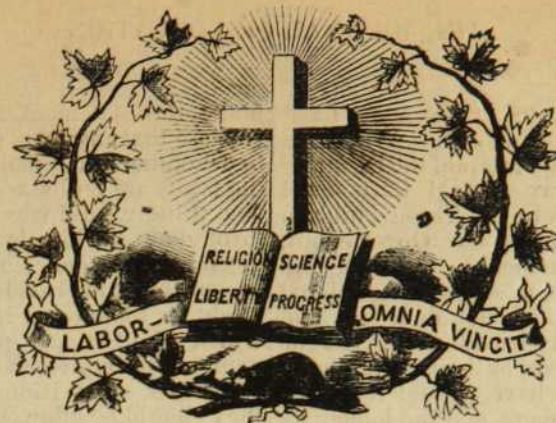




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Education in England.

MR. FORSTER DEFENDS THE EDUCATION ACT.

On the 25th of last November, and on the eve of the elections for the London School Board, the Right Hon. W. E. Forster, M.P., the member of the British Cabinet under whose auspices the present Educational law for England was passed, visited Liverpool and inaugurated the handsome and commodious schools which have been erected by the School Board in Queen's road, Everton. Mr. Forster, on his arrival in Liverpool, was met at the Board room by the members of the recently elected School Board, and, accompanied by the Mayor, the members of

the Board, and a number of leading gentlemen of the town, proceeded to Butler street, where the foundation-stone of the new Board schools for that district was laid by Mr. Christopher Bushell, the Chairman of the late Board. After the ceremony, Mr. Forster addressed a large meeting in the Queen's road schools in regard to Education matters generally and the Education Act in particular, his special object being to reply to recent attacks on that Act and his share in it by Mr. Bright and others. He complimented the Liverpool Board for their energy in educational matters, for meeting the religious difficulty, and on the increase of the attendance by 25 per cent. Reverting to the position of the question three or four years ago before the Act was passed he said:

"What was the educational position of the country? We had no State system of education; that is, no State system in this way, that the State had not undertaken to see or to secure that every parent would find a school for his child, but there was a voluntary system spreading over the country, supported by great energy, and doing very much. That voluntary system reached all corners and all parts of the kingdom; and what did we find was the state of things with regard to the teaching of the great mass of the population? We found much done, much doing, and much left undone; many good schools; many bad schools; and many districts with no schools at all; many parents able to get, and really getting, a good education for their children, and many children brought up in utter ignorance and utterly neglected."

Public opinion demanded that something be done to provide a system of National education. There are those who say the Government should have waited until public opinion indicated precisely what kind of a law was wanted; but Mr. Forster did not think the Government in a matter of this kind should wait for such instruction. The friends of the Church and voluntary schools and the Birmingham League had both spoken in favor of waiting. The former said:—

"Give us time, and we will fill up all the gaps. Let our system work on, and although there is no security that it reaches to every part of the country, we will undertake that it will do so." What was our reply? "We can't afford to wait; we dare not trust to your filling up the gaps; we know that children are escaping your net, and that they will grow up in ignorance, while

you are striving to cover the country. We must have security that there is provision everywhere." What we said to them then we say to the supporters of the Birmingham League at this time, that we should have acted contrary to our duty if we had waited. Those children were to be the electors and voters of our Government, and it was necessary without a moment's delay that we should set to work and provide a system of national education. But supposing we had not done so, and supposing we had waited. Do my friends of the League suppose the delay would have been to their advantage? By no means. The field would have been left in the possession of the voluntary managers, and the longer we had waited the more powerful they would have become, and the more difficult would have been the introduction of any rate system. There is another thing, we might have disregarded the voluntary system altogether, and begun afresh, and set the State to perform its duty, disregarding those voluntary managers. It was a very difficult and hard work, and I think no one in his senses would have dismissed all the present workmen, and left us with nobody to perform it, or that it would have been advisable to give them notice to quit and that it would have been well to tell them we would use them for a time, and only for a time, and that we ought not merely to have provided a system, but a rate system by which, if they desired no longer to work in the cause of education, their place would be filled up, and to have arranged for their possible absorption if the force which induced them to act lost its power. Well, after much careful consideration the Government decided not to take this step, and why did the Cabinet come to this conclusion? In the first place we wanted the assistance of these men, and I do not think we could have got them on those terms. We wanted all the forces in the country to fight against the common enemy—ignorance. We brought into action a new force—the power of self-government acting through municipalities, and by ratepayers electing their representatives; and we cannot deny that in so far as we brought that into action, we did, to some extent, endanger the voluntary schools; because it is no temptation to a man to subscribe to voluntary schools, when he knows that a rate will be levied in his district, and when he knows that his next door neighbor, who has done nothing in aid of schools, will be forced to pay his share. But we found it necessary to bring in the rating system. There was no other way of providing for the country. It was not merely a matter of money; it was not that we wanted to diminish as much as we could the great difficulty in legislation in England—the ratepaying difficulty. But it was because there was something to be considered even more than money. We wanted to gain the help of those men who had already made great sacrifices for education. We acknowledge that neither in the town nor in the country were we at that time able to dispense with their services with safety to education. Nor are we now. I am not going into the motives of the clergymen or of the priests. It was their duty to gain whatever influence they could over them. Well, combined with this there has been a real desire on their part to promote good secular education; and that is a motive which the State, we consider, cannot safely disregard. What, then, did we do? We stated in the first place that we would admit the voluntary schools throughout the country, enormous numbers though they were, upon our conditions; these conditions being, in the first place, a security that no parent should have any religious teaching given to his child in one of these schools if he disliked it. That security was made more efficient as the Bill passed through Parliament by the time table conscience clause. The second security was that we should have at least four hours a day during which secular instruction should be given in all those schools. It is said that some of those schools give bad secular instruction, but those who

make this statement are very much mistaken if they suppose that any want of good secular education is owing to denominational management. For instance, some of the faults are faults ascribed to the Revised Code. The next thing we did was to declare in every school district throughout the kingdom that if the voluntary schools did not supply the deficiency of education the district must be compelled to provide it by means of rates. But there might be some cases in which there would be districts which might at once prefer the rate system, and which would at once prefer to have School Boards. In the Act we passed a provision that if there were such districts they should be allowed to elect a School Board, but we stated that, "If in a district you prefer to work out the voluntary system you may do so, provided you do the work. But the work must be done. If also you wish to have it upon those principles." The principles upon which we have administered the act are these: first, we have not thought it our duty to hamper and hinder any voluntary managers, but we have thought it our duty to insist upon their following the conditions of the Act which I have described; secondly, where School Boards have been formed, we have thought that we must pay this amount of deference to the representative system, that we ought to allow those who were elected by their fellow ratepayers, a good deal of discretion as to the mode in which they should do the work and supply the educational deficiencies of the country. While doing that we have insisted upon their supplying those deficiencies, and we shall insist upon it—though at the same time we have not forced them. We should have thought we were acting contrary to the Act in forcing them to put up schools where they considered they are not wanted. In like manner in the country parishes, and in the towns where there have been no School Boards formed, we have said, "We give you the opportunity provided by the Act of supplying the educational deficiency without a School Board, if you prefer to do so, but if you omit to supply it, we then must insist upon your forming a School Board." And lastly, we have not forgotten the section in the Act which gives power to any school district, whether its educational deficiency was supplied or not, to form a School Board. We have endeavored to facilitate the action of the section in two ways: first, by making ratepayers the most popular constituency that exist for any purpose; and secondly, by giving them the protection of the ballot. My colleague and old and honored friend, Mr. Bright, with whom I perhaps do not exactly see alike in the matter of education—has stated that he considers—although perhaps he may doubt one or two of the principles I have described—that they cannot be changed without subjecting them to further proof. Well, he, perhaps, may expect that proof will result in evidence of failure; but I am more sanguine. I do not expect failure; and I do not expect it, judging from our present success. In my opinion, these last three years have given us as much success in the operation of the Act as we could reasonably have hoped for. There is another matter which has taken up a great deal of public attention, and you will expect me therefore to make some allusion to it, that is the now famous 25th clause. There never was a provision in an Act of Parliament passed so quietly and so innocently—as to what might in the future be said about it. Even now, looking at the clause, it is very difficult for me to understand why so much should be said about it. It does seem not an unnatural thing that when you are providing education for the poor parent to send his child to school, you should give him the means of sending that child, because if he has not the means, he cannot well get his child taught. Well, does it not also seem extraordinary that you should tell him, "Well, although we pay for you, yet you may choose what school you like, provided that it gives what we consider an efficient secular education?" However, there is

much objection to the clause; but by the Education Amendment Act which we passed last year, we have taken away from the School Boards the very large majority of children that were likely to be helped by the School Boards, and handed them over to the guardians. I should suppose, taking the country throughout, that three-fourths, if not a great many more, of the children that have come under the operation of the 25th clause will now come under the operation of the new Act, because they will be the children of out-door paupers. Further than that, I can only say this much, that I have no doubt the Government would most carefully consider any proposition that may be made to them to remove any objection that may be felt. I do not think that a poor man, by reason of his poverty, should lose his right to choose a school when you compel him to send his children there, and I believe compulsion impossible. I want to say a word in regard to compulsion. I am as anxious as any member of a School Board, or any member of any society, to see a measure of compulsion applied to the whole kingdom. I must say this much, that after most carefully looking into the question of the possibility of having a general compulsion for the Kingdom, I should be ready to produce a measure which I think would convert the whole Kingdom, but it would be impossible to be passed into law, and impossible to work throughout the country, if it did not avoid these two things: first, you must not compel a parent to send his child past the school in order to go into one you like, but he does not; and, secondly, you must not compel the ratepayers to build schools merely because you prefer that those children should be sent to them. If men who are earnest in regard to education are so convinced of the necessity of compulsion that they can admit these two conditions, I believe it will be comparatively easy to pass such a measure, and I believe that then we should have done almost all for the education of the masses of our population. I believe that there are several men—good men—throughout the country who think that in so far as I had to do with this Bill, I planned it and passed it with the object of promoting the interests of the Church of England, and to injure Dissenters. That is to myself the most extraordinary charge almost that I can conceive, and I think it would be to them also if they knew me; and the only reply that I can make to that charge is that in what I have done I had no wish to injure the Church or do the Church good. I simply wished to get the children to school—that was really and solely the only object I had. But it is said to me, “You are endeavoring to maintain the principle of a State Church;” and I have sometimes been told by some of my friends, “Ah, there never was any Act like the Education Act for propping up this decayed fabric of a State Church.” But some others of my friends who take the same views as those whom I have quoted with respect to the question of a State Church, say, “Probably you did not mean it, but you have hit it the heaviest blow it has ever had.” Now I must honestly say I had no such high object in view. If I was a member of the Liberation Society, which I am not, and if I was determined to pull down the Church as fast as I could, I do not see why this Act, so far as I have had anything to do with it, should not have been precisely what it was. Our object was to use all the forces for education which we found existing, and when we found the clergy, or the priest, or the dissenting ministers, or any persons, laymen or spiritual men, ready to help us in the matter, we were ready to take their help, and I do not know how the Act could have been framed in any other way, unless when bringing forward the measure apparently for education, one had tried to make it really against the Church. What would be the

result? Simply this, that if the members of any Church, or the officers or the clergy of any Church, did their duty, they might gain some influence by it. That is an indirect result with which I have nothing to do. If they do not do their duty, if they are intolerant in their demands, they will do themselves harm and the body to which they belong. The next charge which is brought against me is of my exceeding folly and ignorance in ignoring the religious difficulty. Well, it is not my business to make the most of the difficulty with which I had to do. I never supposed that I should hear nothing about it, but I said, in bringing forward the bill, what I say now, that I believed these difficulties were not difficulties in the actual education of children; that they were not difficulties felt by the parents of the children or the schoolmaster. And I said also this; that when we were told that we were imposing upon the Boards the solution of these matters, and that that would make it impossible to work the Act, I replied in these words—“We impose upon the School Board practical work; we say it is your duty to be the practical managers, and to see that this education is given, and we believe that immediately, as regards the enormous majority of the children, the religious difficulty will disappear.” Now I can point to what has been done by School Boards throughout the country in consequence of that statement. A day or two ago I met the London School Board. After debating for some days they came to the almost unanimous resolution to have the Bible read, intelligently explained, and taught—and that they would also have a prayer and a hymn at the beginning of the school meetings, and carry out the principle of the Act as undenominationally as possible. Well, they provided at the same time a power of appeal to the School Board by any parent, or manager, or teacher, or ratepayer. Not a single appeal has been made by any one of those persons. That has been the experience throughout the country of one School Board after another. I took up the *Leeds Mercury*, a day or two ago, and found speeches from two Leeds gentlemen, both Dissenters, and I can't help quoting one or two remarks they made. My friend Mr. Thomas Harvey, who belongs still to the Society in which I was born, and who is a most excellent member of the Society of Friends—what does he say? “The religious question looked a very formidable one, but, happily, like very many other obstacles, it had proved a theoretical one.” Mr. Jowett, the vice-chairman of the Leeds School Board, says, “How many times did they think parents had objected to the religious teaching given in the Leeds Board Schools during the last three years? Never in one single instance.” I will never be a party to a law which would prevent the schoolmaster or the mistress from giving instruction in religion; to say that we should take hold of this teacher and that teacher, and say to them that they are not to say to our children anything at all that may affect their souls, I really cannot understand how we can so conduct our teaching. What would have been the result? Why, you would have in place of your present teachers, teachers who either cared nothing about religion, and no better teachers ever existed for secular subjects, or you would have them feeling themselves so hampered and so hindered in their work, that they could not consent to proceed with it. I really believe that the very best of them would leave you. I feel how delicate a matter this is, I know that I have given offence to many of those for whom I have the highest respect, but I would ask those of my Non-formist friends who care very much about these matters both as to education and religion, if they would allow me to make one remark in all kindness to them, and that is, whether they have quite realized what is their present

position as being the advocate of a State system of education? Their former position was a perfectly logical one very much on account of this difficulty of religious instruction, and of separating it from secular instruction. They were opposed to the State in any way interfering with education. They have given up that position. They have found that such was the need of the country that, as patriots, they were obliged to give it up; but now they are in favor of the State providing it, and it appears to me that they cannot take the same ground that they did—for instance, with regard to State religion, that they cannot say, "We will have nothing at all to do with instruction in religion" because it is the general belief of parents it has been the custom, and is their wish, that at the same school, and by the same teacher there should be instruction in religion as well as other matters; and, therefore, as they had decided that the State should give this instruction, they must take the consequences of having to deal with that enormous multitude of their fellow-citizens who prefer that the two things should be united together. It seems to me that a system of State education can be conducted upon two principles—upon the principle of teaching to the children everything that they can learn within the time which is allotted to them, with the power in their parents to withdraw them from that kind of teaching which they think is wrong to receive; and that is the principle of the Education Act; or it can be conducted upon the principle of teaching nothing but that upon which everybody is agreed, and that seems to be the principle of the League and my friends amongst the Nonconformists, to whom I am trying to reply now as a friend of education. As an educational reformer, it seems to me that the principle of limitation would be utterly destructive of any sound and real education. I could not consent to a secular system of education as a legislator, as a member of the Government, or of Parliament, I feel that it would be wrong for the law thus to taboo religion. I hold still to the faith of my old Quaker Fathers, to this extent, that I am not one of those who think we ought to draw this line between religion and other subjects. I will conclude by saying that my aim in this work has been to provide the schools for the children in the country, and to secure if possible that those children shall attend these schools; to raise the quality of the education that is given to them; to see that it is one which will enable them to fight the battle of life—that is all which I believe the law can do. If the time should ever come when the parents of England—for without female suffrage the mothers of England will have something to do with the teaching of their children—if, I say, the time should ever come when the fathers and mothers of England wish that State education should be conducted purely upon the secular system, they must find some other individual than myself to do their business.—*Daily Witness*.

Installation Address of the Rt. Hon. Benjamin Disraeli, Lord Rector of Glasgow University.

