildings of this old city, associating in his remarks the memory of those public men, writers and others, who have contributed to the fame of Quebec. He then gave a brief history of the Literary and Historical Society from its foundation, alluding to its founder, the Earl of Dalhousie, Sir Francis Burton, Dr. Wilkie, Chief Justice Sewell, the late Andrew Stuart, M. Roy, M. Vallière de St. Real, the Hon. W. Sheppard, and the many other distinguished men who have taken an active part in its proceedings and written for its transactions. These transactions, he said, were well known in Europe and were a credit to this country. He alluded more particularly to the historical publications of the Society, which were begun under the care of the late lamented Mr. Faribault and which had contributed so much to fostering a general taste for the hitherto unknown treasures of Canadian history. The old books on Canada were now an object of research and competitions among amateurs, and our literary publications besides the numerous historical works which have been published here recently are now finding in these works a source of inspiration. He spoke of those old works, reviewing the style of the authors, Charlevoix, La Mère de l'Incarnation. Sagard, Lescarbot. As an illustration of the pleasant old French of Sagard, he read from his written description of the humming-bird, which he said was written long before Buffon and Mr. Le Moine had given theirs. The garden of the Recollets, where Sagard was admiring the humming birds, was in those days at the place where the General Hospital is now, on the River St. Charles. The honorable gentleman, as one of its oldest members, concluded by congratulating the Society on the beautiful rooms they had now procured, and expressed the hope that they would remain longer in this building than in any of the numerous places where their predecessors had settled down in the many peregrinations of the Society from the time when it had first assembled at the call of Lord Dalhousie in the *Chateau St. Louis*, in the year 1823.

The Lord Bishop addressed the assemblage as follows:—

Mr. President, Ladies and Gentlemen,—Poor old Quebec is going down. It is 365 times, I think, exactly, that this statement has been repeated to me within the last twelve months. And being of an experimental turn. I sallied out one fine afternoon not long ago, to verify the proposition. And as I came down St. Ann street, and marked the change that had come over the dingy old building that used to occupy this site—I could'nt see it. And when I considered that two literary institutions have now their home where once was a gaol—when I realized the fact that the muses have dispossessed the felons—positively I began to think that poor old Quebec was going up. But, sir, joking apart, there is in this welcome to intelligence—in this making of a home for culture—an unquestionable proof of the moral wholesomeness of our state. They have the seeds of progress, the pledge of growth, within them who are imbued with the belief that a man's life consisteth not in the abundance of the things he possesseth, to whom it has been given to see that opportunity for mental cultivation is a public necessity. I do not mean to argue and I do not think — that knowledge is all the same as virtue —or that the diffusion of intelligence is all that is needed for the extirpation of vice. But I do think and I do maintain that a large and liberal culture—the fructifying of thought and the refinement of feeling—tends no less to the advancement of society, than to the happiness of the individual. The mind of the man who, without the liberalizing influence of general culture, is given up to his particular calling or profession will invariably deteriorate. His taste, his sympathy will grow narrow, his understanding small. His understanding small. It may be bright and keen in the confined groove within which it usually works—it will be dull and edgeless out of that groove. The proof of this is over plain. The World is full of people clever and of repute in their profession—ignorant, wrong-headed, and unreasoning out of it.

It is true that some professions do make larger demand upon the intellect—do for their ordinary exercise require and compel the mind to move in a larger circle. And these we therefore call the Liberal Professions. But if you meet with a man of a really flexible understanding—or intellect adjusting itself spontaneously to the appreciation of new circumstances, and new facts—a mind that will work freely, so to speak, in a new material—you may depend upon it, that man knows something, and cares for something outside of his profession; you may depend upon it that this versatility has not been acquired without many a canter on some favorite hobby—many a canter over the fresh and springing turf of some favorite intellectual pursuit—off the hard and dusty road along which he wins his bread. And this many-sidedness it is—this openness to variety of interest, which while it raises a man's mental nature, and enhances the enjoyment of his private hour, this it is that lends to the intercourse of society its charm and its delight—supplies to conversation the elastic spring without which life's most exhilirating refreshment sinks into an infliction and a bore. Well then, ladies and gentlemen, our Literary and Historical Society is an institution admirably calculated as it seems to me to supply those opportunities for mental cultivation which we so much desire. Literature, History, Science—for though the name of science does not appear in our style and title, yet (what is made more to the purpose,) the thing is not absent from our transactions. Science, History, Literature—to bring these about us—to make a home for these among us—this is to surround ourselves with an atmosphere of culture—this is to enable ourselves to breathe the breath of intellectual life. There is no stimulant so potent, no tonic so invigorating for the human mind, as that questioning of nature, that close grapple for truth, which we call science. In the sifting and sorting of nature's facts, in piercing to divine their intent and significance, in penetrating to a perception of nature's forces, so vast in their universal grasp, so minute in the delicacy of their touch, which fashion the snowflake, and uphold the universe—in penetrating to discern beneath nature's

forms, the silent ordinances of God's great law—the unspoken voice of Him in whom we live, move and have our being,—the human mind attains its rarest, ripest skill, the human faculties quicken and develope into their most vigorous, most abounding life.

This may be all very well, I fancy I hear some one saying, for those that like it, but the knowledge we want is a knowledge of life; the knowledge that is most useful—most indispensable—is knowledge of men. I admit this. "The proper study of mankind is man." I admit this. The thoughts, the passions, the characters, the actions of our fellow-men are influences very near to us. They touch us all round. We are immersed in them. It concerns us to comprehend them. We shall miss our mark if we miscalculate them. If we would study men, if we would be good judges of human nature we must—to use the quaint language of Bacon—we must lay aside the *idols of the den*—must come out of the cavern of our individual peculiarities, with its dim distorting lights, and observe mankind under the broad, clear light common to all. And this we shall only do by the aid of history. It is by observing man as he has lived under varied conditions, by tracing the connexion of events, by weighing, testing, estimating the relative strength of the many conflicting, modifying causes and influences by which events have been produced, that we shall so train and restrain, so file and finish what natural gifts we may have or attain to that swiftness of insight, and ripeness of judgement, which we all flatter ourselves that we possess. If we would be good judges of human nature—if we would understand the present, or forecast the future, we must first of all have practised ourselves to reconstruct the past. History then and science entering thus of necessity into all mental cultivation we have in our Literary and Historical society the aids and incitements by which such cultivation is induced, and advanced. We have in our library a large collection of books, and we have in our stated meetings that intellectual co-operation which can make those dry bones live. The organization of the society which promotes the literary habit and invites to original research cannot well be set at a value that is too high for it. It is by trying to do a thing that we learn to know it. I remember to have heard, about the time of the revolution of 1848, how that Mr. Louis Blanc then chiefly known as the great socialist authority on the organization of labor, who, you recollect, was one of the provisional government in Paris, found his office invaded one morning by an excited throng of his disciples, demanding the instant realization of his theories. "What did they want?" "The organization of labor." It was in vain that the philosophical minister assured them that the thing could not be done in a moment. These tumultuous deputations do not wait upon ministers, I believe, in order to listen to reason. They were getting furious; when a great thought came into the statesman's mind. Singling out the most unreasonable of his admirers, he said, "The thing shall be done, and at your dictation. What shall I write?" and taking a pen and a sheet of foolscap, he waited for the word. The man whom he addressed stepped confidently forward. He rejoiced. The hour of the unappreciated was come! "What shall I write?" "The organization of labor." He wrote it. "What next?" "The organization of labor." He wrote it again; and again looked up expectant. The organizer began to get flurried. He took a turn across the room, came back, and, placing his hand to his head, repeated, for the third time, "The organazation of labor—is—is a more difficult matter than I thought it was." There it is: the bending of the mind to original effort, whether it be for the production of a state paper, the composision of a treatise, or the investigation of a phenomenon, cannot fail to teach a man something about his subject and something about himself. The criticism of his friends will probably teach him something more, always supposing that the society to whose criticism his lucubrations are submitted do not descend, as such societies have a tendency to descend, into a mutual admiration society. I may assume, I think, that there is no fear of that with us; but that we shall reap the full benefit of such co-operation, not the least of which arises out of the free discussion and conversation which follow the reading of our papers. These are the very things to keep a man within those bounds of strict and sober statement which in the gush of composition the unaccustomed pen is apt to overleap. The correction of error, however, and the enforcement of accuracy, invaluable as these are, are not the only good purposes which a competent fact to face criticism subserves. In the prompt dealing with novel views, and the prompt handling of new facts necessitated by the exigencies of oral debate, a man acquires, if ever he can acquire, swiftness and precision of mental movement. And he acquires more than that. He acquires mental fecundity. The mind is fertilized by the heat evolved in the play and collision of thought and bears more abundant crops —crops that spring up not from those ideas only which have been implanted from without, but from unsuspected seeds of thought warmed into life within. After all, however, it will be to no purpose that we sharpen our wits if they have nothing to work upon. But this something to work upon is the very thing which our own institution supplies. We have in our library the treasures of theory and fact, the records of observations and reasonings which constitute the knowledge and the wisdom of the past. And in the same library, by the continued accession of new works representatives of modern thought and modern research we enter into intellectual possession of the present. And this is what we are bound to do. It may be all very well to talk, as some people will talk, about the superiority of mother wit over book-learning. But nowhere can a man keep himself abreast of the intelligence of his age without book learning—least of all can we venture to make the experiment here,—we who inhabit a city which with all the beauty of its environments, and all the venerableness—as things go in these parts—all the venerableness of its associations is not, it must at length be conceded, I suppose, quite the centre and source of civilization. Upon libraries then and books, if we would not fall behind in the race, upon libraries and books we must rely as our main means of intellectual culture. Something we have in this way. More we need. And I trust that our funds will so increase that the best thought and freshest knowledge of the day will always be accessible to us and familiar amongst us. And here perhaps I might leave the matter; but in truth I am loath to leave it here. The literary character stands first in the description of our Society. And though the office, I have been assigning to books and libraries is an important and an honorable office, yet it is but a subsidiary and a secondary one. Now I am certainly led by natural disposition—I think I am called by the occasion to take, before I bring these observations to a close, at least one brief glance at the humanizing influence of literature valued and followed for its own sake. And since I have trespassed already too long upon your attention, I shall confine myself in what I say about this influence to this one single consideration,—that the love of literature takes us into good company. Books that live, preserve and perpetuate for our society and conversation the selectest minds of all the ages. No magician's fabled wand was ever mightier to conjure up the dead than is the spell that every student of literature holds in his hand. The world's master-spirits wait upon his will. Addison will come at his call to charm a vacant hour with the exquisite ease, the genial archness of his talk, and the delicate grace of his wit. Bacon, laying aside the cares and the snares of state, will unfold, of a winter's evening, his grand conceptions for the creation of science, or pour into listening ears, with many a quaint proverb and many a sparkling phrase, those wise counsels for the conduct of life which, as he himself says, come home to men's business and bosoms. Or, if his mind be in more imaginative mood—if he be disposed to

> "Feed on thoughts that voluntary move
> Harmonious numbers,"—

an old man rises to his side—aged before his time—the lines of whose noble countenance betoken one that has been used

> "To scorn delights, and live laborious days;"—

A blind old man, to whom it has been given to

> "See and tell
> Of things invisible to mortal sight;

And, lo! under Milton's guidance he is present in the conclave of the rebellious angels, where,

> "High upon a throne of royal state, which far
> "Outshone the wealth of Ormus or of Ind,
> "Or where the gorgeous East with richest hand
> "Showers on her kings barbaric pearl and gold,
> "Satan exalted sat, by merit raised
> "To that bad eminence."