On Wednesday (19th November, 1873) Mr. Disraeli was installed as Lord Rector of Glasgow University, in Kibble's Crystal Palace, a building capable of accommodating 5,000 persons, which was filled to overflowing. A "capping" ceremony, in which LL. D., degrees were conferred on the new Lord Rector, Sir W. Stirling Maxwell, Dr. Hooker, Sir E. Colebrooke, Mr. Gordon, M. P., and Dr. Rainey, preceded the installation address. After a few introductory remarks in acknowledgment of the honor conferred upon him, he said that, in view of

the fact that the young men before him were about to enter life at a period which promised to be momentous—perhaps he should say which menaced—he thought it would be appropriate to offer some observations which might tend to assist them in their coming trials. The man who desired to succeed in life required two kinds of knowledge, the first of which was self-knowledge, the acquisition of which was a theme upon which philosophers had written treatises for countless ages. By severe introspection only could self-knowledge be obtained; but, supposing that a man had acquired the indispensable insight into the true range of his powers and the right bent of his character, the next thing required was an acquaintance with the spirit of the age in which his faculties were to be exercised. The spirit of the present age was a spirit of equality, but equality was a word of wide import, round which various schools of thought might assemble and arrive at conclusions not only different but contradictory. He held that civil equality—that was the equality of all citizens before the law, and that a law which secured the personal rights of all citizens—was the only foundation of a perfect commonwealth—that was, a Government which secured liberty, order and justice. Having alluded in touching terms to the misfortunes of France, Mr. Disraeli said it was civil equality which was aimed at in Britain, social equality in France; but social equality did not satisfy the latest philosophers,—they wanted material equality also. They would destroy private property, and acknowledge only the rights of labour. This was not the only or the highest happiness, nor a safe basis for a commonwealth. The spiritual was stronger than the physical. By religion alone could men be guided to their benefit. Mr. Disraeli concluded by observing that he who conceived best his relations to God was best prepared to fulfil his duties towards man. In the perplexities of life he himself had found in those beliefs solace and satisfaction, and he now delivered them to the students, to guide their consciences and their lives.

Dr. Donaldson on the Higher Schools of Scotland.

The annual meeting of the members of the Association of the Masters of Higher Schools of Scotland, was held on Friday, January 9th, in the High School, Edinburgh—Dr. Donaldson, president, occupying the chair. The Secretary (Mr. Macdonald, of the High School) having read the roll of membership, and stated that all the higher-class schools, with the exception of Elgin, were now represented in the Association, the Chairman delivered an inaugural address for the year. At the outset he expressed a hope that the people of this country would see fit to remodel the system of secondary education, in respect to which, he said, there could be no doubt we were very far behind Continental nations. (Hear, hear.) Speaking of the circumstances which contributed to bring about this state of matters, he dwelt at some length upon the position of the teachers, pointing out the fact there were many scholarly men in Scotland, who had gone through a University training, and who were acting with efficiency as teachers of secondary schools, whose incomes did not teach \$1000 a year, whereas an inspector of primary schools, who had only to correct exercises in spelling and arithmetic, and who was expected to know a little about geography, history, and Latin, started with an income of \$1250, with another \$1250 for travelling expenses, and ultimately rose to the position of having a salary of \$5000, with an assurance of having, after serving for a certain number of years,

his full salary of \$5000 secured to him as a retiring allowance. Not only was the income small, but there was almost no prospect of the teacher rising. In Germany the teacher had opportunities of rising through various stages, and in England all the honours of the Church lay open to him, while in Scotland there was no career open to the masters of secondary schools; so that if Mr. Lowe had been chosen Professor of Greek in Glasgow, he would not have risen to be Secretary of State, or if Mr. Henry Sumner Maine had been successful in his application for the Rectorship of the High School of Edinburgh, he would not, in all probability, have been now Sir Henry Sumner Maine, and a man of great wealth and importance. Passing on to notice the obstacles lying in the way of the establishment of a regular system of secondary instruction, the chairman pointed out, first, the inadequate appreciation of higher class education among the middle and upper classes, as evinced by men of intelligence sending their children to be taught by young lads who knew nothing of the art of education, and who simply made experiments on the children entrusted to their care. The middle classes did not see that the only way to have good schools was to have public schools. (Hear, hear.) So far as primary education was concerned, this fact had been acknowledged, and the probability was that there would soon be many primary schools throughout the country, where a better education would be obtained than in many of the private schools which had become so fashionable, through the low estimate put upon higher education by the snobbery of many of the members of the middle classes, who, in educating their children, only looked to the forming of good connections and the entering of good society by their boys. No one who knew the humour of the working classes in this country could doubt that there were terrible elements seething beneath the surface, which would not be satisfied by a good primary education. On the contrary, the more thoroughly primary education was given, the more thoroughly would the working classes understand and inquire into the history of their country, of its law, and of its religion; and the remedy lay with the upper classes. (Hear, hear.) It was only by these classes joining heartily with the rest of the middle classes, and forming a system of secondary instruction, accessible to the poorest boy of ability, that the demand for education could be met. Speaking of the manner in which secondary education was affected by University and primary education, he remarked the teachers in primary schools had always in Scotland done a good deal of the work of secondary teachers, whereas in Prussia, France, and England, the line was distinctly drawn between primary and secondary instruction. Most educationalists were inclined to think that this separation was an advantage, but he doubted whether it had not arisen from political reasons which could not and should not affect Scotland. Politicians abroad and in England had always been shy of giving the working classes any education which took them beyond the ordinary branches. But this use of the primary schoolmaster should only, it seemed to him, be made in cases of necessity, as there was no doubt secondary education could best be given in secondary schools. After pointing out the necessity that existed for leaving the professorships in the Universities open to all men of real ability and merit—men who had some chance of success when the University of Edinburgh was under the Town Council, but who now had little chance before the University Court without having the influence of position or politics on their side—the Chairman concluded by saying that in regard to secondary education the country required to have the higher class schools such as would furnish the pupils with an effective education up to the age of 15. The recent Education Act

rendered this more feasible than it had ever been before. They in the High School of Edinburgh could manage it perfectly well, but the Act had found them in peculiarly favourable circumstances for their work, thanks to the intelligence of Edinburgh, and the sense of the Town Council. They had already something like a system; all they needed was a little power, and the Act had given them that power. The School Board had at once used that power to put them into a position in which they could give education in the most effective manner, and on conditions likely to produce the best success. But even they could have been better if the Board had been allowed to apply the rates for secondary education. If the rates were not applied for secondary education there would not be proper salaries for almost all the other burgh schools of Scotland, these schools would not be properly organised, and no special training could be demanded of the teachers. But if he was not mistaken, the Scottish public were not averse to the rates being applied for this purpose, as it was clearly for the interest alike of the working classes and the middle classes, and he did not think the aristocracy would grudge their contributions. It was not fair, however, to impose the whole duty of maintaining these schools on the particular burgh or town in which they were situated; but the country should be divided into large districts, and on each district should fall the duty of supporting a higher class school, with some aid from the Imperial Treasury. As a consequence of this reform, they would have the number of separate classes in the Universities diminished, and the Professors placed upon a more satisfactory status.—*The Schoolmaster.*

Carlyle's Advice to Young Men.

A new book by Rev. John Cunningham Geikie, addressed to young men, contains the following admirable letter from Carlyle, hitherto unpublished:—

Chelsea, March 13, 1843.

Dear Sir,—Some time ago your letter was delivered to me; I take literally the first free half hour I have had since to write you a word of answer.

It would give me true satisfaction could advice of mine contribute to forward you in your honourable course of self-improvement; but a long experience has taught me that advice can profit but little; that there is a good reason why "advice is so seldom followed"—this reason, namely, that it is so seldom, and can almost never be, rightly given. No man knows the state of another; it is always to some more or less imaginary man that the wisest and most honest adviser is speaking.

As to the books which you, whom I know so little of, should read, there is hardly anything definite that can be said. For one thing, you may be strenuously advised to *keep reading*. Any good book, any book that is wiser than yourself, will teach you something—a great many things, indirectly and directly, if your mind be open to learn. The old counsel of Johnson is also good and universally applicable. Read the book you do honestly feel a wish and curiosity to read. The very wish and curiosity indicates that you then and there are the person likely to get good of it. "Our wishes are presentiments of our capabilities:" that is a noble saying, of deep encouragement to all true men, applicable to our wishes and efforts in regard to reading, as to other things. Among all the objects that look wonderful or beautiful to you, follow with fresh hope he one that looks wonderfulest—beautifulest. You will gradually by various trials (which trials see that you make honest, manful ones, not silly, short, fitful ones)

discover what is for you the wonderfulest, beautifulest ; that is your true element and province, and be able to abide by that. True desire, the monition of nature, is much to be attended to. But here also you are to discriminate carefully between true desire and false. The medical men tell us we should eat what we truly have an appetite for ; but what we only falsely have an appetite for we should resolutely avoid. It is very true. And flimsy, " desultory " readers, who fly from foolish book to foolish book, and get good of none, and mischief of all—are not these as foolish, unhealthy eaters, who mistake their superficial, false desire after spiceries and confectioneries for the real appetite, of which even they are not destitute, though it lies far deeper, far quieter, after solid nutritive food ? With these illustrations, I will recommend Johnson's advice to you.

Another thing, and only one other I will say. All books are properly the record of the history of past men. What thoughts past men had in them ; what actions past men did ; the summary of all books whatsoever lies there. It is on this ground that the class of books specifically named *History* can be safely recommended as the basis of all study of books ; the preliminary to all right and full understanding of anything we can expect to find in books. Past history, and especially the past history of one's own native country—everybody may be advised to begin with that. Let him study that faithfully, innumerable enquiries, with due indications, will branch out from it ; he has a broad beaten highway from which all the country is more or less visible—there travelling, let him choose where he will dwell.

Neither let mistakes nor wrong directions, into which every man, in his studies and elsewhere, falls, discourage you. There is precious instruction to be got by finding that we are wrong. Let a man try faithfully, manfully to be right ; he will grow daily more and more right. It is at bottom the condition on which all men have to cultivate themselves. Our very walking is an incessant falling ; a falling and a catching of ourselves before we come actually to the pavement. It is emblematic of all things a man does.

In conclusion, I will remind you that it is not by books alone, or by books chiefly, that a man becomes in all points a man. Study to do faithfully whatsoever thing in your actual situation, there and now, you find either expressly or tacitly laid to your charge—that is your post ; stand in it like a true soldier ; silently devour the many chagrins of it, as all human situations have many ; and be your aim not to quit it without doing all that it, at least, required of you. A man perfects himself by work much more than by reading. They are a growing kind of men that can wisely combine the two things ; wisely, valiantly, can do what is laid to their hand in their present sphere, and prepare themselves withal for doing other wider things, if such lie before them. With many good wishes and encouragements.

I remain, yours sincerely,

THOMAS CARLYLE.

Physical and Mental Overculture.

A noted British novelist, now on a visit to this country, in one of his most popular narratives, exemplifies the case of an athlete who, by a severe course of training has brought himself to a high state of physical perfection, in order to compete in the lists of a foot race. When the time arrives for the test of his powers of endurance, the runner begins his task ; but ere he can reach the goal, his overtaxed system gives way, and he falls stricken with paralysis, a hopeless bodily wreck. Instances of a

similar kind in real life are but too common. The death of the celebrated oarsman, Renforth, while at the thwart is still within public recollection, and the decease of Heenan, the once famous pugilist, is a more recent exemplification of the retributive action of Nature when the laws by which the confines of the possibilities of human muscular effort are transgressed.

A man's body may be compared to a finely adjusted and accurately balanced steam-engine, and his vital energy and mental power to a constant motive force acting upon a uniform area of piston. It needs no demonstration to prove that an engine has a certain fixed capability ; it can develop so many horse power, and then reaches its limit. If we make more ponderous wheels or stronger rods and shafting, equal to the performance of much more arduous work, and then expect that the same power, merely by operating such heavier machinery, will produce increased results in overcoming greater burdens, common sense tells us that we look for an impossibility. And yet this is precisely what we seek to accomplish by causing exaggerated muscular development. We destroy the equilibrium of the machine ; and as a result, the action of the power by which it is set in motion is either weakened or arrested. The physical seats of vital energy in the human frame are in the so-called vital organs ; as in the overtaxed steam-engine the molecules of vapour dash and expend their force against the piston unproductive of any motion, so in the body ; one part (the heart) unable to drive the increased flow of blood required for the augmented needs of other members, becomes overwrought and eventually diseased ; the lungs equally unable to maintain the process of burning up the effete matter poured into them by the veins, degenerate and waste away ; and the brain, failing to establish the connection between motor nerves and will, shatters by paralysis the delicate mechanism. All, in fine, are causes which as surely arrest the motion of the human machine as does the load beyond its powers that of the apparatus of iron and steel.

The case of Heenan illustrates these truths perhaps as forcibly as any that can be cited. The man was a model of physical perfection, not ponderous in build nor gigantic in frame, but to all appearances one in whom the parts of the body, while cultivated to their full extent, remained in statuesque symmetry. And yet despite the capacious breast and broad shoulders—points in themselves supposed to indicate almost unlimited strength of lungs—these last-mentioned members, in the constant strain upon the system, proved unequal to their task and fell a prey to the wasting and insidious disease which resulted in death.

While, with such evidence as this before us, the tenets of the ultra advocates of " muscular Christianity " may well be questioned with reference to the benefits derivable from the attainment of a so-called high physical condition, on the other hand it is true that no less dangerous results are to be apprehended from the converse practice, the development of the mind at the expense of the body.

Again referring to the steam-engine for a simile, let us consider the consequence, supposing that working parts and load remained constant, of our crowding into the cylinders an enormous steam pressure. Manifestly there would be either a much more rapid wearing out of the machine, caused by the overwhelming power, or more probably the complete breakdown. Thus it is with the individual who by excessive study and brain-work, overweighs the balance in the contrary direction, and, by neglecting to maintain the equilibrium of mind and body, succumbs to the impoverishment of his physical system. Illustrations in point are to be found among the students of every institute of learning. Young men, ambitious to gain scholastic honors and spurred on by

the applause of preceptors and friends, too often find failing health and despondent spirits, the precursors of permanent bodily infirmity, induced by overstrict application, too many hours of study, absence of simple and nourishing food, and neglect of wholesome exercise. Undeterred by premonitions of nature, toward the close of their course, in order to reach a coveted prize—as valueless to them in after-life as it is intrinsically worthless—they tax their energies beyond their powers of endurance. Then, as the runner in the race or the oarsman at his oar physically breaks down at the moment of trial, so the overworked brain succumbs when it is subject to the final strain. The student, whose hollow eyes, pale face, and wasted form denotes nights of unvaried toil, finds his powers inadequate to do him justice, and his memory fleeting at the hour when he desires their firmest aid; and he endures the bitter experience of seeing others, intellectually beneath him, but physically his superiors, withstand a trial before which he falls.

Study is to the mind as exercise is to the body; both alike act as developing powers, but neither body nor mind can be carried to a relative excess of cultivation except at the expense of the other. "*Mens sana in corpore sano*" does not refer either to pundits or prizefighters. It means a mind well balanced, well organized, and varied in ability, coupled with a body healthy, vigorous and strong—the one capable of grappling with the highest thoughts and ideas, the other with the deepest ills and obstacles incident to every walk in life.—*Scientific American*.

Technical Education and Apprenticeship in France.

A correspondent of the *Pall Mall Gazette*, says *The Educational Times*, gives an interesting account of the present state of technical education and apprenticeship in France. Since the first Revolution, which abolished all trade corporations, the position of French apprentices has been very unsatisfactory. The old guilds kept an eye on apprentices; reprov'd, and even punished, the masters who were remiss in instructing them; and kept up among the apprentices themselves a wholesome emulation by means of frequent examinations, badges, and money prizes. There were, in fact, trade degrees, like those in a University; and an apprentice, however rich he might be, could only become a master and set up a shop after having obtained three degrees of proficiency. The first was bestowed after three years of apprenticeship, the second at the end of the fifth year, and the third when the apprenticeship was concluded. Those who declined submitting to these formalities might indeed establish themselves in country districts; but they were not admitted to the guilds of the large cities, and their general situation was precarious and undignified. As a result of this system, French mechanics were renowned all the world over; and if they went abroad, every country was eager to welcome them. The sweeping away of all trade corporations, with their useful guild rules, by the Revolution, in the name of freedom, was a popular measure, in that it multiplied enormously the number of master tradesmen, and brought into the cities thousands of peasants, who under the old state of things, would have been unable to gain a living there; but, as an immediate consequence, the reputation of French handicraft was lowered, and trades of which France had possessed almost a monopoly soon became acclimatized in foreign countries. The deterioration has been going on steadily ever since, and now it is found that in Paris, as well as in most of the great towns of France, the most

skilful mechanics are Germans, Belgians, and Swiss. Apprentice schools, two of which are being founded, one at Havre and the other at La Vilette, in Paris, purpose to cope with this state of things by giving boys a trade education at a cost but little higher than that of the primary education in communal schools. The special aptitudes of boys will be taken into account, and the mechanics set to teach them will be the best that can be procured; the boys will also be admitted very young, so that their training may begin two or three years earlier than the usual apprenticeship. Originally the committee of gentlemen who started this scheme intended to manage the schools privately, by the aid of voluntary contributions; but the Havre and Paris town councils having taken the whole plan under their patronage, and voted funds for the support of the schools, it is probable that the first scheme will be much extended, and that a special school will eventually be set apart for each sort of handicraft. Meantime, the National Assembly will be appealed to, that the apprentice laws of 1850 may be rendered more stringent, and that it may provide inspectors to see that apprentices are better attended to by their masters.

A Great Error in Modern Education.

I am not indeed, supposing that there is any great danger, at least in this day, of over-education; the danger is on the other side. I will tell you, gentlemen, what has been the practical error of the last twenty years,—not to load the memory of the student with a mass of undigested knowledge, but to force upon him so much that he has rejected all. It has been the error of distracting and enfeebling the mind by an unmeaning profusion of subjects; of implying that a smattering in a dozen branches of study is not shallowness, which it really is, but enlargement, which it is not; of considering an acquaintance with the learned names of things and persons, and the possession of clever duodecimos, and attendance on eloquent lectures, and membership with scientific institutions, and the sight of the experiments of a platform, and the specimens of a museum—that all this was not dissipation of mind, but progress. All things now are to be learned at once, not first one thing, then another; not one well, but many badly. Learning is to be without exertion, without attention, without grounding, without advance, without finishing. There is to be nothing individual in it; and this, forsooth, is the wonder of the age. What the steam-engine does with matter, the printing-press is to do with mind; it is to act mechanically, and the population is to be passively, almost unconsciously, enlightened by the mere multiplication and dissemination of volumes. Whether it be the schoolboy, or the school-girl, or the youth at college, or the mechanic in the town, or the politician in the senate,—all have been the victims in one way or other of this most preposterous and pernicious of delusions. Wise men have lifted up their voices in vain, and at length, lest their own institutions should be outshone and should disappear in the folly of the hour, they have been obliged, so far as they could with a good conscience, to humor a spirit which they could not withstand, and make temporizing concessions at which they could not but inwardly smile.—*Dr. Newman*.

School Headaches.

"About this time," so might run the household almanac, "expect children to come from school with

headache." No weather predictions could prove more true than does such a prophecy in hundreds of families in our cities. Notwithstanding all the discussions upon the subject, and in spite of all the discoveries of advanced science, school-rooms, both public and private, are most imperfectly ventilated and unsuitably heated; they are either too hot and close, or a draught of cold air pours down upon the pupils. In utter defiance of all that common sense and physiology teach, parents continue to regard an honorary diploma as the ultimatum of education, and to urge on their sons and daughters to obtain it. "Only so many years can you go to school," is the spirit if not the letter of the instruction constantly given by scores of parents, "and you must go through all these studies. You have no time to waste." The teachers are often in combination with these parents to bring about the desired end; the course is marked out with reference to rapid, continuous study, and incitements of various kinds, in the form of marks, prizes, honor rolls, etc., are placed before the pupils to stimulate them. It is true there are some teachers who see the evils of our school system, and would modify it, but the parent interferes, with the remonstrance that his child "has been attending school so long, and must be promoted." Or a parent justly demands that his child shall not be overtaxed, and the result is that, although as capable as the average, she ranks behind her class because she does not take all the studies, and the fancied dishonor disturbs her mind. Strange, indeed, it is that in this age of progress the training and education of young girls and boys should not be better understood. The long confinement in close rooms, the short noon recess and hastily eaten lunch, the nervous restlessness for which they are so unjustly blamed, the pale or the unnaturally flushed faces, long lessons to be learned out of school hours, weary headaches and disturbed sleep—from such things the children suffer. Their elastic spirits are broken, their health is imperilled, they are old before their time. When we see these worn and weary-looking little men and women, Mrs. Browning's lines, written in view of still sadder cases, come to mind:

"For oh," say the children, "we are weary,
And we can not run or leap—
If we cared for any meadows, it were merely
To drop down in them and sleep."

Is there a good time coming, when parents and teachers shall combine to educate children with as much regard to healthful physical, as to high mental, development? when plenty of fresh air and frequent intermissions shall be deemed essential during study hours? when it shall be considered as important to keep a child in happy healthful spirits during every day of the school term as to show each day a record of perfect lessons? when it shall be understood that *healthy* children, properly taught, seldom need any other mental stimulus than their own natural and eager desire to learn new things? There is too little child life in this age; too little natural buoyancy of spirits among pale-faced students; too long a list of deaths among the young each year; too many who expend all their energy and vitality before they reach adult age. Have not our educational systems something to do in this matter?—*Exchange*.

Education for Girls.

The Boston School Board has decided that hereafter girls shall not be admitted to the High School until they are fifteen years of age. Heretofore they have been admitted

whenever prepared by scholarship, and the result has been that bright and precocious girls have been stimulated to undue effort, and the forcing process, which, unfortunately, is neither confined to them, nor to Boston, has proved injurious to health and future acquisition. This is a step in the right direction. It should be followed by a reduction of the number of lessons imposed, either by rule or by competition, upon school children. There is a good deal too much of shallow ploughing in this regard and it is far from certain that the fertility of the soil is always adapted, under any treatment, to the crops attempted to be raised. Our public schools are an outgrowth of a very decided conviction in the public mind of their necessity and value, as affording the means of free and universal education in the common English branches. On this primary idea has been engrafted others until it is now gravely argued that it is the duty of the State to give its girls a chance at, it would be absurd to say knowledge of, music, the ancient and modern languages, all the science and the graces of the ball room; and every boy a collegiate education; and it seems to be supposed that all this is to be attained the best, the soonest, and that there is nothing in the human constitution which prohibits an entire devotion to study and nothing in the limitations of life which argues a different preparation for different pursuits.—*Providence Journal*.

Newspapers as Educators.

A schoolteacher who has been engaged for a long time in his profession, and witnessed the influence of newspapers on the mind of a family of children, writes as follows:—

I have found it a universal fact, without exception, that those scholars of both sexes, and all ages, who have access to the newspapers at home, when compared with those who have not, are

1. Better readers, excellent in pronunciation, and consequently read more understandingly.
2. They are better spellers, and define words with ease and accuracy.
3. They obtain a practical knowledge of geography in about half the time it requires others, as the newspapers have made them acquainted with the location of the important places of nations, their government, and doings on the globe.
4. They are better grammarians; for having become so familiar with every variety of style in the newspapers, from the common-place advertisement to the finished classical oration of the statesman, they more readily comprehend the meaning of the text, and consequently analyze its construction with more accuracy.
5. They write better compositions, using better language, containing more thoughts, more clearly and more connectedly expressed.
6. Those young men who have for years been readers of the newspapers, are always taking the lead in the debating societies, exhibiting a more extensive knowledge upon a greater variety of subjects, and expressing their views with greater fluency, clearness and correctness.—*Exchange*.

The Leisure Time of Boys.

Every father of a family knows that there is a time in the life of his sons that gives him much trouble and some anxiety. We allude to the period of boyhood, when

exuberance of spirits and thoughtlessness are at their height, and when the studies imposed by school discipline are entirely insufficient to find adequate employment for their too active minds and bodies. And it is not possible, or even desirable, to increase the already considerable application of all well-bred boys to the study of books and the acquirement of learning. It is not wished that a youth of twelve should grow up to be a conceited would-be pedant of twenty, and a bookworm of thirty years of age. Thus the task of finding fitting occupation for the leisure hours of a boy is no inconsiderable one, as few pursuits into which a boy would plunge with eagerness are suited for putting in the way of so much impulsiveness and want of consideration as most boys possess. The question, then, of how to amuse our boys, is one of paramount importance and difficulty.

We would suggest, to the many parents who have been perplexed with this difficulty, to give their lads every possible opportunity of acquiring a mechanical trade. The industry and ingenuity of a boy of average ability may easily be made to furnish him with a never-failing source of amusement of the best order. The boy, who can produce or make something, already begins to feel that he is somebody in the world, that achievement of a result is not a reward reserved for grown people only. And the education of mind, eye, and hand, which the use of tools and mechanical appliances furnishes, is of a great and real value, beyond the good resulting from the occupation of leisure time. Having nothing to do is as great a snare to the young as it is to the full-grown; and no greater benefits can be conferred on youths than to teach them to convert time now wasted, and often worse than wasted, into pleasant means of recreation and mental improvement.

We say therefore, to all parents: Provide your boys with mechanical apparatus and tools. There is no greater pleasure to most boys than the handling of a tool; and many great men and ingenious inventors look back with gratitude and delight to the day when they were first allowed to use the lathe, the saw, and the plane.

The boy, whose time and mind are now occupied with marbles and kites, may be a Watt, a Morse, or a Bessemer in embryo; and it is certainly an easy matter to turn his thoughts and musings into a channel which shall give full scope to their faculties. And to most boys the use of mechanical tools is the most fascinating of all occupations.

As logic and mathematics have a value beyond accuracy in argument and the correct solution of problems in that they teach men the habit of using their reflecting powers systematically, so carpentry, turning, and other arts are of high importance. These occupations teach boys to think, to proceed from initial causes to results, and not only to understand the nature and duty of the mechanical powers, but to observe their effects; and to acquire knowledge by actual experiment, which is the best way of learning anything. All the theories culled out of books leave an impress on the mind and memory, which is slight compared to that of the practical experience of the true mechanic. Our advice is, to all who have the great responsibility of the charge of boys: give them tools, and give their minds a turn towards the solid and useful side of life. You will soon see the result in increased activity of their thinking capabilities, and the direction of their ideas towards practical results; and, still more obviously, in the avoidance of idle mischief and nonsense (to omit all reference to absolute wickedness and moral degradation), which are, to too great an extent, the pastime of the generation which is to succeed us.—*Scientific American.*

Lord Dufferin's Visit to the Montreal High School.

At 10.30 p. m., on the 5th instant, His Excellency Lord Dufferin, accompanied by Colonel Fletcher, visited the High School. The preparatory school, under the direction of Professor Robins, was first inspected and the system of teaching pursued was observed.

Rev. Dr. Jenkins, Dr. Dawson, Mr. Lunn, Professor MacVicar, Rev. Canon Bancroft and other gentlemen were in attendance and accompanied the Governor in his visit to the different class-rooms where the scholars were examined by their teachers in Latin, mental arithmetic and other subjects. The corridors, &c., had been neatly decorated for the occasion.

The party next proceeded to the High School proper, which is under the management of Professor Howe, assisted by a numerous staff of teachers. The cadets, under the command of Captain Barnjum and Lieut. Adams, were drawn up in the drill room on the ground floor, which was first visited. They presented an excellent appearance, and cannot fail to prove efficient members of the volunteer force in future years. In one of the class rooms on this floor His Excellency remained to hear an exercise in Euclid, and having observed the different arrangements of the school as regards accommodation, &c., the party ascended to the rooms of the Governors of the school.

Rev. Dr. JENKINS then briefly expressed the gratification which the students felt at His Excellency's visit, after which

Mr. MACPHERSON, one of the students, stepped forward and read the following address in Latin:—

Viro Excellenti Comitique Nobili Dufferin, Victoriae Reginae in Regno Canadensi Vicario, &c., Salutem Dicimus.

PACE TUA EXCELLENTISSIME:

Pergratum nobis fecisti, quod scholam nostram Regiam adventu tuo hodie honorasti. Lætitia autem qua fruimur non illa simplex est quam secum ferre solet cura optimatum benigna in eos qui humilioris loci sunt et ordinis, sed etiam lætamur te præsentem videntes qui, in Scholis et Academiis Britannicis, artes quæ ad humanitatem pertinent, ipse excoluisti, itaque ad bene æstimanda studia nostra et labores idoneus.

Hæc Canada adolescentula, in commercii; negotiis et in opificiis multum jam profecit, sed periculum est ne in republica Literarum, et artium honestarum gloria deficiat illa quam obtinet Britannia mater.

Quod ne fiat, sed ut prorsus sit Canada matre pulchra filiorum pulchrior, opus est gratia et cura altrice procerum Scholis et Academiis nostris. Quas te primo ab adventu in has oras studiose fovere scimus, itaque tibi ex animo gratulamur, atque Deum precamur ut tibi et conjugii tuæ amabili pulchræque salutem det.

Cressa ne careat pulchra dies nota;

Sis felix, nostrumque leves, vir clare, laborem.

CAROLUS RITCHIE,
DAVID B. MACPHERSON.

Pro discipulis Scholæ Regiæ, Monte Regali, Die 5ta Feb., 1874.

His Excellency made the following reply, also in Latin:—

Vir illustrissime, vos insignes præceptores, et vos hujus tam præclaræ scholæ Canadensis alumni, me fortuna nescio qua tam magna coram vobis hac in aula hoc die versatum fuisse invenio.

Me quum gratum, igitur, illustrissimi, tum humilem sentiis vestris fecistis; humilem, quippe qui studiis quilibet versatus, sola ad limina, cujus arcana explorasse negatum, scientiæ perfectæ cumulataque quam longe mihi videar attinuisse; attamen gratum, quippe qui, hoc

tam illustri imperii nostri regno munere ac officio regio fungens, non tam mihi illa bonæ voluntatis et fidelitatis pignora, quam Reginæ, cujus regnum, ut ita dicam exhibuisse ac sustinuisse traditum, accipiam expressa ac provocata.

Quæ cum ita sint, amici, omnia quæ bona, omnia quæ culta, omnia quæ honesta, invenite, corripite, hac adolescentiæ hora occupate; hinc vera virtute, vera scientia, vera fortitudine induti, non solum vobismet ipsis sed patriæ tam vestræ quam meæ præsidium et decus floreatis.

At the conclusion of the reading of the address there was loud applause.

His Excellency also offered the following remarks in English:—Although, my young friends, I am very grateful for the kind reception you have given to the very imperfect expression of my thanks, which I have endeavoured to convey to you in that language in which you yourselves have addressed me, in words which I may hope are not likely to be subjected to that severe criticism which they would be quite unable to sustain, I feel that the expression of my thanks would be incomplete unless I took this opportunity for asking that to-morrow may be given to the scholars of this institution as a holiday. (Cheers.) I have also the pleasure of stating that it is my intention, so long as I am fortunate to occupy the honorable position of Governor-General of Canada, to offer to the students of this school a silver medal, to be given, subject to such conditions as, after consultation with your superiors, may be determined upon. (Cheers.)

Mr. Ritchie, another of the students, then presented His Excellency with a bouquet of beautiful flowers from the Students of the 5th and 6th forms.

Hearty cheers were then given for the Queen, the Governor General and Countess Dufferin, and the Masters of the School, and the proceedings then closed.—*Gazette*.

Mars and the Earth Compared.

The first view of Mars shows an analogy with our own planet, in the distribution of climates into frigid, temperate, and torrid zones. The study of its topography will, on the other hand, show a very characteristic dissimilarity between the configuration of Mars and that of the earth. On our planet the seas have greater extent than the continents. Three-fourths of the surface of our globe is covered with water. The *terra firma* is divided chiefly into three great islands or continents, one extending from east to west, and constituting Europe and Asia; the second, situated to the South of Europe, in shape like a V with rounded angles, is Africa; the third is on the opposite side of the earth, and lies north and south, forming two V's, one above the other. If to these we add the minor continent of Australia, lying to the south of Asia, we have a general idea of the configuration of our globe.