He hears that high debate, and as he gazes on the grand forms of the fallen angels—

> "Majestic though in ruin,"—

He thrills under the weird power of that infernal eloquence, or —still by the spell of this "old man eloquent,"—other sights and other sounds prevail; and he hears

> "The merry bells ring round,
> "And the jocund rebec sound
> "To many a youth and many a maid
> "Dancing in the chequered shade
> "And young and old come forth to play
> "On a sunshine holiday."

Or if his fancy take a different sweep, stepping back some three

thousand years he listens whilst the wandering minstrel tells once more the tale of "Troy divine" or—but the theme is endless—there is not a tone in the whole diapason of the soul's capacities which literature does not evoke. It expands and elevates the mind—it rouses and it soothes. It is a friend always near and always welcome. In the language of its most enthusiastic votary it is at once the strength of youth and the solace of age—the adornment of prosperity—a refuge in distress—solitude's companion and society's delight.

The speakers were frequently applauded, and the historical data given by Mr. Chauveau, and the Bishop's eloquent address, were listened to with rare pleasure.—*Mercury.*

Annual Report of the Superintendent of Education for the Province of Nova Scotia, for the School year ended the 31st October 1868.

The progress of Education in our sister Province, exhibited by this report, must be gratifying to all friends of the cause.

It was our intention to have given a somewhat extended analysis of it, but now find want of space will prevent our doing so. We shall however give a few extracts.

The Report is divided into three parts,—Part I.—General Report; Part II.—Statistical Tables, and Part III.—Appendices. We shall confine our attention to Part I.

The following Summary of the more important statistics for the year present a condensed view of the condition of Education in the Province, as compared with the year 1866:

SCHOOLS AND PUPILS.

No. of Public Schools in operation:		
Winter Term, 1867		1129
Do. 1866		907
Increase		222
Summer Term, 1867		1416
Do. 1866		1170
Increase		246
Pupils Registered:		
Winter Term, 1867		61,718
Do. 1866		45,131
Increase		16,587
Summer Term, 1867		70,075
Do. 1866		56,017
Increase		14,058
Total No. attending Educational Institutions:		
Winter Term, 1867		62,396
Do. 1866		45,768
Increase		16,628
Summer Term, 1867		70,761
Do. 1866		56,676
Increase		14,085
No. of different Pupils *reported* attending the Public Schools during some portion of the school year 1867		83,058
Estimated do. do. 1866		71,059
Increase		11,989
Proportion of the present (1) population of the Province attending Public Schools during some portion of the year 1867		1 in 4.56
Estimated do. do. 1866		1 in 5.21
Increase		1 in 31.55 of pop.

(1) Estimated population of the Province in 1867, 378,323, as furnished by John Costley, Esq., Secretary to the Board of Statistics.

No. of pupils daily present at Public Schools on an average:		
Winter Term, 1867		35,091.88
Do. 1866		25,988.86
Increase		9,103.02
Summer Term, 1867		38,993.70
Do. 1866		25,128.93
Increase		13,864.77
No. of pupils daily present per 100 registered:		
Winter Term, 1867		56.86
Do. 1866		57.58
Decrease		0.72
Summer Term, 1867		55.36
Do. 1866		58.00
Decrease		2.64

TEACHERS EMPLOYED.

Total No. Male Teachers:		
Winter Term, 1867		779
Do. 1866		603
Increase		176
Summer Term, 1867		743
Do. 1866		603
Increase		140
Total No. Female Teachers employed:		
Winter Term, 1867		482
Do. 1866		326
Increase		156
Summer Term, 1867		716
Do. 1866		557
Increase		159
Total No. of Licensed Teachers employed:		
Winter Term, 1867		1261
Do. 1866		929
Increase		332
Summer Term, 1867		1459
Do. 1866		1190
Increase		269

SALARIES OF TEACHERS.

Total amount paid for salaries of teachers of public schools		$263,867.97
Do. do. 1866		235,825.67
Increase		$28,042.30

SCHOOL-HOUSES, FURNITURE, ETC.

Amount paid by the Province to aid poor sections in building		$2873.79
Do. do. 1866		2845.29
Increase		$28.50
Amount paid by the Province towards supplying books, maps, and apparatus		$13,388.06
Do. do. 1866		4,855.72
Increase		$8,502.34
Total amount expended by the various sections for all purposes, exclusive of "salaries" and "debt"		$181,876.00
Do. do. 1866		91,024.31
Increase		$90,851.69

TOTAL EXPENDITURE FOR PUBLIC SCHOOLS.

Paid by Government	$145,280.17
Paid by Counties	91,477.14
Raised by various sections	262,912.86
Total 1867	$499,670.17
" 1866	349,811.00
Increase	$149,859.17

SUPERINTENDENT'S REMARKS.

THE SCHOOL LAW.

The Property of Non-Residents.—There is at present no provision in the School Law by which the property held by a Non-Resident of the County can be assessed for Local School purposes. It would be only just to make such property liable to local assessment in the section in which it is situate.

Poll-Tax.—There is one point in connection with School Assessment to which I would call attention In my report of 1864, I recommended that a portion of the Local School Assessment should be levied as a poll-tax. Such a law has since been passed for the City of Halifax, and the Annual School Meeting at Dartmouth has by unanimous vote twice solicited me to press this subject upon the attention of the Legislature. I have learned the views of very many persons upon the subject and find great unanimity in favour of raising a portion of the Local Assessment by poll-tax. Such a mode would tend, on the whole, to equalize the burden of support, by reaching many who ought in all fairness to bear a share, (and who, I believe, would as a general rule, most cheerfully do so), yet having no rateable property, are under the present system, exempt from all share in the cost of educating the community in which they live. It will be evident, moreover, that if such a mode of levying the Local Assessment were adopted by the Legislature, it ought to remove all grounds for complaint which are now entertained by the more aged men throughout the Province. I would respectfully suggest that the Legislature consider the wisdom of enacting that a given proportion of the sectional school tax shall be levied as a poll-tax on all adult male residents.

SCHOOL INSPECTION.

It has been the experience of every country supporting a public or national system of Education that a thorough school inspection is necessary to a wise and vigorous administration of that system. For upwards of three years, the schools in each county of Nova Scotia have been under the special supervision of an Inspector. Through these officers the Superintendent has sought to awaken the interest of every portion of the Province, and render operative the educational enactments of the Legislature. I need not say that this work has required much vigilance and unwearied labour. The school accommodation of the Province has been improved both in extent and kind a hundred per cent, and the attendance of children at school has been doubled. Equal if not greater improvement has been made in the general equipment of the schools with respect to books, maps, and other necessary apparatus; while not less advancement has been made in all matters pertaining to the internal management of the schools. Of all the means placed by the Legislature under the control of the Superintendent for securing these great results, none have been so direct and powerful as the appointment of inspectors. The duties of these officers have been multiform. They have pressed upon the people the just claims of Education, and labored to awaken a favourable response to the provisions of the law. They have instructed the people what steps are necessary to the enjoyment of the highest benefits contemplated by the enactment, what should be the nature and extent of their school accommodation, and how their school affairs might be properly conducted. They have assisted the local Trustees in obtaining suitable teachers for their respective sections; and when local difficulties have arisen they have been directly instrumental in allaying irritations and in settling disputes. The great advancement made both in the accuracy and fullness of educational statistics has been secured through the agency of these officers, and time only is required to perfect by their instrumentality a thoroughly reliable annual exhibit of the educational affairs of the Province. By periodical inspection of the work performed in the school-room, they have already done much towards elevating the character of the instruction given, and in securing well-ordered schools. In short, from the experience of the past few years I am confident that it would be utterly impossible to secure and maintain a discriminating and productive application of our Educational means either provincial or local, material or mental, without an efficient system of inspection. It may be quite true that the foregoing remarks are not applicable in an equal degree to the services rendered by each Inspector, but wherever there has been lack of faithful inspectorial service, the educational interests of the county have manifestly suffered.

A considerable portion of the labour which the Inspectors have hitherto performed has been incident to the establishment of schools and their general management under new conditions. In a majority of the Counties this work may be regarded as nearly accomplished. An educational sentiment has been developed among the inhabitants of the various sections, of a strength sufficient, it is believed, to render the provisions of the law operative in the sustaining of public schools. It now becomes specially necessary that the work of the Inspectors should be brought to bear more directly on the every day work of the schools. The Government and people are appropriating liberally of the means at their command for the maintenance of schools, and it is of the last importance that the methods of instruction and management which obtain in these schools, and the technical knowledge imparted in them, be subjected periodically to the careful review of competent men, and that the results be reported both to the local trustees and the government. I am of the opinion that it would be highly promotive of our Educational interests if the number of the inspectors was now gradually reduced to ten or eleven, possibly to nine. I say *gradually*, for the reduction should be effected only as the different portions of the country are prepared for it, and as thoroughly qualified men could be secured. If this suggestion should approve itself to the Legislature, I would recommend that the Council of Public Instruction be empowered to form territorial Divisions, from time to time, each of a size sufficient to engage the constant employment of an Inspector. This plan would not require any increased expenditure, while by offering constant employment, it would always be possible to secure the services of thoroughly qualified men.

Canadian Publishers and English Authors.

In the *Montreal Daily News* of the 12th Feb., we find an article, reproduced from its own columns, as well as a letter from Mr. John Lovell, (Printer and Publisher, Montreal,) to the Hon. John Rose, on the eve of his departure for England, together with the opinions of the Press of the different sections of the Dominion, on Canadian Publishing,—from which we make a few extracts.

The *Daily News* says:

Under existing circumstances the Canadian publisher is prohibited from publishing English copyright works under penalty of fine and imprisonment, while the American can sell them in this country on payment of 12½ per cent. customs duty. Literary men in Canada are comparatively idle in consequence. There is little or no encouragement given to them, and literary career instead of being as it is in England, a remunerative pursuit, is in this country, in too many instances, only another name for gradual starvation. Still there is abundant evidence to prove that the people of Canada are not by any means deficient in literary genius and literary taste. The fact that at the publishing establishment in which the DAILY NEWS is printed, upwards of 150 persons are employed, shows that even under the present unfavorable regulations there is some encouragement given to literary efforts by the Canadian public. How much greater that encouragement would be were the present restrictions removed, it is almost impossible to say, but it is easy enough to understand that if the publishers of Canada were relieved from those grievances of which with just cause they now complain, they would not only be able to publish all the English works needed by the Canadian public, but would be able to export books to the United States and sell to the Americans at a lower rate than that at which they can at present be supplied by their own publishers. If our publishers were allowed to print English copyright works on payment of 12½ per cent. to the author, (a payment which would most willingly be made), English authors would derive a considerable income from the sale of their works to the Canadian public, for which at present they receive little or no compensation.