It is different with the surface of Mars, where there is more land than sea, and where the continents, instead of being islands emerging from the liquid element, seem rather to make the oceans mere inland seas—genuine mediterraneans. In Mars there is neither an Atlantic nor a Pacific, and the journey round it might be made dryshod. Its seas are mediterraneans, with gulfs of various shapes, extending hither and thither in great numbers into the *terra firma*, after the manner of our Red Sea.

The second character, which also would make Mars recognizable at a distance, is that the seas lie in the

southern hemisphere mostly, occupying but little space in the Northern, and that these northern and southern seas are joined together by a thread of water. On the entire surface of Mars there are three such threads of water extending from the south to the north, but, as they are so far apart, it is but rarely straits which connect them constitute a very distinctive character of Mars, and they are generally perceived whenever the telescope is directed upon that planet.

In order successfully to observe Mars, two conditions are requisite: First, the earth's atmosphere must be clear at the point of observation; and, secondly, the atmosphere of Mars must be also free from clouds—for that planet, like the earth itself, is surrounded by an aerial atmosphere which from time to time is obscured by clouds just like our own. These clouds, as they spread themselves out over the continents and seas, form a white veil which either entirely or partially conceals from us the face of the planet. Hence the observation of Mars is not so easy a matter as it might at first appear. Then, too, the purest and most transparent terrestrial atmosphere is commonly traversed by rivers of air, some cold, which flow in different directions above our heads, so that it is almost impossible to sketch a planet like Mars, the image seen in the telescope being ever undulating, tremulous, and indistinct. I believe that, if we were to reckon up all the hours during which a perfect observation could be had of Mars, albeit his period of opposition occurs every two years, and although telescopes were invented more than two and a half centuries ago, the sum would not amount to more than one week of constant observation.

—G. FLAMMARION, in *Popular Science Monthly* for December.

Fur-bearing Animals—The Alaska Seal.

The skins used for fancy furs and robes are mostly obtained from the carnivorous or flesh-eating animals; as the sable, marten, mink, ermine, seal, otter, bear, etc.; some are obtained from the rodents or gnawers; as the beaver, coypou, or nutria, muskrat, rabbit, etc.; and a few are obtained from the ruminants, or those that chew the cud; as the bison, that supplies our buffalo-robes; and the paseng or wild-goat of Persia and the Caucasus, and the Assyrian or Siberian sheep, from whose young kids and lambs we obtain the much-used Astrakhan.

By far the most valuable fur that passes under the name of seal is that of the sea otter, or Alaska seal, which, while it has the habits of the seal, forms a connecting link between it and the otter. A large portion of this fur is obtained from two islands, St. Paul and St. George, in latitude about 56½° north, in the Sea of Behring or Kamtchatka, about 250 miles northwest of the peninsula of Alaska. These islands were sold by Russia to the United States as a part of the Alaska territory. When, in 1869, General George H. Thomas was sent by our government to examine and report upon the country, he estimated the fur-bearing seals, or sea-otters, seen each summer on these islands, at from 5,000,000 to 15,000,000, lying in the rookeries, and covering hundreds of acres. For the last fifty or sixty years, the Russian Government had limited the number of skins to be taken yearly to some 80,000 or less. As General Thomas recommended that the hunting and killing of these animals should be regulated by law, Congress, in 1870, adopted substantially the Russian system; and in a few weeks the Alaska Company, of which Hon. Henry P. Haven, of New London, Connecticut, is a prominent owner and influential officer, leased from the United States the islands of St. Paul and St. George. The company contracted to pay

a rent of \$55,000 per annum, and a revenue tax of \$2,621 on each fur-seal taken and shipped from the islands. Two United States officials are stationed on each of these islands to see that the company complies with the conditions of the lease, and to count the skins as they are shipped to San Francisco, where they are again counted by the custom-house officers. The number taken annually must not exceed 100,000. The catch in 1872 amounted to 96,069 skins. The sea-otter is the boldest swimmer of the amphibious tribe, for troops of them are met with 300 miles from land. When holding a fore-paw over their eyes, in order to look about them with more distinctness, they are called sea-apes. They are exclusively found in the North Pacific Ocean and on its borders, between the 49th and 60th degrees of latitude; and, although living mostly in the water, they are occasionally found on land very far from the sea. Their fur is exceedingly fine, soft, and velvety, perfectly black in full season, but at other times of a shining, deep sepia, or of a rich chestnut-brown. The longer hairs are silky and glossy, but not very numerous, and are easily removed. The Chinese prize the fur of the sea-otter so highly that formerly they paid for the skins from sixty to seventy-five dollars each; but they value them somewhat less now. It still remains the choicest, most expensive, and most fashionable, fur of its kind in the market for gentlemen's sets, ladies' sacques, turbans, boas, muffs, etc., and consequently all inferior furs that resemble it are made to imitate it.—J. H. PARTRIDGE, in *Popular Science Monthly* for December.

The Anglo-Russian Royal Marriage.

We trust no apology is required on our part for the introduction of the following article into the columns of the *Journal*. Apart from the deep interest we all take in the reigning Royal Family and its alliances, we feel it is due to our lady readers, who all take a special interest in such ceremonies. The following are Edmund Yate's special despatches to the *New-York Herald* :—

The ceremonies of the Royal marriage commenced at noon on the 23rd January, 1874, in the presence of a large and brilliant assembly, at the *Winter Palace*, St. Petersburg.

The various galleries were filled with ladies sumptuously attired. There was a prevalence of peculiar Russian costumes, made up mainly of velvet and diamonds. The gentlemen all wore uniforms, with the exception of the American diplomats. After assembling, the bridal procession was formed, with the grand equerries, chamberlains and other officers of the court leading; then came the Czar Alexander and the Czarina, the Imperial Prince, the Czarowitz and his wife, Princess Dagmar, the Prince and Princess of Wales, Crown Prince Frederik William and Crown Princess of Germany, Prince and Princess of Denmark and Prince Arthur of England. Then came the bride and bridegroom, the bridegroom wearing the Russian naval uniform. The bride, Princess Marie Alexandrovna, was splendidly appressed in a long crimson velvet mantle, trimmed with ermine, and wore a coronet of diamonds. Her train was borne up by four pages. Then followed an immense procession made up of members of the Imperial Russian family, Princes, Princesses, and Court officials; the Imperial Russian Prince wearing the uniform of the Cuirassiers; the Prince of Wales the scarlet British uniform, and the Prussian Prince that of a Russian colonel. All of the gentlemen were decorated with the insignia of the Russian Order of St. Andrew. The Princess of Wales was dressed in dark crimson velvet, and wore a diamond coronet and collar, with a pearl necklace. The Imperial German Princess was habited the same as the Russian Princess, in a dress of blue velvet, with gold trimmings. Prince Arthur of England wore the uniform of the British Rifle Brigade when acting as groomsmen, and all other persons present appeared wearing wedding favors of silver. The procession, upon reaching the Russian church was received by the Metro-

politan at the head of the choristers of the church, the Holy Synod, bearing crosses, sacred vessels, and holy water. The Emperor of Russia conducted the bride and bridegroom to the middle of the church, assuming a station with the Empress immediately behind them. Around the bridegroom stood Prince Arthur and the Grand Dukes. The wedding rings were borne on golden salvers and deposited on the altar temporarily by the Imperial confessor until they were placed on the fingers of the bride and bridegroom. The magnificent chapel was illuminated with wax candles and the floor covered with a carpet of velvet with a pattern of crimson and gold. The pillars of the altar were covered with gold. The Greek marriage ceremony was unique. There was an absence of music; the chants were intoned, and there were prayers offered up. During the service crowns were held suspended over the heads of the bridal pair, Prince Arthur holding the crown over the Duke of Edinburgh, and Prince Sergius of Russia the crown over the bride. The Imperial confessor then said: "Thou servant of God, Alfred Ernest Edward, art crowned for this handmaiden of God, Marie Alexandrovna; in the name of the Father, Son and Holy Ghost." Then was read the Epistle of St. Paul to the Ephesians, 5th chapter, from the 20th to the 23rd verse inclusive. Then the crowns were removed, and the married couple walked thrice around a raised dais, holding the tip of the confessor's robe in one hand and a lighted candle in the other. At the conclusion of the ceremonies the sacramental cup was brought forth, blessed, and its contents partaken of by the bridal pair, the confessor presenting the cross, which the bride and bridegroom kissed. The deacon delivered an eloquent admonition on the marriage duties, and immediately afterwards the choir chanted "Glory to Thee, O Lord," concluding with the pronouncement of the benediction by the clergyman. Thus ended the Greek service. Leaving the Russian chapel the procession slowly reformed, and the party proceeded to the Hall Alexander for the performance of the Anglican Church service. The Very Reverend Dean Stanley, who, during the solemnization of the Greek Church service, wore a Protestant Episcopal Doctor of Divinity's hood and gown, and who now appeared at the altar wearing an episcopal surplice with the jewelled collar of the order of the Bath around his neck, was assisted by two of the resident English clergy. The members of the English colony, including bankers and merchants, were gathered on the left of the altar. Conspicuous among them were Governor Jewell, the American Minister; Lord Loftus, the English Minister, and the officers of the diplomatic corps. Many Englishmen in scarlet uniforms were also present. Especially noticeable was the venerable Prince Gortschakoff, surrounded by the leading members of the Russian nobility. They gathered on the right side of the altar. The Episcopal chants were given by Russian chorister lads clad in long crimson dresses. When the marriage procession entered the bride walked between her father and the bridegroom; Prince Arthur walked behind. The beautiful Anglican wedding service was impressively performed by Dean Stanley, the Prince and Princess responding according to the form enjoined in the Book of Common Prayer. The delivery of the final benediction, "God the Father, God the Son, God the Holy Ghost bless, preserve and keep you," was especially touching. The service being concluded, Dean Stanley warmly congratulated the newly married couple. Several Catholic dignitaries were present. The bride looked earnest, sweet and fascinating, the bridegroom was grave and self-possessed. The Princess of Wales was lovely, pale and delicate; the German Crown Princess looked hearty, the image of her mother, Queen Victoria. The Prince of Wales was apparently on excellent terms with the German Prince, and both looked extremely well. During the ceremony in the English chapel, the Empress of Russia being a confirmed invalid, and much fatigued, sat down. She seemed overcome with emotion, holding a handkerchief to her eyes when the newly-married couple came to salute her. The ceremony being concluded, the crowd dispersed. There was a frightful rush on the stairways. The whole formed a wonderful mass of color. Old General Kauffmann, the Khivan hero, got entangled in the mass, but recognized by the Crown Prince, was instantly rescued. On coming into the street the police were found driving the crowd, and Cossack horsemen charging to and fro clearing the way for the distinguished personages. The magnificent bell of the St. Petersburg church kept pealing during the day; salvos of artillery of 100 guns were fired on the conclusion of the Greek service, all forming an extraordinary combination of ceremony, wealth, pomp and splendor.

Influence of Petrarch.

Petrarch was, in fact, the first real restorer of polite letters. His fine taste led him to appreciate the beauties of Cicero and Virgil, and his ardent enthusiasm for them inspired his country with a thirst for classical knowledge. With the exception of Boccaccio, no one else had so keenly at heart the disinterring and bringing to the light the long-neglected Latin and Greek classics. In order to accomplish this, he wrote to all the learned men of the day, and sought among the ancient archives of cities and monasteries. By these means he discovered, in Venice, some of Cicero's letters, in Arezzo the oratorical institutions of Quintilian, in Liege two of Cicero's harangues, which he copied with his own hand (although he tells us the ink was as yellow as saffron), because his indignation was so great against the *amanuensi* of the time, whose carelessness led them to commit the grossest errors in transcribing. Had it not been for Petrarch's unwearied efforts, many manuscripts would have perished, as several had done no long time before, forgotten and abandoned to dust and vermin in the monasteries. The Greek classics were also destined to revive in the fourteenth century, and the glory of reawakening in the minds of men the love of Greek poets and orators fell also to the lot of Petrarch and Boccaccio. The Greek friar Barlaam, a Calabrian by birth, but long resident in Greece, and considered one of the most learned men of that age, was intrusted by the Greek Emperor Cantacuzene with a mission to Italy. In the course of his travels, perhaps in pursuit of the Papal Court, he came to Avignon, where he met Petrarch, who, having heard of his fame, begged to be instructed by him in Greek. Petrarch afterwards pursued the study of the language with Leonzio Pilato, a disciple of Barlaam; but, notwithstanding the assistance of two such great masters, he does not seem to have made much progress, and it was a source of some disappointment to him not to be able to read with ease a copy of Homer, a most rare book in Italy at that time, which had been presented to him by Nicola Sigeros, Prætor of Romania. Still, although the attempts of Petrarch and Boccaccio were not attended with any immediate success, yet they excited a desire for learning, and prepared the way for the real revival of Greek literature a few years later. It may be that Petrarch was hindered from attaining to any perfection in Greek by the careful and life-long study which he bestowed upon the Latin classics. Cicero and Virgil were his models both in prose and in verse, and he strove to form his style upon them in the folio volume of twelve hundred pages which contains his Latin works. This style, although far above the common order of Latin then employed in the schools, is considered inferior to that of the scholars of the sixteenth century, and the fastidious taste of Erasmus was offended by the incorrectness and harshness of his style. Erasmus complains that Petrarch's writings, although full of thought, are defective in expression, and display the marks of labour without the polish of elegance. Nevertheless, whatever may be their demerits, there is no doubt that Petrarch rendered an incalculable service to literature in pointing out the road to good Latinity. If the great writers of the sixteenth century surpassed him in Latin prose and verse, still the glory must remain with him of being the first of the moderns who discovered the track of the ancients, and pointed out the road by which it was to be followed. The effect of his influence was like that ascribed by Dante to Virgil, the moral tone of whose writings prepared men's minds for Christianity.—*Macmillan's Magazine*.

life again the dry bones of the days of chivalry, and has made us all, at every period of life from youth to age, pore over the magic pages of the Wizard of the North. Pope sleeps in the little church at Twickenham, near to the villa rendered famous by his genius. Thomson at Richmond, beneath whose shades he lived and wrote; Gray in the churchyard of Stoke Pogis, where he penned his incomparable "Elegy;" Coleridge and Southey near to their "ancient walks and daily neighbourhood;" Milton and Bunyan in the heart of busy London, where so many years of the life of the former were passed. But what a wealth of genius is there not garnered up within the sacred walls of Westminster! Chaucer, the "Father of English Poetry," whose long sleep here dates from the year 1400, and Spencer, "the Prince of Poets in his time;" the "melancholy Cowley," as he calls himself, and "glorious John Dryden," "rare Ben Jonson," and Francis Beaumont, "Fletchers" associate Jonson's friend beloved;" Michael Drayton and the witty Prior; Gay, author of the "Beggar's Opera," and the highly cultivated, courtly Addison; the warm-hearted, eccentric Johnson, and Thomas Campbell, the author of the "Pleasures of Memory" and numerous noble lyrics; Abraham Cowley, "majestic Denham," and Nicholas Rowe; Southey, equally celebrated as writer and poet; and Oliver Goldsmith, a true child of genius, whose "Vicar of Wakefield" and "Deserted Village" can surely never be surpassed. Then, not less worthy to share this glorious "fellowship of death" are our more modern literati, Lords Macaulay and Lytton—best known under the name of Bulwer—Thackeray, and Dickens. These are names that have made the Victorian era only less famous than the Elizabethan. Mr. Forster, in his "Life of Dickens," has stated that the writer of "Pickwick" experienced the truth of the axiom "that publishers are bitter bad judges of an author, and are seldom safe persons to consult in regard to the fate or fortunes that may probably await him;" the clever author of "Lothair" has also recorded his opinion that "critics are men who have failed in literature." There is, doubtless, some truth in this; but it is no less a matter of fact that critics and publishers are oftentimes less severe on writers than they are upon one another; this arises from jealousy and self-interest, which prevents them from acknowledging the full merits of rivals, whose style or theories may be different from their own. Again, some practically minded people gravely ask you, "What is the use of poetry?" and as it is of no material benefit, they regard with contempt poets and all their works. It is said of a very great man, Sir Isaac Newton, that he acknowledged "Paradise Lost" was "a fine poem; but," he added, "what does it prove?" The learned Bishop Hacket, says a writer, called Milton a "petty schoolboy scribbler;" and the celebrated Barrow, who regarded poetry as ingenious nonsense, wrote of him as "one Milton." Burnet also spoke of another poet as "one Prior;" and Shennstone, who chiefly owed his reputation to his imperfect imitations of Spencer, unfavourably criticized the latter. Addison also wrote contemptuously of the same great poet, whose wealth of imagination all have admired; and yet it would appear that he did not read the "Faery Queen" until fifteen years afterwards. Both Addison and Cowley found fault with Chaucer, and Dryden suggests that he was, perhaps, too much shocked at the poet's rough and antique style to search into his humour and good sense; and doubtless many of our readers have for the same reasons refrained from more than "dipping into" the famous work of the father of English Poetry.—*Golden Hours*.