But how great would be the benefit which the people of this country would derive. The literary men of Canada would obtain remunerative employment, hundreds of printers, pressmen, canvassing agents, book deliverers, &c., would at once find plenty of work to do, books would be cheaper, knowledge of all kinds would be placed within the reach of all classes of the community, and thus the Dominion and the Empire would be rendered stronger and more prosperous.

Mr. Lovell in his letter says:

In 1849, I believe, the Government of Canada, with the sanction of Her Majesty the Queen, gave United States publishers the right to bring reprints of English copyright books into this country on payment of a Customs duty of 15 per cent., which has since been reduced to 12½ per cent., the proceeds of the duties to be forwarded to the English authors as a compensation for the privileges secured to the American publishers.

The people of the Dominion, and especially the printing and publishing interests, feel that they ought to possess at least equal privileges to those conceded to the foreigner. There are several establishments in the Dominion that would esteem it a great boon to be allowed to reprint English copyrights on the same terms as are now secured to United States publishers, and would gladly pay the 12½ per cent. to the English authors on the total number of copies printed—sure to be very considerable. At present only a few hundred copies pay duty, but many thousands pass into the country without registration and pay nothing at all, thus having the effect of seriously injuring the publishers of Great Britain to the consequent advantage of those in the United States. I may add that, on looking over the Custom House Entries to-day, I found that not a single American reprint of an English copyright (except the Reviews and one or two Magazines) has been entered since the third of April last, though it is notorious that an edition of 1,000 of a popular work coming under that description has been received and sold within the last few days by one bookseller in this city.

It is undeniable that Canadian printers would be enabled to comply with the requisite condition, and produce books—thanks to local advantages—at a much cheaper rate than they can be produced in the States, and so bring about a large export business. This would have the happy effect of bringing back a large number of our skilled workmen, who have been forced to leave the Dominion to find a remunerative field of labor. Indeed it is not too much to say that, as things are at present our very best compositors are constantly leaving with a view to improving their position on the other side of the line. This is a most serious evil, which can only be remedied by a removal of the disabilities under which the Dominion publishing interest languishes.

I feel assured, Sir, that this matter need only be explained to British authors and publishers to ensure their cordial co-operation in the revision of the copyright treaty between England and the States in so far as it affects this country. The number of English editions imported into the Dominion is exceedingly small, entirely through the encouragement so universally extended to the foreigner, and I am persuaded that under the new system of Confederation, offering, as we do, a market of nearly three millions of English speaking people, it will be a matter of serious consideration whether it is not now desirable for the English publishers to produce copyrights in this country independent of the editions emanating from Home presses.

The Toronto Leader says:—

It is rather an anomalous feature of the publishing business in Canada that, as regards reprints of English books, it is placed upon a less advantageous footing than the United States. The foreign State has had concessions made to it which are, as yet, denied to this large appanage of the Empire. It happens in this way:—The United States publishers having a large English-speaking and book-reading population within their reach, are able to find profitable sale for almost any kind of literary production. The best books are, of course, published in Europe. For, although one could not make the enquiry now with the sneer which attached to it a quarter of a century ago, "Who reads an American book?" it is self-evident that Europe, with its older civilization, its higher development of literary talent, and better education, stands in a commanding position in the world of literature. Literature has been a paying profession in England for a great number of years. There being no international copyright law, as between England and the neighboring Republic, the American publishers, as a class, steal every good book and periodical as fast as they are printed at home, and reprint them in this country, with considerable profit to themselves. Of late years a few of the more enterprising and honest of the American publishers have paid English authors for advance sheets of their productions. But, as a rule, what is published in England is republished in the United States without any profit to the authors. It cannot be that so unsatisfactory a state of things will long continue to exist between two great countries. Mr. Charles Dickens labored earnestly during his recent visit to America to secure the passage of a copyright law by Congress, and had well nigh succeeded, the United States publishers beginning now to see that it would be better for them to be in a position to secure the indisputable right of publishing a particular book, by paying for it, than to have to submit to the keen competition and rivalry which the large profits of the business have created. The bill of last session did not pass, however, and there is no movement in Congress now with a view to securing this equitable form of legislation.

The request of the publishing interest is nothing more than equity demands should be granted to it. It asks no protection against the publishers of the United States. It simply desires to be placed upon the same footing; and surely a colony is entitled to at least equal privileges with a foreign country. Did Canadian publishers seek for any special protection, they would obtain no support from us. They desire none. What they ask would be but simple justice to themselves, and would be quite fair as regards the British author. We question if the permission to reprint British works in Canada would not give many of them a far greater circulation here than could be obtained in any other way; and whilst this increased circulation would be for the advantage of our own publishers, the authors would receive the duty out of which they are now often cheated, and which, in any case, they obtain to but a limited extent.

The concession would also give a *status* to the literary profession here, which is now entirely wanting. There is now no recognized literature in Canada, except that of the newspapers, which, however powerful and useful, is not of a permanent character. Men with brains and the education more suited to a literary than any other career would find profitable employment. In the whole business of publishing there would be a marked change for the better.

The *Pictou Standard* says:

We observe that the attention of Publishers throughout the Dominion is attracted to the obstacles which lie in the way of successful publishing under existing circumstances. At present American reprints of British works are admitted into the Dominion, at a duty of 12½ per cent. which is secured to the English authors as a compensation. Publishers here cannot republish English works at all, except with the permission of the author, and the consequence is that the United States press supplies us with these works which might be published here with advantage. The effect of this is that the workmen and others engaged in the publishing business, go to the United States, and thus will draw a large amount of skill, labor and capital from the country. It is contended that the same privilege should be extended to the Publishers of British North American as to those of the States, and that the amount of duty, 12½ per cent, should be secured to the English coppyholder as at present. We think this view is one that will commend itself to every person of sense, and that the General Government should at once take the matter in hand, and endeavor to obtain for the publishers here, the same privileges extended to the foreign publishers. There can be no doubt, if the matter is properly represented, that the British Government will be quite ready to grant the privilege, and the subject is so important, not only to the publishers but also to the reading public, who would thus be supplied with reading matter at a lower rate than at present, that we hope no efforts will be spared by the authorities to obtain so desirable a boon.

The *Stanstead Journal* says:

The publication of books in Canada is in its infancy. It is true a few original works have been published which are very creditable to both authors and publishers. There is one branch of the business which might be made both profitable to the publisher and the reading public,—we refer to the reprinting of English copyrights. The copyrights secured in Great Britain extend to all her dependencies, of course preventing by law the republication here of such works. American publishers therefore have every advantage—there being no international copyright law,—over the Canadian publisher. As the matter stands at present, British books may be and are reprinted in the United States and sold in Canada with no advantage to the author, while the Canadian publishers willing to pay for the privilege which the Americans appropriate, cannot secure it, on any terms. This privilege is denied to Provincial publishers on the ground that it would interfere with the sales of the English publishers. This is a fallacy, in most cases, inasmuch as Canada is flooded with cheap reprints from the United States, few of which pay duty. But were the duty paid, the American works would still undersell the English edition.

This condition of affairs is a hardship to a large class of persons who would obtain remunerative employment in the reproduction of valuable works at prices which would compete with the American editions were they allowed to reprint upon equitable terms, say 12½ per cent. upon sales, while the owner of the copyright would reap more benefit than he now obtains under the present anomalous state of affairs.

Publications and Exchanges Received.

REPORT OF THE SUPERINTENDENT OF COMMON SCHOOLS OF THE COMMONWEALTH OF PENNSYLVANIA, for the year ending June 1, 1868.

THE CINCINNATI MEDICAL REPERTORY, for Feb. and March 1869, edited by J. A. THACKER, M. D.—Price $1.00 a year in advance.

PACKARD'S MONTHLY, THE YOUNG MEN'S MAGAZINE, for Feb. and March 1869,—Published by S. S. Packard, 937 Broadway, N. Y., at $1.00 per annum.

THE ILLINOIS TEACHER, DEVOTED TO EDUCATION, SCIENCE, AND FREE SCHOOLS,—Vol. XV. Nos. 1 & 2, Jan. and Feb. 1869.—Published Monthly at $1.50 per ann., in advance.

THE CALIFORNIAN TEACHER, A JOURNAL OF SCHOOL AND HOME EDUCATION AND OFFICIAL ORGAN OF THE DEPARTMENT OF PUBLIC INSTRUCTION,—Jan. and Feb. 1869.—Published at 710 Washington St., San Francisco, at $2.00 per annum in advance.

OHIO EDUCATIONAL MONTHLY, A WESTERN SCHOOL JOURNAL—Feb. and March, 1869.—Terms $1.50 in advance.

THE MANUFACTURER AND BUILDER, (1) Vol. 1, Nos. 1 and 3, Jan. and March 1869.—Western & Company, Publishers, 37 Park Row, New-York.

THE SEMINARY MAGAZINE, AN ILLUSTRATED MONTHLY, DEVOTED TO EDUCATION AND LITERATURE, Vol. 1, No. 4, Jan. 1869, published by M. W. Hazlewood, Richmond, Va.

THE PENNSYLVANIA SCHOOL JOURNAL, ORGAN OF THE STATE TEACHERS' ASSOCIATION, AND OF THE COMMON SCHOOLS, for Feb. 1869, published by Wylie and Griest, Lancaster, at $1.00 a year in advance.

HEARTH AND HOME, FOR THE FARM, GARDEN, AND FIRESIDE,—Published weekly, by Pettengill, Bates & Co., 37 Park Row, New-York,—Terms for 1869,—Single copies, $4, invariably in advance; 3 copies, $10; 5 copies, $15.

REPORT OF THE SUPERINTENDENT OF PUBLIC INSTRUCTION for the STATE of ARKANSAS for 1868.

STEWART'S LITERARY QUARTERLY MAGAZINE, DEVOTED TO LIGHT AND ENTERTAINING LITERAEURE, from No. 2, vol. 1 (No. 1 out of print) to No. 4, vol. 2. Price 10 cents a number,—published St. John, N. B.

THE CANADIAN JOURNAL OF SCIENCE, LITERATURE, AND HISTORY,—conducted by the Editing Committee of the Canadian Institute, Toronto, for December, 1868. (This is the first No. we have received since December, 1867.)

THE MASSACHUSETTS TEACHER, Vol. IV., No. 2, Feb. 1869.

THE MAINE JOURNAL OF EDUCATION, Vol. III., Nos. 1, 2 and 3, Jan., Feb. and March 1869.

THE MICHIGAN TEACHER, A MONTHLY JOURNAL DEVOTED TO EDUCATIONAL INTELLIGENCE, &c., &c., Vol. IV., No. 2, Feb. 1869.

WEEKLY SPIRIT OF THE TIMES AND NORTHAMPTON EDUCATOR, Bethelem, Pa. Vol. I., No. 36.

SOME THOUGHTS CONCERNING EDUCATION (2) by JOHN LOCKE:—New-York, J. W. Schermerhorn & Co., 14 Bond St.—Jan. 1869.

THE NEW DOMINION MONTHLY, March 1869.

The Publishers of this Magazine offer to present the volume just closed (from October to March, inclusive), bound and postpaid, to any person who shall remit $3 for three new Subscribers for one year, beginning either with Oct. last or with April next.