Jottings about Literature and Literary Men.

Who can wend his way on a pilgrimage to Stratford-on-Avon, and pass through the lowly chambers of the birthplace of Shakespeare, and sit beside his tomb in the chancel of the ancient and interesting church, without returning home to pore over the works of the immortal bard, if he never studied them before? Pilgrims poetical visit the small country church near Newstead Abbey where are "interred the bones" of perhaps the greatest genius this country has produced since the days of Shakespeare and Milton. Many, too, will turn their footsteps north towards "Caledonia, stern; and wild," and pay their homage to the genius of Scott at Abbotsford, or at his grave amid the ruined arches of Dryburgh Abbey, an appropriate resting place for the poet and writer of fiction who brought to

The Literature of the Year, 1873.

The year 1873 will not stand high, the London *Globe* (Dec. 31) says, in the history of English literature. It has produced few works of striking originality, and none that will mark epochs in the development of thought. At no previous period have more men of power and culture been engaged in intellectual work; but ours is a scientific rather than a literary age, and will be remembered chiefly for the immense strides it has made in the discovery of truth; and in its applications to practical uses. There will probably be a reaction by and by in favour of literature, but in the meantime we must be content with achievements which fall far short of the highest excellence, and will not compare with those of our really great eras. In France, Germany, and Italy, we hear very much the same complaints. In fact, we are not sure that the literary energies at work in

England are not fresher and more productive than those to be found in any of these countries. Unhappily, we have had to deplore this year the loss of two of our most illustrious writers—John Stuart Mill and Lord Lytton. The former had probably said all, or nearly all, he had to all his generation; but the latter, at the time of his death, was striking into new paths with ardour and hopefulness, and proving that years only added to the wealth of his imagination, the keenness of his insight, and the vigour and trustworthiness of his judgment. The two men worked for very different ends but each was unique in his own department, and it will be long before England sees their like again.

The *Daily News* (Dec. 31) remarks that there was considerable activity of a certain speculative kind last year, perhaps set partly in motion by Mr. Matthew Arnold's "Literature and Dogma." It was not, however, in relation to that work, but in reply to Mr. Mill's "Liberty," that Mr. Fitzjames Stephen published his "Liberty, Equality, and Fraternity." In philosophy, if we except Mr. G. H. Lewes's brilliant and daring volume, entitled "Problems of Life and Mind," we can hardly be said to have had any book during the year likely to have a stimulating influence upon thought, or which has brought out much that was new. In science, Dr. Wyville Thomson's work on the "Depths of the Sea" records a series of investigations on new and, in a literal sense, untrodden ground, which the voyage of the *Challenger* this year has continued. The researches of Professor Ferrier into the localization of the various functions of the brain, and Mr. Norman Lockyer's observations on solar physics, also mark the year. In political economy, Professor Cairnes has done good public service in his volume of "Essays in Political Economy." But the books are few by virtue of which the literature of the year is to be prevented from passing into oblivion, as the almanac does when its time is out, or the pantomime of the one season when the period is approaching for the preparation of another.

The Transit of Venus in 1874.

The year 1874 will be a very notable year in the history of science, for in it, on the 9th of December, will occur the phenomenon known to astronomers as the transit of Venus. More than one hundred years have elapsed since the last occasion of this transit; another will happen in 1882, for, according to the laws which govern the respective motions of Venus and the Earth, the transits when they do happen, occur in couples at comparatively short intervals; but there will then be no other transit until the year 2004.

The phenomenon alluded to is the passage of the planet Venus between the earth and the sun, in such a position with regard to the earth's orbit, that Venus is seen to move like a round black spot over the sun's face. The importance of this phenomenon, in a scientific point of view, may be judged from the fact that it affords astronomers the best means of measuring the distances of the heavenly bodies, and of ascertaining their weight and dimensions.

The first occasion on which a transit of Venus was observed for this purpose was in 1761, the eminent astronomer, Dr. Halley, having recommended the method, and devised a plan of observation to be used after his death, as he knew he could not live until the occasion arose. The plan, however, was carried out at first imperfectly, and consequently with inferior results; but in preparation for the following transit, in 1769, complete arrangements were made by the Royal Society, as well as by other learned bodies in Europe. The Royal Society despatched a vessel, under the command of the celebrated Captain Cook, to the South Seas to take observations; and it was in this voyage that Cook explored the coast of New Holland, now known as Australia, and took possession of that important island in the name of Great Britain.

The observations of 1769 have formed the basis of nearly all the accepted facts of modern astronomy, so far as the computation of distance, &c., is concerned. On these data it is that we have all learned from our earliest years that the sun is distant from the earth more than ninety millions of miles; that Mercury, the planet nearest to the sun, is 36,800,000 miles away from it; that the distance of Venus from the sun is more than 68,000,000 miles and so on. But it is a singular fact, that notwithstanding the care with which the observations were

made in 1769, and the frequency with which these observations and the calculations based on them passed under the examination of the most distinguished astronomers, it was discovered only a few years back that certain errors had crept into the reckoning, by which the sun's distance was over estimated by about four millions of miles. This error has necessarily affected all the other computations, so that for nearly a century, as one writer has put the matter, the distances of all the heavenly bodies were over-rated by an amount equal to tenpence in the pound, and their weights by as much as half-a-crown in the pound; and these inaccuracies will be found in the best authorities on the subject, except those which have passed through recent editions.

The discovery of such errors, under the severe processes by which modern research is conducted, has led to increased anxiety on the part of the scientific world to secure the most perfect accuracy in every detail connected with the next transit. It will therefore be watched with the greatest care by astronomers all over the globe; their observations will afterwards be compared, and the results finally given to the world will, it is hoped, satisfactorily settle the questions involved. The recurrence of a transit in 1882 will afford an opportunity of devoting renewed attention to any point or points that may be left in doubt by the transit of 1874; and, in the present state of scientific knowledge, we may expect a much nearer approach to absolute accuracy than was possible in the last century.

The transit of 1874 will be invisible in the British Isles, as it will take place in the early morning hours of English time, between half-past one and half-past six. It will be seen at Alexandria, in Northern India, in Australia and New Zealand, the Mawritius, &c., and at all these points, as well as others, England will have experienced observers. An expedition will also be sent by the Government to the Antarctic Seas, and other nations will have their observing parties at different stations. The reason of this great variety of stations, apart from the fundamental necessity that observations should be taken at parts of the earth as widely distant as possible, is that the state of the weather and condition of the atmosphere at some of the places may not allow a clear view of the passage of the planet over the sun's disc; and therefore, if observation should altogether fail at some points, it will undoubtedly be successful at others.

The transit of 1882 will be visible in the British Isles. It will take place on the 6th of December when the entrance of Venus on the sun's disc will be observable, and her progress may be watched until sunset; but the egress of the planet will not occur until some hours after the sun has disappeared from these regions. As has been previously mentioned, no other transit can occur until June, 2004, so that persons alive in England in 1882 will have the opportunity of observing a phenomenon which will not present itself again for two or three generations.

To fully explain to our readers the phenomenon of the transit, and the calculations depending upon it, would require a treatise, and the frequent use of mathematical terms; but an idea of the subject may be gained very easily. Every one knows that if you look at any near object from a certain standpoint, and then change your position to another standpoint and gaze at it again, the object itself will appear displaced, or in another position relatively to what you occupy. The nearer the object may be, the greater the displacement; and the further it is, the less the effect of your own removal. This palpable rule forms an elementary principle of all surveying, and the distance of an object is determined by taking the angles relatively to the base line, or straight line described between one point and another to which the observer removes. Now, if this principle be applied to the calculations of distance of the heavenly bodies, it will be found that a very long base line indeed must be taken before there is any apparent displacement in position (called by astronomers *parallax*) of even the nearest, which is our own satellite, the moon. The longest base line which it would be possible to command is that afforded by the diameter of the globe on which we live, namely in round numbers, 7900 miles. But so insignificant is this distance compared with that of the sun, that two observers stationed at opposite sides of the earth, the sun's centre would appear to both in the same point of the heavens. There is found no apparent displacement or *parallax* from the most widely extended observations. But when it happens that Venus in her orbit comes directly between the earth and the sun, as her distance from us is considerably less than the sun's, it follows that observers, stationed at oppo-

site sides of the earth will see Venus on different points of the sun's disc.

The points of chief importance in making observations in the transit are the moments of ingress and egress of the planet—that is, when its black shade first appears in contact with the luminary; again when the whole of the dark surface is fully projected; and lastly when the planet reaches the sun's opposite margin) begins to disappear, and finally vanishes. All these points, noted and timed by different observers all over the globe as far as practicable, and afterwards compared one with the other, give the data for a perfect record of the transit, and for the important results already mentioned.—*Cassell's Illustrated Almanack*.

At a meeting of the Astronomical Society, held on the 14th November last—Professor Cayley, F. R. S., in the chair—Sir George Biddell Airy, the Astronomer-Royal, stated that five stations had been selected for the important observations on the ingress and egress of the planet Venus upon the sun's limb in 1874.

In accordance with suggestions from Mr. De la Rue and Mr. Proctor, a photographic observation would be made in Northern India, for which purpose the necessary instruments had been sent out. Regarding Marquesas Island, he had some years ago made representations to the French Government. The war with Germany had interrupted the correspondence on the subject, but he still hoped for a revival. In the Sandwich group he had proposed to add two subsidiary stations. The claim of the Kerguelens, extended over some fifty or sixty miles. There was a landing-place discovered by Captain Cook, called Christmas Harbour, which would answer well. The United States Government would probably take a station to southeast of this, near Whisky Bay, on Herd's Island. He pointed out on an Admiralty chart the intended course of Her Majesty's ship Challenger, observing that on leaving Bahia she had to go to the Kerguelen Islands, in order to obtain information. If this information should fail to reach here before the setting out of the expedition, it would be picked up at the Cape of Good Hope. But the determination of the most promising stations was not the only question at issue. The parts best suited for observation might, to all intents and purposes, be inaccessible; and, besides this, the consideration how the visitors were to live there was of no little importance. He and his colleagues were determined not to have a station devoid of anchorage or human inhabitants. As far as our present knowledge went, there was the one at Kerguelen, but not the others; while at Rodrigues the case was reversed. Nobody thought of going to Crozet Island or anywhere else where a boat was only to get ashore about once a month. Besides the British Stations, the United States would probably establish eight, France five, and Germany four. Regarding the staff of the expeditions, they were not quite so well prepared. If the Duke of Cambridge relaxed his orders, volunteers from the military service might come to join. At present the students of the Naval College and some private individuals, among them Father Perry, were the main resource. The volunteers were now undergoing a complicated drill at Greenwich Observatory; for it was necessary that every one should have some knowledge of all that had to be done. The determination of longitude might in an emergency be postponed, but local time would have to be accurately established at every station. A transit instrument would be required at every place, and if any member possessed a portable one, its loan would be exceedingly welcome. Six equatorials were ready: the Cambridge Observatory had lent two, and Mr. De la Rue one telescope; but all these were subsidiary matters to the critical observations which had to be performed. He had constructed a model which he would be glad to show to any member at Greenwich before two o'clock in the morning. The Astronomer-Royal then explained the use of the double-image micrometer, after which no one would probably think of again proposing the use of the ordinary worm-micrometer. The photograph would give a four-inch picture of the sun; the diameter of Venus would be about one-thirtieth of that. He then explained Janssen's method of photographing by means of a rotating plate, not the entire, but only that portion of the disc where Venus would happen to be. He believed that by using dry collodion instead of the wet process, a number of hands might be saved.

Lord Lindsay held, with the Astronomer-Royal, that the dry process would be advantageous. The other would expose a man to noxious vapours during four hours.

OFFICIAL NOTICES.

Ministry of Public Instruction.

APPOINTMENTS.

INSPECTORS OF SCHOOLS.

The Lieutenant-Governor,—by an Order in Council, dated December 22, 1873,—was pleased to appoint Désiré Bégin, Esq., Inspector of Common Schools for the County of Rimouski.

The Lieutenant-Governor,—by an Order in Council, dated December 27, 1873,—was pleased to appoint the Revd William Lyster, Inspector of the Protestant Common Schools of the Counties of Bonaventure and Gaspé.

MEMBER OF BEDFORD PROTESTANT BOARD OF EXAMINERS.

The Lieutenant-Governor,—by an Order in Council, dated December 15, 1873,—was pleased to appoint the Rev. J. McFarlane, a Member of the Bedford Protestant Board of Examiners.

The Lieutenant-Governor,—by an Order in Council, dated December 13, 1873,—was pleased to appoint the following

SCHOOL COMMISSIONERS.

Sacre-Cœur-de-Marie, Co. Beauce:—MM. Ignace Turcotte and Joseph Ferland to replace MM. André Perron and Ferdinand Bolduc;

St. Séverin, Co. Lotbinière:—MM. Ignace Bisson and Pierre Lessard to replace MM. Jean-Baptiste Champagne and Elzéar Pomerleau;

Rivière-du-Loup, Co. Maskinongé:—M. Louis A. Baribault to replace M. Pierre Béland;

Township of Aumond, Co. Ottawa:—MM. Michael White, William Moore, John Rivard, Donald McDougall, and Martin Moore;

SCHOOL TRUSTEE.

Sutton, Co. Brome:—M. Noël Vien.

The Lieutenant-Governor,—by an Order in Council, dated December 24, 1873,—was pleased to appoint the following

SCHOOL COMMISSIONERS.

Wickham, Co. Drummond:—M. Edward McCabe to replace himself, and M. Pierre Bohl to replace M. Joseph Boisvert;

St. Grégoire, Co. Nicolet:—The Revd. J. Leandre Tourigny.

LIMITATION AND ERECTION OF SCHOOL MUNICIPALITIES.

The Lieutenant-Governor,—by an Order in Council, dated December 3, 1873,—was pleased to assign the following limits to the School Municipality of Ste. Brigitte-de-Laval, Co. Montmorency:—"Bounded on the North in part by the division line of the Fourth Range of Laval, from the Seigniorial line between Beauport and Beaupré until it meets the line south-west of number twenty-one of the Fifth Range; in part by the south-west side of said lot twenty-one of said Fifth Range; in part by the division line north of the Fifth Range of Laval until it meets the south-west branch of the river Montmorency, as far as number twenty-nine of the St. Louis Concession; in part by the division line north of St. Joseph Concession as far as number thirty-two inclusive: On the North-West by the north-east side of said lot thirty-two, and its continuation to meet number eighteen of the Concession south-west of Bras du Sault-à-la-Puce: On the South, in part by the north side of said number eighteen of the aforesaid Concession; in part by the division line north of the Second Range of l'Ange-Gardien; in part by the division line north of the Third Range of the said l'Ange-Gardien until it meets the river Montmorency continuing to its intersection with the division line between Beauport and Beaupré: On the South-West by said division line between Beauport and Beaupré.

The Lieutenant-Governor,—by an Order in Council, dated December 13, 1873,—was pleased to erect the Township of Aumond, Co. Ottawa, into a School Municipality, with its civil limits as Township.