REPORT OF THE BOARD OF SCHOOL COMMISSIONERS FOR THE CITY OF HALIFAX FOR THE YEARS 1866 AND 1867.

(1) Feb. No. not received.

(2) An admirable little work for Parents and Teachers.

PRACTICAL PAINTER, VOL. 1, No. 1. OFFICE, 37, PARK ROW, NEW YORK, MARCH, 1869. *Price, 5 cents.*

LEISURE HOURS FOR MARCH (Feb. No. missed)—A MONTHLY DEVOTED TO HISTORY, BIOGRAPHY, PROSE, POETRY, WIT, ROMANCE, REALITY, AND USEFUL INFORMATION, Published by O'Dwyer & Co. 59 Fourth Avenue, Pittsburgh. It is full of agreeable reading to while away a *leisure hour*, and *only* $2.00 *per annum.*

THE INDIANA TEACHER, A MONTHLY JOURNAL DEVOTED TO THE INTERESTS OF COMMON SCHOOLS, Published by John B. Alden, Indianapolis, Indiana, at $1.50 payable in advance. (This is the first No. to hand and have not had time to examine it.)

THE MOUNT AUBURN INDEX, Cincinnati,—Vol. 1, Nos. 4. and 5, Jan. and Feb. 1869.

THE CANADIAN BUILDER AND MECHANIC'S MAGAZINE, London, Ontario, Vol. 1, No. 2, March 1869.

JOURNAL OF EDUCATION, St. Louis, Vol. 1, No. 6, Feb. 1869.

We cordially welcome this monthly. Address J. B. Mervin, 704, Chesnut St., St. Louis, Mo.

EDUCATIONAL GAZETTE,—Philadelphia, Vol. 1, No. 1, March 1869. A new candidate for public favor—certain to be successful.

We shall lay its pages under contribution in our next issue.

THE SAN FRANCISCO NEWS-LETTER AND CALIFORNIA ADVERTISER, Vol. IX, Nos. 3 and 4, Feb. 13th and 20th 1869.

ADVERTISERS GAZETTE,—A MONTHLY JOURNAL DEVOTED TC THE INTERESTS OF ADVERTISERS AND NEWSPAPER PUBLISHERS.

Published, at $2.00 per annum in advance, by Geo. P. Rowell & Co., No. 40 Park Row, New York.

THE NURSERY FOR MARCH AND APRIL 1869,—A richly Illustrated Monthly Magazine for Youngest Readers, now in its third year, is published by John L. Shorey, Boston, Mass., at $1.50 a year. The illustrations alone are worth more than the price.

PETER'S MUSICAL MONTHLY, Vol. III, No. 3. Whole No. 19.

The March number of Peters' Musical Monthly is at hand, and contains some twenty-four pages of Choice New Music, giving selections from the most popular writers, and variety enough to suit the most fastidious. We notice, first, a beautiful little ballad, with Chorus, by J. S. Cox, entitled "Left all Alone."

Then follows a Sacred Song by George Leach, entitled "The Lord will Provide."

"Coraline," by the Nation's Song-Writer, Will S. Hays, comes next.

This is followed by a sprightly Comic Song, by T. Brigham Bishop, entitled "The Young Widow."

There are also three Instrumental pieces, namely: "Pretty as a Pink," Barcarole, by Mack; "Fleur de Thé Galop," by Dressler, and the famous "Grecian Bend March," by Prévot.

In addition to the above, Mr. Peters gives fifteen pages of choice family Reading, and all for the moderate sum of 30 cents, or $3 per year—over $3 worth of New Music appearing in each number. Those of our musical friends who do not subscribe are certainly losing a rich treat, as $40 worth of music cannot be bought every day for such a small sum.

Issued by J. L. Peters, Music Publisher, P. O. Box 5429, New-York.—Sample copies, 30 cents.

MONTHLY SUMMARY.

EDUCATIONAL INTELLIGENCE.

—*Lady Physicians.*—An important step has been taken by the University of Paris. An American lady has received permission to present herself for the examinations of the Faculty of Medicine in that University, and has already passed the first professional examination. The same permission is granted to English ladies, to whom therefore a fresh avenue to the medical profession is opened. The Paris M. D. degree involves

having passed the examinations for the Baccalauréat et Lettres, and the Baccalauréat et Sciences (or some recognized equivalent), and five medical examinations, besides having spent five years in medical study Permission to attend lectures and hospital practice at Paris is also accorded to women. The programmes relating to the several examinations, may be obtained, by order, from "Jules Delalain et Fils, Rue des Ecoles, Paris." Two foreign Universities, those of Paris and Zurich, being now open to female medical students, those who wish to see women practising as physicians are likely to have their desire fulfilled, irrespective of the action of English medical bodies.

—*The Education of the Merchant.*—Professor Leone Levi, in his introductory lecture at King's College, selected for his subject "The Education of the Merchant." Having shewn the interest taken by that institution in the diffusion of those sciences which are associated with the industrial progress of the country, and the means at its disposal for acting as a complete technical institute, the Professor said that the first condition for the successful technical education for any profession is a mind already prepared by a sound general education, since technical education begins where a good elementary, and sometimes a secondary, education ends. The general education of a student for the mercantile profession should consist of English first and foremost, one or two foreign languages, Latin, arithmetic, and mathematics. Much higher, however, are the requirements of trade, and a good technical education would demand the perfect command of those branches of knowledge, and the addition of many more. The study of statistics is important in order to learn how to procure, arrange, and publish facts in relation to trade. Mathematics and algebra, in connection with the doctrines of probabilities, are especially necessary for the business of insurance. Accountancy is of practical use, since a good knowledge of it often acts as a safeguard against commercial disasters. The principles of commerce and banking, including the history of our commercial policy, a knowledge of facts relating to the articles of trade, the foreign exchanges, and the funds, as well as a good portion of political economy, form the very elements of commercial knowledge. Physical geography is of great value, as it describes the characteristics and productions of different countries with which we are trading; while geology and chemistry are of primary necessity in conection with mining and manufacture. Of still greater utility to all are the commercial laws of this and other countries—or a knowledge of the laws which govern the different relations of trade, and the various instruments of commerce—and international law, which furnishes information respecting the rights of belligerents and neutrals, and the rights and duties of consuls in foreign ports. The tariffs of all countries ought to be studied, and also their weights, measures, and coins. The Professor dwelt on the advantage of the educated over the uneducated merchant, and urged that the apprentice must possess sufficient theoretical knowledge before he can understand and connect the operations of trade which he sees in practice. The student should not form a low idea of the accomplishments necessary for the mercantile profession, which in reality are very great, and far less a low conception of commerce as a calling. To encourage methodical studies for commerce, it would be well if merchants in taking apprentices and clerks, would give the preference, as far as possible, to those adducing evidence of the possession of adequate instruction in the sciences applicable to commerce. Studentships might also be founded in connection with such studies by the leading merchants and City companies, who should do for commerce what Mr Whitworth and Sir David Baxter had nobly done for mechanics and industry. France, Germany, Belgium, Italy, and Switzerland are doing their utmost to extend commercial education; and care should be taken that the British merchant, who enjoys a world-wide celebrity for perspicacity, boldness, and enterprise, shall also stand foremost in intelligence and virtue.

—*Technical Education.*— The eminent engineer, Mr John Scott-Russel, C. E., F. R. S, delivered an address recently at the Birkbeck Institution, Southampton Buildings, upon the subject of technical education. Mr M'Cullagh Torrens, M. P., occupied the chair, and there was a pretty large attendance. Referring to the subject of mechanics' institutions, Mr Scott-Russell attributed their comparative failure in the country, to the fact that they were deficient in the preliminary knowledge which was necessary for them to become popular. The great evil to be deplored was, the low standard which, as a nation, we had been satisfied with for the education of our people. It was considered enough to constitute a public school if reading, writing, and arithmetic, were taught within its walls. These things, however, did not constitute knowledge; they were merely the vehicles by which true knowledge was conveyed. The same errors had been committed by other countries; but those countries had long since awoke from their error, while England still lagged behind. Education in England was inadequate for practical purposes, mainly because we did not, in the first instance, lay down a sufficiently broad and distinct foundation upon which afterwards to rear the more special education required for our duties in life. After twenty years' acquaintance with many of the most educated nations of Europe, he was bound to say that the people of those countries received an ordinary and technical education, calculated to fit each man for his own vocation in life, to a degree of profundity and excellence of which we in this country had not yet formed the slightest conception. He would not say whose fault it was that England was not the best educated country in the world. Some persons said it was the fault of the working-classes, who would not educate themselves. This, however, was a fallacy. In no country did the ignorant educate themselves. It was, therefore, the duty of the educated to instruct those who were not. In Switzerland every man had a complete course of technical education calculated to fit him for the duties of life, and a similar state of things he desired to see brought about in England. It was the duty of their governors to help the advancement of technical education, by providing them with the best masters and means whereby to acquire the requisite knowledge. Let the members of such an institution as the one he was now addressing bring the matter before the Government, and then perhaps the results which he desired to see might be brought about. The proceedings terminated with a vote of thanks.

—*Scientific Education* — The *Ecole Pratique des Haules Etudes*, described in last No. of the *Museum*, is to begin with a greater number of students than could have been anticipated. On the first October, the inscriptions were,—

Mathematical Department,.....	15
Physics and Chemistry,.....	51
Natural History and Physiology.....	47
History and Philology,.....	44

Some have even given up permanent situations in order to join this highest school of scientific research.

Laboratories are being built and furnished both in Paris and in the provinces. At the Sorbonne, laboratories of natural philosophy, of botany, of physiology, and of geology will soon be ready; and a great chemical laboratory is in course of construction. At the College of France, and at the *Ecole Normale Supérieure*, where the teachers of the great public schools of France are trained, laboratories of chemistry, of physiology, and of chemical physiology, are in preparation. And at the Museum, besides the laboratories of zoology and vegetable physiology now ready, others are contemplated for chemistry, botany, and comparative physiology. From the provinces come requests that particular laboratories already in operation may be affilated to the *Ecole Pratique des Hautes Etudes* in Paris; the departmental authorities of Calvados have made a grant to encourage researches in agricultural chemistry by the scientific Faculty at Caen; and the town council of Lille has voted upwards of £400 towards the installation of a chemical laboratory in their *Lycée*, or great public school. Scientific research encouraged above; scientific instruction diffused below: this seems to be the meaning of the above facts.

— *Lord Stanley on Education.*—Lord Stanley's speech to the constituency of Lynn, we may regard as an utterance by authority, and of exceptional interest from one hitherto reticent of his convictions upon the subject:—"I come," he said, "to the large subject of popular education, or rather of popular school teaching, which is a very different thing, but which I always endeavoured to promote. I will tell you briefly my ideas upon that. It is admitted that the present system is defective. There are many parts of the country which it does not reach, and are just the poorest districts where it is most wanted. I am quite ready to support any reasonable plan by which that defect can be remedied. I speak only individually, and not as pledging any one but myself. I think that in the first instance, it would be advisable to take away the management of the Educational Department from the Council Office, with which it has no natural connection, and to appoint a minister for that sole and special purpose. The next step would be to ascertain how far the provision for teaching is inadequate, a point upon which there are the widest divergences of opinion. I should not object to giving powers to towns or to districts to rate themselves if they should think fit for school purposes. Further than that, I see no necessity for going. I would not alter the present system where it is working well, and I object to making education compulsory, because it does not seem to be necessary. We must not be in a hurry, and we must recollect that immense progress has been made in the last twenty-five years. Legal compulsion in private matters is, in this country, exceedingly unpopular and any proposal of that kind would, by the opposition which it would create, throw back the cause rather than advance it. Those who advocate compulsion in such matters are in this dilemma: If popular feeling is against your law, it won't work; if popular feeling is in favour of it, then it is not wanted.

—*Medical Report on the Great Public Schools.*— In March 1867, Dr. Vernois was commissioned to inspect, from the medical point of view, the imperial *lycées*, or great state boarding-schools of France, 78 in number. He has overtaken all of them except two, those of Algiers and Bastia; and his voluminous report is now printed. The first and most considerable part, which describes the facts as he found them, and the improvements required in each case, occupies five folio volumes each of 200 pages. The rest of the report is devoted to a generalization of the facts, and an exposition of hygienic principles in their application to *lycées*.

Here is a summary of the improvements declared to be necessary :—

1. In 32 *lycées*, the building must be enlarged to give proper accommodation to the pupils.

2. In the case of 11 *lycées*, the buildings ought to be renewed in whole or in part, the present ones being in a dangerous condition, or in an unhealthy locality, or ill-planned internally.

4. In 39 *lycées*, foot-bath rooms are wanting ; and in ten others, the arrangements for foot-bathing need improvement.

5. In 28 *lycées*, there is no covered space for gymnastic exercise ; and in 13 others, there is no gymnastic apparatus whatever.

6. In 43 *lycées*, the heating apparatus is defective.

7. Wherever possible, gas should be substitated for oil lamps.

8. A larger allowance of food for the bigger boys in 21 *lycécs*.

9. The establishment of wash houses, so that the boys' linen may be washed apart from that of townspeople.

10. In the case of 40 *lycées*, a radical reform in the construction and mode of disinfecting the privies.

11. The abolition of cesspools not water-tight.

Notwithstanding this long catalogue of sanitary deficiencies, the general health of the pupils in the *lycées*, estimated by the death-rate, is far above the average for boys between 10 and 15 years of age throughout France.

To prevent the sanitary condition of the *lycées* from again becoming so unsatisfactory, Dr. Vernois proposes, as usual, more inspection.. Here are the particulars :—

1. Let an Inspectorship general of the imperial *lycées* be established.

2. Let the physician of each *lycées* send annually, in January, to the inspector-general, a report on each of the headings under which Dr. Vernois has classified the whole subject.

3. Let a general report on the sanitary condition of the *lycées* be made up from these, and annually published.

4. Let the physician of each *lycée* have a seat at its Board of Management.

5. Let each rector (*proviseur*) of a *lycée* be informed of the improvements deemed necessary after inspection, and let an exact account be kept of the improvements carried out.

6. Let some academic reward be bestowed on those physicians who become distinguished by long and honourable services.

—*Italy.*— *New Commercial College.* — A great non-classical school, called Technical College of Commerce, has just been organized in Venice, and will be opened immediately under the direction of Signor Ferrara, a distinguished Sicilian gentleman, lately Minister of Public Instruction. This institution is chiefly intented for young men destined for the consular service and for mercantile pursuits. The principal languages of Europe and the East, the various systems of banking, the principles of commerce, of exchange, of book-keeping, and of commercial law will be taught in it.

The city of Venice has granted the magnificent Foscari palace for the installation of the school ; and the following handsome annual subsidies are promised for its maintenance :—

City of Venice.....	£480
Chamber of Commerce,.....	320
Venetian Provinces,.....	1600
Government,.....	400
—*Museum.*	£2720

—*The Choice of Pursuits.*—Some distinguished writers on the mind have attempted to maintain that habit and education were principally the inciters of individuals in the choice of their pursuits ; and, further, it has been asserted that they are the source of some, at least, of our mental faculties. But as habit implies exercise, and exercise implies the pre-existence of the thing to be exercised, it follows that habit is the effect of the presence of a faculty and not its precursor. Neither is education the cause of our faculties. Education is the drawing out of faculties that are already in existence It develops and strengthens the faculties but cannot originate any. Yet nothing, indeed, can be truer than the assertion that education and habit have much influence in directing young persons in the choice of their pursuits ; and, for this reason, the judicious educator should be careful to learn, at an early period, the dominant moral and intellectual attributes of his pupils. Supported by this knowledge, he will be able to point out the field in which their talents may be used profitably, and without irksomeness to themselves. How often, in the absence of such information, have talents been fatally misdirected. Yet many men, who were incapable of soaring above mediocrity in those callings which education and habit, and the prejudice of parents, had prescribed for them, have gained high reputations by discoveries in science and art, when proper opportunities of their predominant faculties were presented to their minds ! One notable instance of this it may be interesting to state. The repugnance of Handel's father to his child's indulgence in his passion for music is well known. But nothing could repress the infant's ardour in pursuit of that charming art. To escape his father's vigilance he contrived to conceal a clavichord in a garret, where he used to play when the family retired to rest. The following case is even more to the point than the foregoing. The father of the renowned astronomer, Sir. Wm. Herschel took great pains to render his son an accomplished musician. But although the youth was enthusiastically fond of music, and endeavoured, with unremitting ardour, to attain to excellence in that art, yet he is not now spoken of in connection with music, whilst his fame is scarcely inferior to any man's in astronomy, to which his attention was called by a natural instinct, which prompted him, even at a late period of life to the practical investigation of the phenomena of that noble science whatever hour he could spare from his professional musical avocations. Such undeniable facts as these are fully capable of setting aside for ever the shortsighted theory, which attributes the origin of our faculties, or even the capability of rendering them efficient, in every case to education and habit.—*Phrenology, and its Application to Education, Insanity, and Prison Discipline, by Dr. Browne.*

LITERARY INTELLIGENCE.

We take the following, from the Publisher's Circular, which gives the amount, numerically, of the works issued in Great Britain during 1868 : Our record of title pages for the past year shows that 4581 new books and new editions have been published in Great Britain during 1868, exclusive of mere reissues and entries of alteration for price, and importation of foreign printed books ; of this number of 4581 no less than one fourth were issued during the last two months of the year, viz., 509 in November and 534 in December ; and adding to this total of 4581 new books and new editions 408 importations of original American books and 103 registrations of alterations in price on reissue, we have a gross total of 3209 works which have passed through our columns during the year, the full transcript of the title page of each being copied verbatim for the guidance of the literary world. A classification of the titles comprising this total gives nearly one fourth of the whole as upon Theological subjects—viz., 984 ; to Education Philology, and Classical Literature, 448 ; Juvenile Works, 524 ; Novels, 408 ; Law, 304; Arts and Sciences and Fine Art books, 429 ; Trade, Commerce and Political Economy, 397 ; Travel and Geographical Research, 238 ; History and Biography, 237 ; Poetry and the Drama, 217 ; Year-Books and annual Publications, 225 ; Medicine and Surgery, 193 ; and Miscellaneous, 418.

—*Free Libraries.*—The report of the Liverpool Free Public Library is suggestive. The libraries are supported by a penny rate, which, provides books for reference and for lending, and a public museum open to all. Besides these a gallery of art will soon be added, to which it is intended to send the valuable works already in possession of the Corporation, and to add to them as rapidly as posible. The reference library is in a central part of Liverpool. Every day during the year there were close on 2,000 readers, who obtained for reference 465,344 volumes. Of these 189,841 were works of fiction; miscellaneous literature, 165,992; history and biography, 37,900; science and art, 36,200; geography, voyages and travels, 31,400, &c. From the lending libraries nearly half a million of volumes were taken out. A very large proportion of these, it is true, consisted of works of fiction, but there was a good selection made of literature of a higher description and of a more improving tendency. The enormous quantity of reading cannot have been without its effect for good. The trustees, it is stated, have been and are very careful in the selection of works for the libraries, so that nothing of an immoral character may be admitted. The large number read at the reference library is a pretty fair index of the vast numbers of young men boarding in the city and unprovided with home comforts, who spend their evenings quietly in a large public library rather than idling their time in "seeing life" throughout the city and it is a good end gained when this is accomplished even though an undue number of works of fiction be absorbed.

—*Purchase of Sanskrit Manuscripts in India.*—The government of India has most liberally sanctioned an annual grant of £2,400 for the cataloguing of Sanskrit manuscripts in India, under such competent editors as Dr. Buhler, of Bombay, Mr. Burnell, of Madras, and Baloo Rajendra Lal Nutta, of Bengal. The catalogues are to be submitted to scholars in Europe for their suggestions as to the manuscripts which should be purchased or transcribed. All scholars, whether in Europe or India, are invited to send lists of desiderata to the government of India—the former through the Secretary of State. Competent scholars are to be sent on tours annually throughout India to examine manuscripts and seek new ones. Work of this kind has hitherto been done only fitfully. Dr. Sprenger, for instance, collected lists and copies of Arabic manuscripts, but the collection is now in Berlin. Dr. M. Haug also made a collection in Bombay.

— According to the *Spectator*, a treasure of priceless value has been found among the stores of the India House. Oriental scholars all over the world will feel their blood quicken at the news that the library of Timour, collected in the course of his conquests, has been discovered. "Among other treasures are documents of extraordinary value connected with the biography of Mahommed." The discovery of this chest may probably cause a large part of Eastern history to be rewritten.

—Although Mr. Tennyson has withdrawn from the house in Dover St., the right of publishing his works in future, he has generously agreed to allow Mrs. Moxon, widow of the late E. Moxon, the handsome sum of £300 per annum during her life. The friends of Mr. Moxon and the literary world will, no doubt admire the Poet Laureate's benevolence.

— The largest library in Germany is that at Munich, consisting of 900,000 volumes, an increase of 100,000 in the last fifteen years. Next is that of Berlin, 700,000, and others follow in this order: Dresden, 500,000; Stuttgart, 450,000; Vienna, 400,000; Darmstadt, 300,000. The University libraries are also immense. That of Gottingen numbers 400,000 volumes; Jena, 300,000; Breslau, 350,000; Heidelberg, 220,000; and there are thirteen other university libraries having upwards of 100,000 volumes. In addition to these there are scores of City, school, and private librairies containing from 50,000 to 200,000 volumes each.