THE JOURNAL OF EDUCATION.

QUEBEC, JANUARY & FEBRUARY, 1874.

Report of the Minister of Public Instruction for the Province of Quebec for the Year 1872 and part of 1873.*[Concluded from our last.]*

We have now reached the tabular part of this report

and shall let it speak for itself. From 1857 to 1872 inclusive, we find the increase in the number of Municipalities to be 312, a yearly average of 20.8, or 61.5 per cent on 507,—the number existing in 1857; the increase in school Districts in the same time is 1,142, a yearly average of 76.1, or 41.4 per cent on 2,568,—the number existing in 1857; the increase in schools is 1,564, a yearly average of 104.5, or 77.6 per cent on 2,015,—the number in operation in 1857.

TABLE showing the increase in the number of municipalities, school districts, and school houses for every fifth year from 1857 :

	1857	1862	1867	1872	Increase over 1857.	Increase over 1862.	Increase over 1867.
Municipalities.....	507	588	737	819	312	231	82
School Districts.....	2568	3079	3329	3710	1142	631	381
School Houses.....	2015	2449	2560	3579	1564	1130	719

TABLE showing the progress of Public Instruction in the Province of Quebec since the year 1853.

	1853	1854	1855	1856	1857	1858	1859	1860	1861
Institutions	2,352	2,795	2,868	2,919	2,946	2,955	3,199	3,264	3,345
Pupils.....	108,284	119,733	127,057	143,141	148,798	156,872	168,148	172,155	180,845
Contributions	\$165,848	\$238,032	\$249,136	\$406,764	\$424,208	\$459,396	\$498,436	\$503,859	\$526,219
	1862	1863	1864	1865	1866	1867	1868	1869	1870
Institutions	3,501	3,552	3,604	3,706	3,826	3,712	3,913	3,912	4,028
Pupils.....	188,635	193,131	196,739	202,648	206,820	208,030	212,838	214,498	217,504
Contributions	\$542,728	\$564,810	\$593,964	\$597,448	\$647,067	\$728,494	\$792,819	\$894,857	\$976,788
	1871	1872	Increase of 1872 over 1853.	Increase of 1872 over 1858.	Increase of 1872 over 1863.	Increase of 1872 over 1868.	Increase of 1872 over 1871.		
Institutions.....	4,063	4,143	1,791	1,148	591	230	80		
Pupils.....	223,014	224,270	115,986	67,398	31,139	11,432	1,256		
Contributions.....	\$952,095	\$1,085,179	\$919,331	\$625,783	\$520,369	\$292,369	\$133,084		

COMPARATIVE TABLE of the number of children learning the more essential branches of primary instruction since the year 1855, compiled from the School Inspectors' reports.

	1855	1856	1857	1858	1859	1860	1861	1862	1863
No. of Pupils reading well.....	43407	46940	48833	52099	64362	67753	75236	77108	77676
do writing.....	58038	60086	61943	65404	80152	81244	87115	92572	97086
do learning French Grammar	23360	28903	29111	32843	42796	42785	49537	50137	52160
do do English Grammar.....	9004	8000	12074	15348	14098	19064	21038	22512	23407
do do Orthography	32512	46779	47504	47722	54563	61542	74915	78367	68207
do do Grammatical Analysis.....	16439	19504	25961	33377	29766	36711	49460	50893	52244
do do Simple Rules of Arith.....	30631	35847	40070	41730	49111	47327	54323	58728	61237
do do Compound Rules of Arith.....	22586	23431	26643	28196	30919	31758	41512	44357	45727
do do Book-keeping.....	1976	3698	4192	8853	5210	5230	7358	7541	7915
do do Geography.....	17700	23389	25487	29092	36294	37215	44592	46541	50163
do do History.....	15520	17530	24850	26450	29906	38498	35599	39086	42447

(Continued.)

	1864	1865	1866	1867	1868	1869	1870	1871	1872
No. of Pupils reading well.....	75555	96491	98706	92982	84742	89608	82805	86436	87191
do writing.....	99351	107161	111703	96988	102796	113105	114508	124262	122460
do learning French Grammar.....	53677	60353	63672	54379	55041	55459	58605	62883	51824
do do English Grammar.....	22770	24221	24374	22123	23896	24188	25859	26848	25835
do do Orthography.....	75850	76808	91904	80709	94767	99500	102158	119508	101301
do do Grammatical Analysis.....	47686	53443	54701	48757	60045	60206	55961	56669	56038
do do Simple Rules of Arith.....	64918	64071	68981	61930	64994	68306	72072	75959	75837
do do Compound Rules of Arit.....	46529	52892	50726	42461	47435	48574	49373	54242	50308
do do Book-keeping.....	7545	8270	8405	6713	7557	8714	9008	9569	10108
do do Geography.....	51543	49778	53405	43927	45327	47421	50178	51066	46520
do do History.....	45259	48562	49512	45952	44282	49508	50264	63884	52718

The following tables give the sums levied for public instruction in this Province, from 1856 to 1872 inclusive. It will be seen that 1872 exceeded 1871 in the aggregate by \$137,808.12, arising from the various sources indicated. The column for buildings, &c., presents on the contrary a decrease of \$5724.43 from 1871;—explained by the small number of school buildings erected during the past year.

TABLE showing the amount contributed in aid of Public Instruction in the Province of Quebec, from 1856 to 1872 inclusive.

Year.	Assessment to equal Grant.	Assessments over and above amount of Grant and Special Assessments.	Monthly fees.	Assessment for Erection of Buildings.	Total.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
1856.....	113884 87	93897 90	173478 98	25493 80	406765 55
1857.....	113887 08	78791 17	208602 37	22928 63	424209 25
1858.....	117485 06	88372 69	231192 65	24646 22	459396 65
1859.....	115792 51	109151 96	251408 44	22083 57	498436 48
1860.....	114424 76	123939 64	240717 10	15778 23	503859 73
1861.....	113969 29	130560 92	264089 11	17000 00	526219 82
1862.....	110966 75	134033 15	281980 23	15798 84	542728 97
1863.....	110534 25	134888 50	307638 14	11749 76	564810 65
1864.....	112158 34	144515 61	321037 30	15533 12	593265 37
1865.....	112448 09	147158 23	324811 87	13041 57	597448 75
1866.....	118657 35	153732 98	356691 53	22985 32	637067 13
1867.....	113909 64	196098 58	394168 37	24417 46	728494 05
1868.....	114790 64	178174 02	452868 69	47986 17	792819 52
1869.....	122625 44	201211 99	472573 70	97446 03	894857 18
1870.....	123381 08	233773 17	529193 12	90441 24	976788 61
1871.....	124002 19	246792 29	535981 12	46320 38	952095 99
1872.....	140236 96	262686 96	640659 81	40595 96	1085179 69

TABLE of the increase or decrease between 1. 1864 and 1863, 2. 1865 and 1864, 3. 1866 and 1865, 4. 1867 and 1866, 5. 1868 and 1867, 6. 1869 and 1868, 7. 1870 and 1869, 8. 1871 and 1870 and 9. 1872 and 1871.

Years.	Assessment to equal Grant.	Assessments over and above amount of Grant and Special Assessments.	Monthly fees.	Assessment for Erection of Buildings.	Total Increase.	Total Decrease.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Increase of 1864 over 1863.....	1624 09	9627 11	13399 16	3803 36	28453 72	.....
Increase of 1865 over 1864.....	228 75	2642 62	3768 67	.....	4184 39	.....
Decrease of 1865 from 1864.....	.....	.....	.....	2511 55	.....	.....
Increase of 1866 over 1865.....	1210 26	6574 70	31733 36	9943 75	49618 40	.....
Increase of 1867 over 1866.....	252 29	42365 84	37376 84	1434 14	81426 87	.....
Increase of 1868 over 1867.....	.....	.....	58806 32	23568 71	64325 47	.....
Decrease of 1868 from 1867.....	119 00	17924 56	.....	.....	.....	.....
Increase of 1869 over 1868.....	9334 82	23037 97	10705 01	49459 86	102637 47	.....
Increase of 1870 over 1869.....	.....	33561 18	56619 42	.....	81931 43	.....
Decrease of 1870 from 1869.....	244 38	.....	.....	7004 79	.....	.....
Increase of 1871 over 1870.....	621 11	13019 12	6788 00	.....	.....	.....
Decrease of 1871 from 1870.....	.....	.....	.....	44120 85	.....	23692 62
Increase of 1872 over 1871.....	16234 79	13894 65	104678 69	.....	37808 13	.....
Decrease of 1872 from 1871.....	.....	.....	.....	5724 43	.....	5723 43

The two following tables give a résumé of the work of these institutions. The first gives the number of pupils that have attended them; the second, the number of diplomas that they have granted. The total so far is 116 for Academies, 699 for Model Schools, and 1010 for Elementary Schools.

TABLE of the number of Students who have attended the Normal Schools.

Session.		Jacques-Cartier.	McGill.			Laval.			Total Males.	Total Females.	Gross Total.
		Males.	Males.	Females.	Total.	Males.	Females.	Total.			
First	Session, 1857.....	18	5	25	30	22	.....	22	45	35	70
Second	" 1857-58	46	7	63	70	36	40	76	89	103	192
Third	" 1858-59	50	7	76	83	34	52	86	91	128	219
Fourth	" 1859-60	53	9	72	81	40	54	94	102	126	228
Fifth	" 1860-61	52	5	56	61	41	53	93	98	109	207
Sixth	" 1861-62	41	10	68	68	39	52	91	90	110	200
Seventh	" 1862-63	57	8	72	80	39	52	91	104	124	228
Eighth	" 1863-64	56	7	67	74	34	49	83	97	116	213
Ninth	" 1864-65	56	5	60	65	43	55	98	104	115	219
Tenth	" 1865-66	43	2	73	75	39	57	96	84	130	214
Eleventh	" 1866-67	35	2	73	75	43	55	98	80	128	208
Twelfth	" 1867-68	35	5	57	62	49	73	122	89	139	219
Thirteenth	" 1868-69	36	4	70	74	64	73	137	104	143	247
Fourteenth	" 1869-70	46	7	69	76	82	80	162	135	149	284
Fifteenth	" 1870-71	63	6	70	73	54	59	113	123	129	252
Sixteenth	" 1871-72	51	13	94	107	32	56	88	196	150	246
Seventeenth	" 1872-73	46	8	108	116	38	54	92	92	162	254

CLASS and Number of Diplomas Granted to Students of the Normal Schools since their establishment.

Class of Diploma Granted.	Jacques Cartier.	McGill.			Laval.			Total Males.	Total Females.	Gross Total.
	Males.	Males.	Females.	Total.	Males.	Females.	Total.			
Academy	39	15	24	39	38	.....	38	92	24	116
Model School	149	49	183	232	119	199	318	317	382	699
Elementary.....	116	17	508	525	95	274	369	228	782	1010
Total.....	304	81	715	796	252	473	725	637	1188	1825

From the following summary of the results of the Boards of Examiners in this Province, we find that the number of Candidates rejected in 1871 exceeded that of any of the preceding years. Out of 752 candidates, 103, or nearly one-seventh, were rejected.

ANNUAL Statistical Summary of the Diplomas Granted by Boards of Examiners of the Province of Quebec for 1871.

B O A R D.	Number of days the Board sat.	Number of Candidates examined.	CLASS OF DIPLOMA AND No. GRANTED.												Summary.			Candidates passed.	Candidates rejected.
			Acade- my, 1st class		Acade- my, 2d class.		Model School 1st class.		Model School, 2d class.		Element- ary School, 1st class.		Element- ary School, 2d class.						
			Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Academy.	Model School	Elementary School.		
Beauce.....	3	34									3		25			28	28	6	
Bonaventure.....	3	8									1					7	7	1	
Charlevoix.....	2	5									2		1			3	3	2	
Chicoutimi.....	4	1									1					7	7		
Gaspé.....	1	4									4					4	4		
Kamouraska.....	4	23									15					22	22	1	
Montreal (Catholic).....	7	201				3	3	3	4	3	104	4	57	13	168	181	20		
Montreal (Protestant).....	4	45				1	1		3	3	12	1	17	5	33	38	7		
Ottawa.....	3	16								1	5	3	7		16	16			
Pontiac.....																			
Quebec (Catholic).....	4	131				2	4			1	11		72	6	84	90	41		
Quebec (Protestant).....	5	14									6	3	5		14	14			
Richmond (Catholic).....	3	33								2	16		10		28	28	5		
Richmond (Protestant).....	2	21									11		10		21	21			
Rimouski.....	2	12									3		1		4	4	8		
Sherbrooke.....	4	37				4	3		2	3	11		14	9	28	37			
Stanstead.....	3	36								6	18	1	11		36	36			
Three Rivers.....	4	79					15		3		36		15	18	51	69	10		
Waterloo & Sweetsburg (Catholic).....	3	7								2	5				7	7			
Waterloo & Sweetsburg (Protestant).....	4	39								2	15	2	18		37	37	2		
Total.....	65	752				10	26	3	12	23	291	14	263	51	598	649	103		

TABLE of Dissident Schools with the number of their pupils.

District of Inspection.	Protestant Dissident Schools.	Pupils.	Catholic Dissident Schools.	Pupils.
1 L. B. F. Painchaud.....				
2 Rev. M. M. Fothergill.....	4	174		
3 L. Lucier.....			3	164
4 Th. Tremblay.....	8	185		
5 Vincent Martin.....	1	25		
6 G. Tanguay.....				
7 S. Boivin.....	9	264		
8 Wm. Thompson.....				
9 P. F. Béland.....	3	134		
10 E. Carrier.....				
11 J. Crépault.....	4	178		
12 F. Juneau.....	3	194		
13 P. Hubert.....			16	492
14 W. Alexander.....				
15 M. Laplante.....	5			
16 H. Hubbard.....			5	179
17 M. Stenson.....				
18 McLoughlin.....	2	75		
19 J. N. A. Archambault.....	7	142		
20 J. B. Delage.....	20	501		
21 Michel Caron.....	16	543		
22 L. Grondin.....	23	1210		
23 G. Thomson.....	22	831		
24 F. X. Valade.....	9	288		
25 A. D. Dorval.....	9	275		
26 C. Germain.....				
27 C. B. Rouleau.....	20	861		
28 Bolton McGrath.....				
Total.....	165	5880	24	835

Under the head of Superannuated Teachers' Fund nothing very new is to be said.

The importance and advantage of this benevolent institution is not appreciated by teachers while in health and active service, but when too late they come to see the folly of not having assisted to make some provision for old age and want.

Letters, enquiring if there be such a fund, are being constantly received by the Department from teachers, some of whom say they have been teaching 20 years in the Province.

Where have they been? What have they read? Every year a statement is published similar to this and yet the question, is there such a fund, is asked. Others demand and insist on being entitled to a pension without having ever contributed a shilling towards the fund. The Journal, which would only cost them *fifty cents a year*, would give them this information in addition to much more of which it is to be feared they stand much in need. If they are so ignorant of, or indifferent to, interests so vital to themselves, giving them even the benefit of the doubt, what inference can be drawn in favour of the children's interests having been carefully guarded?

SUPERANNUATED TEACHERS' FUND.

YEAR.	Applicants.	Pensioners.	Rate per each year of Service.	Amount.
			\$ cts.	\$ cts.
1857.....	150	63	4 00	886 90
1858.....	74	91	4 00	2211 74
1859.....	18	128	4 00	3115 34
1860.....	4	130	3 00	2821 57
1861.....	9	160	3 00	3603 59
1862.....	10	164	1 75	2552 09
1863.....	13	171	2 25	3 37 00
1864.....	7	170	1 75	2727 00
1865.....	11	160	1 75	2787 00
1866.....	13	173	1 75	2784 00
1867.....	15	176	1 75	3036 00
1868.....	10	163	2 50	4590 00
1869.....	9	174	2 50	4677 00
1870.....	5	174	2 50	4700 00
1871.....	13	162	2 50	4865 00
1872.....	7	176	2 50	5100 00

Education in the Province of Quebec.

The Minister of Public Instruction, for the Province of Quebec, in his report for the year 1872, and part of the year 1873, states that the number of schools, and the pupils attending them, continue to increase, and progress is shown in the efficiency of the instruction imparted therein. He complains, however, that the children do not attend school for a sufficient length of time, but leave it for labor, at the very time when their developed intelligence would enable them to study with profit. To remedy this, he thinks some means should be devised of compelling children to attend school for a longer time, they should at least be sent there for several winters, during which season their services are not indispensable. He also thinks it desirable that the school corporations should establish night schools, in the rural centres of population, which, from the comparative density of the population, would probably be well attended. He urges the necessity for founding public libraries, for the use of each municipality. These libraries should consist of good works on agriculture, horticulture, abridged histories, ancient

and modern, travels, treatises on arts and manufactures, &c., and he intends to ask from the Legislative Assembly a grant to aid in the formation of such libraries. He recommends that here, as in Ontario, there should be established a depository of school books, etc., which might be circulated at reduced rates. He reiterates the statement of the slow progress made, especially in the country schools, attributing it to irregularity in the attendance of the children, which is itself partly due to our rigorous climate, and also frequently results from the fact of the necessity in which the parents are often placed, of keeping their children at home to aid them in their labors at certain seasons. The importance of Normal schools is alluded to, and the necessity for them is insisted upon; for, as has been well said, "in proportion to the ability of the master is the usefulness of the school." The necessity for a School of Science applied to the arts, such as exists in connection with McGill College, and such as the Hon. Mr. Chauveau endeavored to establish for the French population, is pointed out, and it is announced that such a school will soon be established. It is confessed that hitherto Lower Canada has not sufficiently occupied itself with practical and industrial schools for the mechanic and engineer. Hence the small number of young men who are desirous of studying engineering, etc., though it and kindred professions, requiring practical preliminary knowledge, hold out the most promising, and even brilliant, future, in proportion as the different branches of industry are multiplied and require competent men to carry them on.—*Witness.*

Opening of Stanstead Wesleyan College.

The situation of the College (which was formally opened on Thursday, 8th January, last) is exceedingly beautiful. In the foreground the country slopes away to Lake Memphremagog, which seems almost at the foot of the building, although about four miles distant. An amphitheatre of hills, loftier than the village and College, which are on an elevated plateau, formed in part of the Green Mountains of Vermont on one side, and the "Owl's Head" on the other, skirt the horizon; whilst the intervening country is, from all points of view, beautifully undulating and diversified, forming at once one of the most beautiful as well as most healthy spots on the American continent.

The College building is an "elegant and slightly structure, five stories in height, 142 x 52 feet on the ground, with a wing of the same height, 37 x 42 feet on the ground, and will accommodate the teachers, two hundred boarders, and one hundred day pupils. Each room is lighted with gas, and warmed and ventilated by the Ruttan method. Every dormitory has a closet, and is completely and tastefully furnished with all articles necessary to the comfort and convenience of the pupils. Hot and cold water are supplied on every floor, and the building from basement to attic, is thoroughly fitted up with all the latest and best improvements.

COURSE OF STUDY:

1. A thorough English education;
 2. Ladies' collegiate course, embracing (a), a three years' course in English, (b) a four years' course in Modern Languages, being the course in English with the addition of French or German, or both; (c) a four years' course in Classics, being the course in English with the addition of Latin or Greek, or both;
 3. College Preparatory Department for young men;
 4. Commercial Department;
 5. Industrial and Scientific Department;
 6. Normal School Department, for training teachers;
 7. Fine Arts, including Music, Drawing, Painting, &c.
- These branches are under the charge of the following

FACULTY:

Rev. W. Hansford, Governor; Rev. A. Lee Holmes, B. A., Principal, Classics and Higher Mathematics; Rev. Wm. Hansford, Mental and Moral Science, and Evidences of Christianity; G. J. Bompas, M.D., L.R.C.P., Physical Science; W. H. Lee, M. A., Commercial Department; C. C. Colby, M.A., M.P., Jurisprudence, Commercial and Constitutional Law; Mrs. Jane Flanders, Preceptress, French; Mrs. W. H. Lee, L.L.L., History and English Branches; Miss Helen F. Giles, Graduate Mount Holyoke Female Seminary, German and Italian; Miss Lizzie N. Haskell, M.E.L., Rhetoric and English Literature, Fine Arts;

—G. J. Bompas, M.D., L.R.C.P., Drawing; Mrs. W. H. Lee, L.L.L., Painting and Ornamental Work; Miss Lizzie N. Haskell, M. E. L., Music.

At four o'clock the visitors from a distance, as well as many from Stantead, Rock Island, and neighboring towns and villages, met in the convocation room of the College, to hear addresses from several of the gentlemen present.

Rev. W. Hansford occupied the Chair.

FINANCIAL STATEMENT.

The College building cost about \$42,000, of which over \$24,000 have been paid, leaving a balance of \$18,602 still due. Of this amount \$16,135 has been subscribed, to be paid at stated intervals, leaving a balance of \$2,466 unprovided for. In addition to this amount about \$2,000 extra will have to be subscribed to put the finances of the College in an easy condition.

Mr. C. C. Colby, M.P., being called on, said there had been a two-fold necessity for such an institution. There had been a general Provincial need, and also a local one; both were met in this College. The course of tuition was comprehensive, and was on a business basis. He concluded by presenting to the College, on behalf of the ladies of Stanstead, Rock Island, and Derby Line, Vt., the furniture of its parlors, costing \$757.81.

Hon. T. L. Terrill, another of the directors, expressed his sympathy with the institution.

Rev. Mr. Borland was then called upon and expressed his hearty sympathy with the establishment of the College.

Rev. Mr. Ross, of Montreal, congratulated himself on having a brick in the College in the shape of stock, and wished that it could have been a larger one, for he believed that money spent in educational institutions was a most profitable investment in many ways. He also congratulated the people of the Eastern Townships on having such an institution at their doors, and the directors on their choice of teachers. He had known several of them for many years, and had known nothing of them but good.

Rev. Dr. Douglas, of Montreal, next spoke of the fact of the College being situated within a mile of the United States, as an evidence of the feeling of peace with, and safety from, them. He had been in Washington at the time of the endorsement of the Washington Treaty, and he felt then, and still felt, that the reign of peace for this country was then made sure. He hoped that the pupils of the College would remain Canadians in heart. He found in looking into an American school geography that fifteen maps were devoted to the United States and six to the rest of the world. One of their histories contains ninety pages devoted to themselves and twenty to the events which have transpired elsewhere. He advised the Principal of the College to take a leaf out of their book; not to make his course as narrow as theirs, but devote his principal attention to Canada, its history and importance. Some time ago in Montreal an Englishman of some literary attainments, had the indiscretion to speak in a derogatory manner of this country, stating that there was in it no opportunity for its young men to obtain honor or position except these sordid ones bought by riches. He had read the report of the observation with feelings of disgust, and was sure that the author of the remarks could not be conversant with the history of his own country. The immortal Shakespeare sang his songs, and Bacon propounded his theories, to an audience of some three or four millions of people, considerably less than Canada's population; they gave a new impetus to the thought and language of the country, and modelled it to be the language of a large part of the world in future ages. Our provinces are kingdoms and principalities. Prince Edward's Island is surpassingly rich in resources; the Eastern Provinces surpass Scandinavia in size; Quebec and Ontario equal Russia and France, the war between whom a few years ago shook the world; and who now can tell the resources and grandeur of that "Great Lone Land" of the "Far West," surpassing Russia in size. We should now take our stand and lay the foundation of our country's greatness on the secure one of education. The value of a country arises not from its foremost sons, but from the widespread intelligence of the masses. Put into every homestead of these Eastern Townships a Christian and educated womanhood, to put their motherhood into their children, and let our young men be equally educated, and no place on the continent will be so desirable.

Rev. Dr. Rice, President of the Hamilton Ladies' College, next addressed the meeting. We want not ladies and gentlemen so much as men and women. He had seen young ladies who had gone through the highest course in his college go back

home to milk cows as before their education. Education does not spoil the young people of the country for their everyday duties, as some would have us believe. The school teacher has a two-fold charge over his pupils, moral and mental, and the physical. This responsibility is enough to make one tremble; there is none greater, or more delicate or difficult. The object of going to school was not so much to obtain learning, as an education, to be taught to think and pursue the course of study throughout life. He believed in the idea of educating Canadians to believe in ourselves. He scorned the idea that one flag is as good as another. The best guarantee that we respect another country is that we respect our own. Those who have no country he would not give sixpence a million for. The order of precedence, in importance, followed in his college was, 1st, the cure of the soul; 2nd, physical health; 3rd, mental progress and general education.

A vote of thanks was given to the ladies who had furnished the parlors of the College, after which the meeting adjourned, the strangers to the different places of rest provided for them by the friends of the institution.—*Abridged from the Witness.*

Bishop's College School, Lennoxville.

On Sunday, January 25th, the School buildings of Bishop's College were utterly destroyed by fire between the hours of 11 a. m. and 3 p. m. The fire, which seems to have originated in the smoke shaft of the furnace, was discovered about 20 minutes after the boys had been marched to morning service, which they always attend at the Parish church. Intelligence was soon brought to the church, which was almost immediately emptied, collegers and villagers one and all directing their hurried course to the now blazing school-house. So speedy had been the progress of the fire, which, following the line of the smoke shaft, seems to have burst forth simultaneously in the three stories traversed by it, that it was at once apparent that not only was the main central building doomed, but that it would be madness to attempt saving anything from it. All efforts were then turned to the protection of the Rectory and the rescuing of property from the extension of the main building. These efforts were happily successful to a considerable extent, but as may be imagined property thus hurriedly saved was only after some days discovered by its owners. Many of the boys (unfortunately a large proportion of them) lost everything possessed, while the others were for the moment in hardly better plight, owing to the confusion which unavoidably followed the saving of their things. The immediate sheltering and housing of the boys was most kindly and promptly undertaken by the many friends of the school in Lennoxville and Sherbrooke, and their ready and spontaneous help is gratefully appreciated. On Monday morning at an informal meeting of the local members of the College Corporation it was determined to use every effort to keep the boys together and to carry on the work of the school. A circular to that effect was accordingly sent by the Rector to every parent. Orders on tradesmen were given to the boys to supply their immediate necessities in the way of clothing, the weather at the time being bitterly cold, and arrangements were at once made for receiving them again as speedily as possible into temporary school dormitories. A large house in the near neighborhood of the College was happily secured, bedsteads, bedding, &c., telegraphed for from Montreal and immediately received, and the house was ready for occupation on Wednesday last. As the kitchen and dining hall were uninjured by the fire, the only pressing care of the school authorities was to supply sleeping accommodation and warm class-rooms. The new house is therefore wholly appropriated to dormitories and will be under the charge of the Sub-Rector and an assistant-master, the lady matron, Mrs. Irving, also living there. The Rectory will in like manner be prepared to receive a small contingent, and should necessity arise additional private accommodation has been promised in the village. For school-rooms the boys' new day-room and the gymnasium are being properly fitted; the former is now available for use; the latter, which is being floored, ceiled, and double-walled, will be ready for occupation to-day. Meanwhile the College hall has been made to serve the purpose, and the school-work has been regularly carried on since the Wednesday after the fire.

It is gratifying indeed to add that the confidence of parents has been so far displayed as to leave 81 boys still in school.

Twenty-four who have been temporarily removed will return within a week, making the schools' numerical loss comparatively trifling. Two other points alone remain to be noticed, and both are referred to with feelings of gratitude and thankfulness. *First*, that no injury to life or limb was sustained in the original disaster and that not the least ill-effects have been experienced since by any of the boys in the way of colds or other sickness as might be expected; and *secondly*, that the general conduct of the boys under circumstances so trying and naturally exciting, has deserved and won the warmest commendation of their masters. The College corporation met yesterday, (Friday, 6th.), to take the necessary steps for the immediate rebuilding of the school house. We are indebted for the above particulars, which we are sure will be of interest to the friends of the school everywhere, to the kindness of the Rector.—*Montreal Gazette*, (Feb. 7th).

Donations to McGill University.

The Corporation of McGill University have pleasure in acknowledging the following donations to the Faculty of Arts during the Quarter ending January 28th, 1874:—

1.—TO THE LIBRARY.

From the Royal Society, London, Eng.—Philosophical Transactions, vol 162, part 2nd; 1 vol 4to.

From the Royal Society, London, Eng.—Proceedings, Nos 138 to 145, 8 pam; 8vo.

From the Royal Society, London, Eng.—List of Fellows of the Royal Society, 30th Nov., 1872, pam; 4to.

From the Government of the Dominion of Canada—Sessional Papers, Nos 5 and 6 to vol 6th, Session 1873, 2 vols; 8vo.

From the Government of the Dominion of Canada—Journals of the House of Commons, vol 6th; 8vo.

From the Government of the Dominion of Canada—Journals of the Senate of Canada, vol 6th; 8vo.

From the Government of the Dominion of Canada—Statuts du Canada, 1873, 1 vol; 8vo.

From the Government of Washington—Annual Report of the Chief Signal Officer, U. S. A., for 1873, with a map, 1 vol, 8vo.

From Prof. Campbell—Epicteti Quæ Supersunt Dissertationes, 2 vols; 4to.

From Prof. C. S. Morse—Embryology of Terebratulina, pam, 4to.

From E. B. Andrews, Esq.—Report of the Geological Survey of Ohio, part 2nd; 8vo.

From J. H. R. Molson and P. Redpath, Esqs., 500 vols., comprising historical and literary works.

From J. H. R. Molson and P. Redpath, Esqs., 162 pamphlets, containing valuable illustrations.

From John Lovell, Esq.—Lovell's Gazetteer of British North America, 1 vol; 8vo.

From Harvard College, Cambridge, Mass. Annual Report of the Trustees of the Museum of Comparative Zoology, for 1872, pam, 8vo.

From the Government of the Province of Quebec—Sessional Papers, Nos. 1 to 28, vol. 5th, 1871, English and French, 2 vols; 8vo.

From the Government of the Province of Quebec—Journals of the Legislative Assembly of the Province of Quebec, 1 vol.; 8vo.

From the Government of the Province of Quebec—General Report of the Commissioner of Agriculture and Public Works of the Province of Quebec for 1871, and for part of 1872, 2 copies; 8vo.

From the Institution of Civil Engineers, London, Eng.—Minutes of Proceedings of the Institution of Civil Engineers, vols. 35 and 36; 8vo.

2.—TO THE MUSEUM.

From Mr. Hamilton, student McGill College, specimen of *Asaphus*.

From Mr. Spencer, student McGill College, specimen from the upper Silurian of Ontario.

From Mr. Lestock Reid, graduate in civil engineering, through Prof. Bell, head and antlers of Wapiti.

From Major Grant, of Hamilton, collection of fossils from the Niagara and Clinton formations.

From Mr. G. T. Kennedy, M. A., specimens of Port-pliocene fossils.

From His Excellency Governor Rawson, of Barbadoes, through Dr. P. P. Carpenter, specimen of *Pentacrinus Mülleri*.

From Mr. T. Bland, New-York, specimens of land shells from the West Indies.

From Mr. G. Barnston, fossils from Hudson's Bay and from Texas.

From Mr. Dawson, student McGill College, fossils from the upper Silurian of New Brunswick.

From Mr. Patterson, Quebec, fossils from the Carboniferous limestone of Newfoundland.

From Mr. Allis, Springfield, Mass., cast of footprint of *Browtozoum*.

Opening of a Cotton Factory at Hochelaga, Montreal.

On the 12th Feb., 1874, the formal opening of the Hudon Cotton Manufactory took place at Hochelaga, a short distance from Montreal, and on the 14th of the same month the event was celebrated by a public dinner.

We hope this event marks a new departure in the industrial pursuits of the Province, and it may be in the social history of the country. We would invite the earnest attention of our readers in the Dominion and outside it to the statement made by the Hon. John Young, namely;—"Lower Canada is specially suited for manufactures, from its long winter and its freedom from agricultural labour during that season, and if we once had a fair chance for our industry we would be able to compete with any country in manufactures. There is not a stream that runs from the North down the valley of the St. Lawrence that does not give us water power, and there is no place on this continent where labour can be obtained so plentifully and so cheaply as on the banks of the St. Lawrence during the winter months."