— The following are the ages respectively of several well known literary men and others in England: Henry Kingsley, 39; George Meredith, 41; James Hanney, 42; John Hollingshead, 42; George Augustus Sala, 43; Wilkie Collins, 45: Matthew Arnold, 46; Edward Stephen Dicey, 49; Rev. C. Kingsley, 50; John Ruskin, 51; J. A. Froude, 51; Dr. G. W. Dasent, 51; Captain Mayne Reid, 61; Arthur Helps, 51; G. W. Lewis, 52; Tom Taylor, 52; Charles Darwin, 52; Samuel Smiles, 53; Shirley Brooks, 53; William Howard Russell, 50; Anthony Trollope, 54; Charles Read, 55; John Forster, 57; R. Browning, 57; C. Mackay, 57; Charles Dickens, 57; John Oxenford, 57; A. W. Kinglake, 58; Dr. John Brown, 59; A. Tennyson, 59; John Hill Burton, 60; Lord Houghton, 60; Mark Lemon, 60; Edward Miall, 60; Charles Lever, 62; John Stuart, 62; Lord Lytton, 64; Professor Maurice, 64; Harrison Ainsworth, 64; George Borrow, 65; Robert Chambers, 69; William Chambers, 69; Barry Cornwall, 70; J. B. Planche, 73; Rev. G. B. Gleig, 73; T. Carlyle, 74; W. Howitt, 74; George Grote, 75; Sir John Bowring, 77; Charles Knight, 79; J. P. Collier, 80.

— *Proof-reading.*— There are a good many people who think proof-reading one of the easiest things in the world, and who get very impatient over mistakes in books and news-paper. A writer in the June number of the Galaxy gives some interesting instances of typographical errors. He mentions one edition of the Bible which contains 6,000 mistakes. He gives the following example of the difficulties in the way of getting out a perfect book. Some professors of the University at Edinburg resolved to publish a book which should be a model of typographical accuracy. Six proof-readers were employed, and after it was thought to be perfect, the sheets were pasted up in the hall of the University, and a reward of two hundred and fifty dollars was offered for every mistake that should be discovered. When the book was printed, it was found that it contained several errors, one being in the title page, another in the first line in the first chapter. The only books that are believed to be entirely free from errors, are an Oxford edition of the Bible, a London and Leipsic Horace, and an American reprint of Dante.

SCIENTIFIC INTELLIGENCE.

— *A Useful Invention.* —The Rev. Abbé Audet, of the Quebec Seminary, and Dr. Larue, of the same place, have completed an invention, for which patents have been taken out in Canada and the United States, that will prove of the greatest value in developing the resources of our iron mines. During the past few years a large number of speculators, and others interested in mining operations, have been engaged in the discovery of what is commonly known as black sand, (magnetic oxide of iron,) but the greatest difficulties have been experienced, preparatory to smelting, in separating the iron crystal from the sand. This difficulty may now be considered at an end, judging from the excellent manner in which this new invention performed its duty at the trial in the Laval University. Many of our readers are no doubt familiar with the construction of the Howe cylinder printing press, and the instrument at present under notice resembles it in a great many particulars. The sides are composed of castiron, separated from each other at a distance of four feet three inches, and between which a series of rollers revolve in succession. It is five feet six inches in height, and about six feet in length. Eight hundred powerful magnets or loadstones are fastened upon wooden bars, the magnetic properties of which attract the pure iron as it passes under them upon the rollers, allowing the sand to fall on one side and the iron upon the other. The attraction is through a fine linen which, through the mechanical construction of the machine, separates itself from the magnets, and the iron crystals immediately fall into a receiver. The magnetic oxide when taken from the beach is supposed to contain 33 per cent. of iron, which after passing once through this machine, is found to yield at least 95 per cent, — five per cent. still remaining in the refuse which has escaped magnetic attraction. The inventors propose to pass this refuse again through another machine, built upon the same principle, by which they will be enabled to extract nearly all the pure iron crystals. The machine now on view is supposed to be able to turn out 25 tons pure iron in 24 hours. A number of our most wealthy and influential citizens were present while it was in working operation, and seemed quite pleased with the result. The machine was constructed by M. Larochelle of St. Anselme, and as a piece of perfect and highly finished mechanism reflects the highest credit upon that gentleman.

— *Chronicle.*

— The art of beating plougshshares into swords seems as fascinating as ever. Undoubtedly, the most striking invention of the year belongs to the art of destruction, though, to do it justice, it lends its weight to the defence, and not to the attack. We refer to the Moncrieff gun carriage, which reveals the nearest approach to a new *principle* in mechanics which has been seen for many a-day. Our guns have distinguished themselves by knocking our best targets to pieces, and our targets — somewhat inconsistently — have succesfully defied our most powerful guns, and great is the glory of both. But neither guns nor targets can hold a candle to this splendid invention of Captain Moncrieff, by which a gun is raised above a solid parapet, not weakened by embrasures; is laid and fired by men entirely protected; and is instantly returned to safe cover by the act of firing; while not only are the injurious effects of recoil entirely avoided, but they are actually stored up and utilized in the working of the gun; add to this that any hole in the ground will serve as cover, and that no fortification whatever need be visible to an enemy, and we think we have said enough in favor of the greatest military invention of modern times.

—Ozone, discovered by Schœnbein in 1840, has lately been the subject of numerous researches. It exercises a powerful action upon organic susbtances, and it is this which has recently called it into notice again. It has been shown by Dr. Scharr of Berne, that ozone, as well as substances, impregnated with it, will kill animalcules with certainty and rapidity; and, as recent researches seem to place it beyond a doubt that most epidemics, and cholera among the number, are owing to microsoria great hopes are entertained of its being possible to use ozone in hospitals as a disinfectant; and, perhaps, to extend its use still further. As might have been foreseen, however, from its being a modification of oxygen, it exercises an irritating action on the respiratory organs, a drawback which must necessarily reduce its application to sanitary purposes within narrow limits.

— The *Humboldt Medical Archives* mentions several cases of tetanus (vulgarly named lockjaw) which had been successfully treated by a local application of chloroform to the entire spinal column by means of cloth saturated with it, and evaporation prevented by covering with oiled silk. The application was made just at the approach of paroxysm. As a result of the application the paroxysm was averted, and the patient fell into a calm and natural sleep. On feeling a returning paroxysm the same application was made, and the paroxysm again averted. For forty-eight hours the occasionnally threatening symptoms immediately yielded to the application of chloroform, and the subsequent convalescence was very rapid.

—*Daylight.*—The established doctrine is that heat and light are propelled from the solar orb equally into all parts of surrounding space, and fall upon the earth and other planets just as (and no more than) they do upon any waste part of the sky. And these rays of heat and light, we are told, decrease rapidly alike in number and in power, diminishing with the square of the distance from their source, the sun. But is it so? Ascend in a balloon, and what do we find? Do heat and light increase in intensity as we rise in the air nearer to the sun? By no means. Six miles up, all heat is gone. The Thermometer is at zero, and hoar-frost gathers on every cord of the rigging of the air-ship. How can this be, if heat comes down on us in diminishing force from the sun? If that were true heat ought to increase rapidly as we ascend nearer to the sun, the source of it. Even light, though exceedingly pure,—the air being there free from the aqueous element,—is less intense in those airy altitudes. Look up from the car of the balloon into the abyss of sky above, and what do we see? A bright dazzle comes from the spot in the heavens where the sun is; but he is shorn of his rays.

All around, the sky overhead is of a deep azure, like the color of Prussian blue,—a well known sign of light imperfectly developed; just as we see in the flame of a candle or gas jet, at the part of imperfect combustion,—or, to take a better example, just as the blue flash of the electric machine becomes yellow or white light, when the power of the

machine is increased. There is light in the air at those altitudes; the moment the prism, by the gyrations of the car, is inclined away from the direct rays of the sun, there is no spectrum at all.

Manifestly, then, neither heat nor light comes to us from the sun in the manner supposed,—namely, travelling down to us through the empty waste of space, and decreasing with the square of the distance. For, if this were the fact, both heat and light would increase rapidly with the lessening distance as we ascend, whereas light diminishes, and heat wholly disappears!

Calmly considered, these facts of themselves not only upset the common theory, but suggest the true one. Heat and light are generated, spring into existence, within the sphere of our own planet. No heat or light in the wastes of space. Heat there can be none, seeing that the thermometer falls to zero only six miles above earth's surface. And light, too, evidenly fades away into a thin blue luminosity in those upper regions where the terrestrial gases, the exhalations of the solid earth, become attenuated,—where probably they gradually merge into pure hydrogen, and into that most subtile sublimation of matter which we call ether, which is present even in a vacuum of an air-pump.

The daylight, I say, is the offspring of our own planet impregnated (so to speak) by the great solar orb. Our heat and light are generated within the domain of earth itself. A cosmical force, which we call gravitation or attraction,—and which is more or less inherent in all matter,—comes from the sun; and that force or influence becomes light and heat when it enters and acts upon the atmosphere—the gaseous and ethereal, envelope which surrounds the planets.—*Belgravia.*

— An article in the *British Medical Journal* recalls public attention to the subject of poisonous dyes.

The magenta dyes are produced by the action of arsenic upon analine; and, although the arsenic combines with the organic base forming an insoluble compound, yet much of the magenta of commerce contains uncombined arsenic, and, moreover, as the colour fades from the decay of the organic base, the arsenic is set free, and, in the case of articles worn next the skin, such as flannel shirts, it may be absorbed into the system. Moreover the organic part of some of the analine dyes is poisonous, so that, upon the whole, the precaution is not superfluous to reject all articles dyed with the analine colours if those articles are to be worn next the skin.

Sea weeds, according to Dr. Letheby, a celebrated English physician, furnish an abundance of nutritious food, which, by a little management may be made palatable. He asserts that when in moderately dry condition sea-weeds contain from 18 to 26 per cent, of water; and that the nitrogenous constituents amount to from 9½ to 15 per cent, while the starchy matter and sugar average about about 66 per cent, and that these results place sea-weeds among the most nutritious of vegetable substances; in fact, being richer in nitrogenous matter than oatmeal or indian corn.

—*Heat at Great Depth.*— A curious fact has been lately brought to notice in regard to the Nevada silver mines. Heat, not water, is the chief enemy encountered after reaching a great depth, and instead of pumping out water, the companies have to pump in air. A Nevada paper says: "The increase in the heat in our mines is now beginning to give many of our mining companies more trouble, and is proving a greater obstacle to mining operations in those levels lying below a depth of one thousand feet than any veins or 'pocket' deposits of water yet encountered. A number of the leading companies on the Comstock are now engaged in putting in engines to be used expressly for driving fans for furnishing air to the lower levels, forcing it through large tubes of galvanized iron. With this great increase of heat in the mine, comes a great decrease of water; in fact, in our deepest mine, the Bullion, which has attained the depth of twelve hundred feet, not a drop of water is to be seen; it is as dry as a limekiln and as hot as an oven. In the lower workings of the Chollar-Potosi mines, which have a perpendicular depth of eleven hundred feet beneath the surface, the thermometer now stands at one hundred degrees,—a frightful heat to be endured by a human being engaged in a kind of labor calling for severe muscular exertion. Here also, we find the water to have decreased till there is at the present time a very insignificant amount."

ARTS INTELLIGENCE.

— *Glyphography.*—This process has recently been very successfully used for the reproduction of engraved plates from photographs by the editor of the British Journal of Photography, who describes the method of working for the benefit of amateurs. A polished plate of copper is blackened by being washed over with sulphide of potassium, sulphide of ammonium, chloride of platinum or other means. The plate is then washed and dried, and is evenly coated with a mixture of wax, resin, and sulphate of lead, the thickness of the coating not exceeding a thirtieth of an inch. This coating is white and smooth, and the plate when thus prepared is ready for being sketched upon, or for being photographed upon. On the figure thus photographed, or traced by pencil, the artist proceeds to make his drawing with little tools like needle points, fixed in wooden handles. These tools should vary in size, or rather in the thickness of point, according to the nature of the work to be accomplished. It will be found most advantageous to use tools one side of which has been filed flat, and a curve given to them near the point by bending them while heated in the flame of the gas. Every touch or stroke of the artist should penetrate through the waxy varnish to the surface of the plate, which, being black, reveals every touch—the work thus appearing black on a white ground, in the same manner as if it were effected by pen and ink on white paper. When the picture is examined and found to be right, it is dusted over with plumbago, which, by means of a bushy-camel's-hair pencil, is distributed through every line and over every part of the surface. Other conducting substances, such as bronze powder, act better than plumbago, but very beautiful pictures have been produced, in which the coating was the same as above described. The plate thus prepared is immersed in the electrotype cell, and a tin tissue of copper is deposited on it by the battery. When the plate has been immersed at night, in the morning the deposit of copper is found to be sufficiently thick to allow of its being removed. When the battery used is Smeet's, the depositing solution is the sulphate of copper, rendered decidedly acid with sulphuric acid. The cast thus obtained must be backed up with soft metal, and in this state it will, if printed from as a wood engraving, yield an exact fac-simile of the original drawing. If it be required to lower broad masses of white, this can be effected in one or other of the following ways: After the drawing has been finished, and before it is brushed with black lead, paint over the broad masses of white with melted wax, and let the thickness of the mass thus painted on the surface be determined by the area of the white portion, care being taken not to approach too closely to the lines of the drawing. This having been done, proceed with the plumbago as already directed. Another way by which to lower the broad whites is to take a cast in plaster from the original plate, and in this cast to lower any part required by means of a gouge-shaped tool. From the plaster block thus trimmed may be obtained, by means of recasting in plaster and stereotyping any number of metal blocks in a condition ready for printing. Pictures which had been obtained from surface blocks prepared nearly as above described, are so fine and delicate as to warrant any person unacquainted with the method of their production in believing they were printed from engraved copper or steel plates.—*Journal of Applied Chemistry.*

NECROLOGICAL INTELLIGENCE.

— *Obituary of the Year* 1868.— Before the new House of Commons was three weeks old it had lost three of its members through death. First, Captain Calcraft for Wareham, then Sir Thomas Gresley for South Derbyshire, and now Captain Spiers for Renfrewshire, have been removed, at the respective ages of 37, 36 and 28. These ages strongly contrast with those of the Peers who have died in the year.

The death of 24 Lords spiritual and temporal have been recorded, viz., the Archbishop of Canterbury, the Marquises of Downshire, Hastings and Salisbury, the Earls of Abergavenny, Bantry, Cardigan, Shannon, Shrewsberry and Roseberry, the Bishops of Hereford and Peterborough, and Lords Ashburton, Belhaven, Brougham, Byron, Calthorpe, Carington, Cranworth, De Freyne, Dunfermline, Farnham, Howard de Walden and Wensleydale.

From the crowded march of events, of changes, of chances, of loss and gain, of hope and disappointment, of gladness and sorrow, many worthy and notable soldiers have dropped out to their eternal repose — discharged with honour by the great Paymaster death. Art and Letters have lost Baron Marochetti, Mr. Charles Kean, Huhes, the sculptor; Burnet, the engraver; Samuel Lover, Thomas Catermolle, Dean Milman. Science laments the great name of Sir David Brewster, as well as John Davy; Jesse, the naturalist; John Crawford, the Oriental Scholar; the eminent physician, Dr. Elliotson; the geologist and antiquarian Cumming; and the omnivorus intellect of Lord Brougham, not to be classified under any single branch of art or science. Among the general roll must be inscribed Justice Shee and Lord Wensleydale; Anderson, the traveller; Archbishop Longley, Bishop Hampden, Bishop Jeune, and Bishop Sawyer; Sir James Brooke; Ex-President Buchannan, of America; Baron James Rothschild, Lord Cranworth, and Sir Richard Mayne.

Among the distinguished foreigners deceased during the year are :— King Louis I. of Bavaria; the King of Siam; the Queen of Madagascar; the Duke Ernest of Wurtemburg, cousin to the Queen; the Prince Michael Obrenovitch (assassinated); the Prince de la Tour et Taxis; the Princess Cisterna, mother of the Duchess d'Aosta; Marshal Narvaez, Duke of Valencia, Prime Minister of Spain, the Duchess (Dowager) of Alba; the Duke of Valmy; his Excellency the Netherlands Minister (Baron Bentinck); Lorenzo Niccolini, Marquis of Camugliano and Ponsacco, Chevalier de l'Orde Piano; Viscount de Moira, Portuguese Minister Plenipotentiary at St. Petersburgh, and formerly at the Court

of St. James's ; his Excellency Don Cristobal de Murietta, Knight Grand Cross of the Spanish Order of Charles III. ; Count Crivelli, Austrian Minister at the Papal Court ; Count Walewski ; Baron Stjerneld, a distinguished statesman in Sweden ; Baron de Teissier ; Baron James de Rotschild ; M. Giocchimo Rossini, the celebrated composer ; M. Berryer, the celebrated French advocate ; the ex-President of America (Mr. Buchanan), &c. — *Weekly Despatch.*

MISCELLANEOUS INTELLIGENCE.

— *Colonial Knighthood* —The following is the substance of the Official letter of Dec. 8th 1868, of the Duke of Bukingham and Chandos to the Rt. Hon. Sir John Young, Governor-General of Canada, on Colonial Honors.

The Queen has had occasion to observe that the constant progress of the British Empire in population, wealth and enterprise, and the unusual opportunities thus happily afforded to Her subjects of rendering effective services to their Sovereign and their Country, have in some respects outgrown Her Majesty's means of recognizing those services in a fitting manner. You are aware that with the object of supplying that deficiency, it was found requisite in the year 1848 to enlarge and modify the ancient Order of the Bath ; and more recently that Her Majesty has been pleased to create a new Order of Knighthood—the Star of India—for the reward of services rendered in relation to Her Majesty's Indian Empire. The sphere of usefulness and eminence which is now opened in the British Colonies is so varied and extensive as to render it, in Her Majesty's judgment, advisable that to them as to India a special form of distinction should be appropriated.

For this purpose, Her Majesty has been graciously pleased to sanction such a modification of the States of the Order of St. Michael and St. George originally instituted by King George III, in connection with His Majesty's Mediterranean possessions, and now presided over by a Prince of the Blood Royal, together with such an enlargement of its numbers as will render it available as a reward of distinguished merit or services in any part of Her Majesty's Colonial Possessions.

I annex, for publication in the colony under your Government, copies of so much of the new Statutes as prescribes the qualifications for admission into the order and the number of the Knights.

The Queen is confident that this measure will be received by Her subjects as an evidence of the importance which Her Majesty attaches to Her Colonial Dominions as integral parts of the British Empire, of Her constant interest in their progress and of Her desire that services of which they are the scene or the occasion may not pass without adequate and appropriate recognition.

Extract from the Statutes of the Most Distinguished Order of St. Michael and St. George, dated the 4th December, 1868.

It is Ordained, that the Most Distinguished Order shall contain Three Classes, as in Our said Letters Patent mentioned, to be styled and designated respectively—

KNIGHTS GRAND CROSS,
KNIGHTS COMMANDERS, and
COMPANIONS.

It is Ordained, that the First Class, or Knights Grand Cross, shall not exceed twentyfive in number.

It is Ordained, that the Second Class, or Knights Commanders, shall not exceed sixty in number.

It is Ordained, that the Third Class, or Companions, shall not exceed one hundred in number.

It is Ordained, that the Persons to be admitted into this Most Distinguished Order, shall be such natural-born Subjects of Our Crown of the United Kingdom of *Great Britain and Ireland*, as may have held, or shall hereafter hold, High and Confidential Offices within any of Our Colonial Possessions, or such other natural-born Subjects of Our Crown of the United Kingdom of *Great Britain and Ireland*, as may have held, or shall hereafter hold, High and Confidential Offices, or may render Extraordinary and important Services to Us as Sovereign of the United Kingdom of *Great Britain and Ireland*, in relation to any of Our Colonial Possessions, or who may become eminently Distinguished therein by their Talents ; Merits, Virtues, Loyalty, or Services, or who now are, or hereafter may be, apppointed Officers of this Most Distinguished Order.

— *Premiers of England for a Hundred Years.* — The premiership of Mr. Disraeli appears to have lasted 281 days, having commenced February 25, and terminated December 3, 1868. The tenure of office by other Premiers during the last 100 years has been as follows :— Lord North, 12 years, 34 days, terminating March 3, 1782. The Marquis of Rockingham, 132 days, terminating July 13, 1782. The Earl of Shelburne, 266 days, terminating April 5, 1783. The Duke of Portland, 260 days, terminating December 27, 1783. Mr. Pitt, 17 years 80 days, terminating March 17, 1801. Lord Sidmouth, 3 years 56 days, terminating May 12, 1804. Mr. Pitt, (second time) a year, 246 days, terminating January 8, 1806, Lord Granville, 1 year 64 days, terminating March 13, 1807. The Duke of Portland, (second time) 3 years 102 days, terminating June 28, 1810. Mr. Spencer Percival, 1 year 350 days, terminating June 8, 1812, The Earl of Liverpool, 14 years, 307 days, terminating April 11, 1827. Mr. Canning, 121 days, terminating August 10, 1827. Lord Goderich, 168 days, terminating January 5, 1828. The Duke of Wellington, 2 years 301 days, terminating Nov. 22, 1830, Earl Grey, 3 years 231 days, terminating July 11, 1834. Lord Melbourne, 128 days, terminating November 16, 1834. The Duke of Wellington, second time, 22 days, terminating December 8, 1834. Sir R. Peel, 131 days, terminating April 8, 1835. Lord Melbourne, second time, 6 years 138 days, terminating September 3, 1841. Sir R. Peel, second time, 4 years 97 days, terminating December 10, 1845 Sir R. Peel, third time, 188 days, terminating June 26, 1846. Lord J. Russell, second time, 5 years 239 days, terminating February 22, 1852. The Earl of Derby, 300 days, terminating December 19, 1852. The Earl of Aberdeen, 2 years 45 days, terminating February 5, 1855. Lord Palmerston, 3 years 17 days, terminating February 21, 1858. The Earl of Derby, second time, 1 year 111 days, terminating June 13, 1859. Lord Palmerston, second time, 6 years 128 days. terminating October 20, 1865. Earl Russell, third time, 249 days, terminating June 27, 1866. The Earl of Derby, third time, 1 year 238 days, terminating February 25, 1868 ; and Mr. Disraeli, 281 days, terminating December 3, 1868.

The list of Mr. George Peabody's public donations now aggregate the enormous sum of over ten million dollars in our money. This sum does not include hundreds of minor gifts that would foot up a large amount. The following list shows how Mr. Peabody has dispensed his benefactions :

To the poor of London	$1,750,000
Baltimore Institute	1,000,000
For education in the South to blacks and whites	2,000,000
For a museum to preserve American relics, Yale College	150,000
For a similar museum in Harvard College	150,000
For Institute and Education at Danvers	250,000
For a free museum at Salem	50,000
To the State of Maryland	250,000
Bishop McIlvain, for Kenyon College	25,000
Kane's Arctic Expedition	10,000
For " Memorial Church " to his mother	100,000
To members of his family	2,000,000
Total	$7,735,000

The above figures represent a gold value, and with the gold premium added, the exact amount in our money will be obtained. But while it is easy to figure up the amount of Mr. Peabody's donations, who will calculate the good they have done ? The benefits they have conferred are incalculable. They have caused the name of George Peabody to be revered and venerated wherever the news of his good deeds has gone.

METEOROLOGICAL INTELLIGENCE.

— Meteorological observations at Quebec—Latitude 46°48′30″ N ; Longitude 71°12′15″ W. ; height above St. Lawrence, 230 feet ; taken during the month of Jan., 1869, By Sergt. J. Thurling, A. H. C., Quebec.

Barometer, highest reading on the 1st	30.421	inches.
" lowest " 5th	22.091	
" range of pressure	1.330	
" mean for month reduced to 32°	29.653	
Thermometer, highest reading on the 9th	41.4	degrees.
" lowest " 22nd	-17.0	
" range in month	58.4	
Mean of highest	23.8	
" lowest	9.1	
" daily range	14.7	
" for month	16.4	
Hygrometer, mean of dry bulb	16.5	
" wet bulb	14.8	
" dew point	1.7	
Elastic force of vapour	.047	inches.
Vapour in a cubic foot of air	0.5	grains.
" required to saturate, do	0.6	"
Mean degree of humidity (Sat. 100)	51	
Average weight of a cubic foot of air	578 9	grains.
Cloud, mean amount of (0-10)	7.2	
Ozone " " "	1.0	
Wind, general direction	North West.	
mean daily horizontal movement	155.5	miles.
Rain, number of days it fell	3	
Snow, number of days it fell	20	

— Meteorological Observations taken at Quebec, during the month of February, 1869. By Sergt. J. Thurling, A. H. C., Quebec.

Barometer, highest reading on the 2nd	30.287	inches.
" lowest " " 4th	28.887	
" range of pressure	1.400	
" mean for month reducod to 32°	29.631	

Thermometer, highest reading on the 10th	36.0	degrees.
" lowest " " 2nd	-5.2	
" range in month	41.2	
" mean of highest	26.0	
" " lowest	9 9	
" " daily range	16.1	
" " for month	17.9	
Hygrometer, mean of dry bulb	18.5	
" " wet bulb	17.0	
" " dew point	5.7	
" elastic force of vapour	.056	
" vapour in a cubic foot of air	0.7	grains.
" " required to saturate do	0.5	
" mean degree of humidity (Sat. 100)	56	
" average weight of a cubic foot of air	577.1	grains.
Cloud, mean amount of (0-10)	7.2	
Ozone, " "	1.0	
Wind, general direction	North West.	
" mean daily horizontal movement	169.0	miles.
Snow, number of days it fell	20	

— *From the Records of the Montreal Observatory*,—Lat. 45°31 North; Long., 4h. 54m. 11 sec. West of Greenwich, and 182 feet above mean sea level,—for January, 1869,—by Chas. 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	30.390	30.160	30.246	-4 0	0.0	3.0	N E	N E	N E	97.90*a*
2	.047	29.696	29.625	6 1	14.0	13.6	N E	N E	N E	197.10*b*
3	29.647	.730	.800	23.1	30.9	29.8	W	W	W	79.21
4	.646	.511	.400	32.2	28.0	36.4	S W	S W	S W	66.12*
5	.201	.149	.200	35.7	33.2	29 6	S W	S W	W	59.10
6	.451	.500	.502	22.1	29.0	30.1	W	W	W	91.74*c*
7	.611	.692	.500	28.2	45 9	27.8	W	W	W	199.20
8	.749	.914	.910	33.2	38.1	31.1	W	N E	N E	142.10†*d*
9	.542	.299	.247	32.2	36.1	37.9	S E	S W	W	88.17‡
10	.462	.791	.849	29.1	36.1	22.7	W	W	W	141.10
11	30.001	.910	.847	16.3	19.2	19.5	N E	N E	N E	98.29*e*
12	29.467	.611	.860	19.4	24.6	14.2	N E	N E	W	124.10*f*
13	.951	.911	.799	7.4	22.4	24.0	N E	W S W	W S W	98.29
14	.650	.574	.499	28.0	34 1	31.9	W	W S W	W S W	102.20*g*
15	.451	.447	.449	30.0	35.2	32.0	W	W	W	89.97
16	.711	.802	.849	11.2	32.1	19.0	N by W	W	W	90.00
17	.962	.991	30.020	9.0	19.7	7.3	N E	N E	N E	71.29
18	30.067	.967	.950	-4 0	13.3	3.1	N E	N E	N E	79.74
19	29.820	.717	.600	0.0	19.1	11.7	N E	N E	N E	101.00
20	.221	.374	.502	20.6	30.1	9.9	W S W	W S W	W S W	91.10*h*
21	.501	.434	.550	-1.0	1.0	-0.6	E by N	N E 'E	W	199.24*i*
22	.749	.747	.726	-3.1	10.1	-2.0	N by E	W	W	219.74
23	.250	.231	.200	6.9	25 2	29.0	W S W	W S W	W S W	191.10*j*
24	.433	.411	.300	14.9	13.0	10.1	NE 'E	N E	N E	99.10*k*
25	.501	.898	.710	0.0	10.9	0.0	N E	W	W	129.99
26	.646	.704	.711	1.0	12.9	8.0	W	W	W	109.19*l*
27	.651	.531	.450	12.0	32.1	23.7	W	W	W	87.24
28	.451	.527	.615	24.0	35.1	34.2	W	W	W	90.00*m*
29	.747	.700	.650	32.9	39.4	35.0	W	W	W	60.52
30	.249	.238	.259	24.1	26.2	23.0	N E	N E	N E	71.11*n*
31	.457	.499	.600	22.1	22.4	21.9	N E	N E	N E	47.27*o*

RAIN IN INCHES.—*0.088; †Inapp.; ‡0.135.

SNOW IN INCHES.—*a*, 1.70; *b*, 5.79; *c*, 3.20; *d*, 1.30; *e*, 0.30; *f*, 4.80; *g*, 0.10; *h*, 1.90; *i*, 3.50; *j*, 0.24; *k*, 1.02; *l*, Inapp.; *m*, Inapp.; *n*, 3.31; *o*, 1.01.

The highest reading of the Barometer, was on the first day, and indicated 35.390 inches; the lowest reading was on the fifth day, and was 29.149, inches, showing a month's range of 1.241 inches.

The mean temperature of the month was 20.13, shewing an increase of upwards of 5 degrees above the *Isotherm* for Montreal reduced from observations during a long period, and nearly 10° warmer than the monthly mean temperature of last January.

The thermometer was 34h. 35m below zero during the month. The lowest temperature attained was -4.4, and the highest 45.9.

The amount of rain which fell on 3 days amounted to 0.223 inches. The amount of snow which fell on 15 days amounted to 28.17 inches.

A partial eclipse of the moon occurred on the evening of the 27th day, and was unsatisfactory, owing to the presence of clouds and haze, which obscured distinct vision and prevented anything like good results.

— From the Records of the Montreal Observatory, for February 1869. By Chas. 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	29.925	29.999	30.150	5.2	22.1	4.0	W	W	W	88.10
2	30.251	30.232	.149	-5.3	12.2	5.8	W	S W	NE'E	67.90
3	29.751	29.547	29.299	8.2	16.0	17.0	N E	N E	N E	59.00*a*
4	28.841	28.849	28.999	16.4	22.1	17.1	N E	N E	W	184.29*b*
5	29.200	29.219	29.499	16 0	20.4	18.1	W	W by N	W	94.21
6	.590	.611	.700	17.3	32.0	28.1	W	S W	S W	82.24*c*
7	30.059	30.099	30.111	12.1	26.2	9.1	N	N	W	78.19
8	29.998	29.881	29.861	-0.5	18.6	16.0	W S W	W S W	W S W	69.79
9	.851	.804	.700	17.0	30.1	26.8	W S W	W S W	W	71.80*d*
10	.711	.706	.700	23.1	32.1	25.7	W	N E	N E	59.29
11	.604	.717	.850	26.1	32.2	32.1	W S W	W	W	60.00*e*
12	.849	.711	.548	31.2	33.1	32.2	W S W	W S W	W S W	57.10
13	.626	.711	.725	33.2	38.9	32.7	S W	W	W	51.20
14	30.041	30.001	.851	8.4	12.0	11.2	N E	N E	N E	89.01*f*
15	29.482	29.312	.249	20.0	19 7	17.4	N E	N E	N E	191.14*g*
16	.199	.175	.299	16.1	28.0	25.1	N E	W	W	112.10*h*
17	.311	.199	.050	23.6	27.9	29.1	W	S W	S W	89.94*i*
18	28.901	28.940	.097	27.2	24.0	13.2	N E	W	W	101.19*j*
19	29.083	29.300	.411	8.4	19.0	13.7	W	N E	W by N	79.24*k*
20	.500	.510	.662	16.7	26.2	22.0	S W	W	S W	51.11*l*
21	.697	.781	.649	11.9	17.1	15.4	N E	N E	W	94.12*m*
22	.561	.584	.600	18.2	28.1	19.2	N E	W	W	101.11
23	.251	28.800	.101	17.9	18.1	16.8	N E	N E	W	99.00*n*
24	.601	29.677	.701	6.4	21.6	19.2	W	W	W	164.10*o*
25	.973	.962	.951	8.4	22.6	18.2	W	S W	W	79.24
26	.784	.671	.448	14.2	29.3	27.2	W	S W	N E	81.27*
27	.089	.179	.350	24.5	30.9	26.2	N E	W	W	91.20†
28	.800	.862	.901	-1.1	19.7	5.8	W	W	W	164.29

SNOW IN INCHES.—*a*, 13.90; *b*, 11.54; *c*, Inapp.; *d*, Inapp.; *e*, 0.35; *f*, 3.16; *g*, 10.10; *h*, 1.64; *i*, 0.70; *j*, 4.70; *k*, Inapp.; *l*, Inapp.; *m*, 2.86; *n*, 11.15; *o*, Inapp.; * 6.75; † 6.91.

The barometer has indicated several considerable fluctuations during the month. The highest reading was on the 2nd day, and was 30.251 inches; the lowest reading occurred at 7 a. m. on the 4th day, and was 28.841 inches, showing a monthly range of 1.410 inch. Another low reading occurred on the 18th day, and was 28.901 inches. In both cases these low readings were accompanied by heavy snow showers.

The mean temperature of the month was 19.44 degrees, which was 9.84 degrees higher than the mean temperature of last February (1868), and 3·34 degrees higher than the *Isotherm mean*, reduced from observations during a long series of years.

The thermometer was 11h. 49m. below zero during the month.

No rain fell during the month. Snow fell on seventeen days amounting to 73.76 inches, which exceeds by 51.56 inches the amount which fell last February (1868), and is the heaviest fall of snow for the month of February on record. The winter quarter shows the large amount of 129.79 inches.

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