In the last issue of the *Journal*, in the review of the Report of the Minister of Public Instruction, we mentioned the absence, due to the want of technical training and education, of specially educated and skilled ability amongst ourselves for the proper development of the resources and manufactures of the country. An illustration of the truth of this is found in the fact of having to cross the lines for a Superintendent for the Company. We say this in no narrow or jealous spirit of our clever and energetic neighbours, but the rather to stimulate our youth to turn their attention and studies more to the industrial and practical pursuits of life.

After this little digression, we would direct attention to the Superintendent's reasons for coming to help to start a Cotton Factory in Canada. He says: "Labor is cheaper by from 20 to 25 per cent than in the United States. Cotton could not be laid down there at less than \$1 to \$1.25 per cwt., while here we have laid down 1000 bales at 75 cents. For the last five years coal cost, laid down at Chicapee Mass., \$10 per ton; here we have laid down 1000 tons at \$5.75 per ton. Machinery came in here free of duty. Much of the machinery used in the States was brought from England, upon which a duty of from 30 to 34 per cent was paid." The foregoing are only some of the reasons, but we have not space to continue.

Mr. Victor Hudon, President of the Company, who occupied the chair, after proposing the health of the Queen, which was heartily drunk, said he had received letters of apology from His Excellency the Governor-General, Hon. A. A. Dorion, Sir Hugh Allan, Hon. H. L. Langevin, and Hon. L. H. Holton. He then proposed the health of the Governor-General.

The Mayor expressed admiration of the zeal, liberality and pluck of the gentlemen who inaugurated that great industry, and his gratification at seeing the city extend east, west, north, and even south, notwithstanding the interference of the St. Lawrence. He expressed his pleasure at the increase of its population and the improvement in its social and educational institutions in such a ratio as would ere long make Montreal one of the greatest cities on the continent. Facilities greater

than those possessed by Montreal and Canada were not to be found on the globe, and in the future we must depend upon manufactures, as in the past we have depended on commerce, not only for retaining, but for increasing, the population, giving employment to the people, and for all matters connected with the improvements of the country and city. He next referred to the President of the Company, Mr. Victor Hudon, who, he said, had, mostly upon his own responsibility, with the cooperation of a few citizens, taken the matter in hand, and had already spent \$350,000 on the works, while a much larger sum yet remained to be expended.

Mr. Victor Hudon said for years we had been complaining of the emigration of our people to the United States, and he assured them that the only means to prevent this was by the encouragement of our own manufactures. We must give them work to keep them. For six months in the year they are shut out from agricultural labor. We consume yearly about nine millions worth of cotton goods, of which only about two and a half millions are of home manufacture, while the whole quantity could be manufactured at less cost and give employment to our people as well.

Mr. Sincennes expressed his pleasure at the presence of so many guests, and more especially of the representatives of the press. He thanked the latter for what had been published by them to promote the interests of manufactures, and felt that if they continued to write in the same strain as heretofore they would convince the Government that the people were in earnest in their determination to establish manufactures. They must be made to understand that, without protection, we cannot compete with the manufacturers of other countries, and expect the needed protection at their hands.

Mr. Cotte stated that the undertaking was a great, and, to some extent, novel one, but by perseverance and energy they had been enabled to bring it to the position seen to-day. Their object was not entirely to make money. They had also a higher object in view. Every year the exodus of their population had to be deplored. By establishing manufactures they would not only be retained, but contribute to the success of the country.

The Mayor, in replying to the toast of himself and corporation of Montreal, said that his object, since attaining his civic position, had been to serve the city faithfully, and if he were the choice of the citizens for next year, such would continue to be his object.

The chairman then proposed, "The President of the United States, and his representative in Montreal, Mr. Consul-General Dart."

Mr. Dart in reply expressed his pleasure at seeing this Province rapidly following in the footsteps of the Manchester of Great Britain and the United States. Manufactures were springing up through the country, and in them lies the march of civilization and progress. Cotton is a king. It underlies our welfare and progress. In its development it caused a terrible revolution in the industrial interests of his own countrymen. He saw no reason why in the very near future Canada might not realize what they had secured in the States—a whole continent for a market.

Hon. John Young said: I wish to propose a toast. I rejoice much to be here to see this beginning of what I always believed would be the ultimate result in Lower Canada—the establishment of extensive manufactures. Lower Canada is specially suited for manufactures, from its long winter and its freedom from agricultural labor during that season, and if we once had a fair chance for our industry we would be able to compete with any country in manufactures. There is not a stream that runs from the North down the valley of the St. Lawrence that does not give us water power, and there is no place on this continent where labor can be obtained so plentifully and so cheaply as on the banks of the St. Lawrence during the winter months. I hold, therefore, that what we want most in reference to this whole subject is a market. I believe we can, through our coasts and lakes, lay down cotton from the cotton-producing States at home in Canada at a cheaper rate than in England or in New England. (Cheers.) We have the necessary labor, and we have to-day evidence that we have the necessary energy, and with our improved machinery we shall be able to carry on this industry to a successful issue. We cannot hope to obtain a market just now in the United States; their tariff at present precludes us from anything like reciprocal trade. But we have the British West Indies, the Brazils and Cuba, and Cuba we can, I believe, have on more favorable terms than those held by any other country. I think we should cultivate these markets to the greatest possible extent, I do not see why the whole British West Indies should not become part and parcel of this great confederation, and have perfect free trade between all and each of them. In respect to the trade of the St. Lawrence, the measure of its volume depends entirely upon the energy, zeal and comprehensive view taken by the inhabitants themselves in reference to our interior trade. This is the great drain of the North Western United States, and the whole of that country, larger than the whole of the United States, east of the Mississippi, belonging to ourselves, I mean the Saskatchewan Valley. That country is going to be inhabited, and we shall have to bore with a pretty big auger to conform ourselves to its requirements. If we content ourselves with small measures we shall

fail in our endeavor to secure the trade. But we shall certainly have it if we have men, means and intelligence sufficient to carry out the necessary measures. He concluded by proposing the health of General Nye, the Superintendent of the Company.

General Nye said: I have been asked why I came to Canada to help to start a cotton manufactory, instead of commencing in the United States. My answer has been that I have done so for several reasons. Labor is cheaper by from 25 to 30 per cent than what it is in that country. Cotton can be landed here far cheaper from the South than in New England. There it could not be laid down at less than \$1 to \$1.25 per hundred. Here we have laid down a thousand bales at 75 cts. Fuel can be laid down cheaper than in the United States. For the last five years our coal cost us, laid down at Chicapee, Massachusetts, \$10 per ton. Here we have laid down a thousand tons at \$5.75. I have been asked why we did not go to the United States for our machinery instead of getting it from England. I gave this reason, that we got it from England free of duty. (Cheers.) Much of the machinery is brought from England to the United States, upon which a duty of from 30 to 34 per cent is paid, because it can be made cheaper in England. Therefore, we save 30 p. c. to commence with. These and various other reasons convinced me that more money could be made at this business in Canada than in the United States.

Mr. Davies, of Holyoke, Massachusetts, who was introduced by General Nye as a cotton manufacturer of great experience, said: I have been a cotton spinner all my days, hence I am no talker. In regard to manufactures, there can be no question that they can be carried on more cheaply in Canada than in the United States. The question naturally arises, will they pay? The building materials are cheaper, machinery is cheaper, labor is cheaper, in fact, everything else is cheaper here than in the United States. Your machinery is nearly 60 per cent cheaper than it would be with us; cotton is laid down at half a cent per pound cheaper; whilst labor is nearly 60 per cent less. Not only so, but you have found the operatives among yourselves, and, having been to the United States where they have learned the business, they have come back to Canada ready for work, so that you lose nothing by having to teach them. You have now, therefore, a large dead capital to work against; the margin looks large. I don't know of any place to which I should prefer to go before Canada, to establish a factory,—you ought to have forty mills here. I congratulate you on having for your superintendent so able a man as General Nye, whom I have known as a manufacturer for many years. I congratulate you on having so spunky and able a man as your president, Mr. Victor Hudon, and the Board of Directors. I only wonder that you had not begun this before, and why you have not completed your whole mill at once instead of doing it by piecemeal. (Cheers.)

Hon. John Young then proposed "The Clergy of Montreal," coupled with the name of Rev. Mr. Baile, Director of the Seminary of St. Sulpice—an institution which, large and intelligent, and with a perfect view of the future, had contributed \$100,000 towards the Portland Railway.

After the drinking of the toast,

Rev. Mr. Baile said he had little to do with railways and manufactures, but knew that great advantages were conferred on the people by different branches of industry and commerce, and consequently rejoiced to see this one established. From his knowledge of Mr. Hudon he was sure that the morality and well-being of his employees would be looked after, and that his honesty and vigilance would ensure him success.

Rev. Mr. Valois said that whilst in the State of Maine a gentleman had informed him that in the different factories of New England there were upwards of 500,000 French-Canadians, who had come there because there was no work at home. They were among the most industrious and thrifty of the population, and it is our interest and our duty to do all we could to retain them among us, securing their prosperity as well as our own. He considered it a most patriotic act for Mr. Hudon to have exerted himself to found this establishment, and was assured that if others would only follow the example he has so worthily set our people will never have to leave a country which they love so well. We who are the successors of those who planted the faith upon this soil, many of whom became martyrs for it, have certainly a right to feel gratified that the civilization which always follows and develops industries of all kinds, has made so much headway in this little corner of this Province.

Hon. J. A. Chapleau, Solicitor-General, P. Q., advocated protection for home manufactures.

The "Mayor and Corporation of Hochelaga" having been toasted was replied to by the Mayor, Mr. Gauthier, who expressed his great pleasure that the Council of the Municipality had in its wisdom seen fit to exempt this establishment from taxes for twenty years.

The "Press" was acknowledged by Mr. T. White.

The proceedings were closed with cheers for the "Queen," for the "Hudon Cotton Factory," &c., &c.—Witness.

Statistics of the Trade and Progress of Great Britain.

THE CENSUS.—The detailed returns of the Census of England and Wales, taken on the 3rd of April, 1871, were issued in 1873. According to the revised returns, the population of the United Kingdom, exclusive of the army and navy, and seamen abroad, was in 1871, 31,628,338, against 29,070,932 in 1861, showing an increase in the ten years of 2,557,406, or 8.8 per cent. Ireland decreased 6.7 per cent. The number of men in the army, navy, and merchant service is estimated at about 229,000. The area of England and Wales, estimated in 1861 at 37,324,883 acres, is now estimated, with the recent corrections, at 37,319,221 acres.

PARLIAMENTARY CONSTITUENCIES.—A Parliamentary return shows that the number of persons in 1873 on the register of electors entitled to vote for members of Parliament was as follows:—In England and Wales, 800,769 persons on the registers for the counties, and 1,356,526 for the boroughs. In Scotland, 81,298 for the counties, and 181,460 for the boroughs. In Ireland, 174,341 for the counties, and 50,170 for the boroughs. The total is 2,644,564; but as there are many persons registered more than once, in consequence of their having more than one qualification, it is probable that there are not really so many as two-and-a-half million electors on the register of voters for the United Kingdom. The number is something less than a third of the number of men 21 years old and upwards.

CUSTOMS DUTIES.—The total revenue from Customs Duties, without deducting charges of collection, was in 1870, \$1,004,750; in 1871, \$1,008,339; and in 1872, \$1,033,317.

PRINTED BOOKS.—The declared value of printed books exported in the first five months of 1873 was \$1,624,430, which was an increase on the same period of the preceding year of more than \$20,000.

IMPORT OF CORN.—Board of Trade Returns state the import of corn into the United Kingdom from harvest to harvest that is to say, in the twelve months commencing on the 1st of September, 1872-73. In the first three quarters of that twelve months, the nine months ending the 31st of May, 1873, the imports of corn into the country reached the following large quantities:—Wheat and wheat flour 39,285,493 cwt.; barley, 11,905,411 cwt.; oats, 7,726,851 cwt.; Indian corn, 15,212,387 cwt.;—making a total 74,130,142 cwt. To this may be added 1,093,906 cwt. of peas and 2,099,180 cwt. of beans.

FOREIGN TRADE OF THE UNITED KINGDOM.—The declared value of the imports into the United Kingdom in the first quarter of the year 1873 was \$425,275,610, being \$15,457,260 less than in the corresponding quarter of 1872. The imports were constituted as follows:—From foreign countries, \$353,573,125; from British Possessions \$71,702,485, showing a decrease of \$21,853,295. There was a very large decrease in the imports from India, the import of raw cotton from thence having fallen to less than half that of the first quarter of 1872. The declared value of exports of British and Irish produce and manufacture in the first quarter of 1873 was \$311,881,830, being \$22,458,310 more than in the corresponding quarter of 1872. The exports to foreign countries amounted to \$246,122,545, showing an increase of \$16,906,960; to British Possessions, \$65,759,285, an increase of \$5,553,350.

COLONIAL PRODUCE.—The import into the United Kingdom of cotton wool from the British Possessions abroad amounted in the year 1872 to 444,873,520 lb., an increase of nearly 11 millions over the preceding year. The quantity imported from the West Indies fell off, but British India with Ceylon, increased the supply sent thence to 443,234,736 lb., being 12 millions more than 1871. The import of Cocoa from the Colonies also increased in 1872 to 8,294,975 lb., being a million more than the preceding year. But the import of coffee from India and the Colonies fell from 131,000,000 lb., in 1871 to 114,220,843 lb. in 1872, the decrease being in the supply from India, Ceylon, and the Straits Settlements, which were nearly 127,000,000 lb. in 1871, but only 107,606,433 lb. in 1872. The import of Colonial rum also declined from above 7,000,000 gallons in 1871 to 6,08,653 gallons in 1872; the decrease was chiefly in the supply from British Guiana. The import of Colonial sugar and molasses did not quite keep to that of the preceding year, being 5,301,085 cwt. in 1871, and 5,224,461 cwt. in 1873.

MERCHANT SHIPPING.—An official return of vessels registered under the Merchant Shipping Acts in 1868 and 1872, presents the following figures:—In 1868 there were on the register, belonging to the United Kingdom, 24,701 sailing vessels, of 4,798,178 tons, and 2,934 steam vessels of 900,596 tons—

making a total of 27,635 vessels, of 5,698,774 tons. In 1872 there were 21,421 sailing vessels, of 4,145,888 tons, and 3,662 steam vessels, of 1,537,075 tons—making a total of 25,083 vessels, of 5,681,963 tons. In 1868 there were belonging to the British Possessions and Channel Islands, 12,163 sailing vessels, 1,461,446 tons, and 543 steam vessels, of 76,696 tons—making together 12,706 vessels, of 1,538,142 tons; in 1872 there were 11,040 sailing vessels, of 1,427,302 tons, and 681 steam vessels, of 104,564 tons—making 11,721 vessels, of 1,531,866 tons. The total for the British Empire, therefore, was:—In 1868, 36,864 sailing vessels, of 6,259,624 tons, and in 1872, 32,461, of 5,573,190 tons; in 1868, 3,477 steam vessels, of 977,292 tons, and in 1872, 4,343, of 1,640,639 tons, total sailing and steam vessels in 1868, 40,341, of 7,236,916 tons, and in 1872, 36,804, of 7,213,829 tons. The estimated number of the crews was 340,516 in 1868, and 329,405 in 1872. Comparing 1868 and 1872, it will be seen that the work is done with more steam and less sail. The number of registered sailing and steam vessels of the United Kingdom (exclusive of river steamers) actually employed in the home and foreign trade of the United Kingdom was 22,250, of 5,516,434 tons, in 1868, and 22,554, of 5,761,608 tons, in 1872.

AGRICULTURAL RETURNS FOR GREAT BRITAIN.—The detailed returns for the year 1872 were issued in 1873. The total extent of land returned under cultivation shows considerable increase, the relative figures for 1872 and 1871 for Great Britain being 31,004,073, against 30,838,567. With regard to the proportion of grass and arable land, in Great Britain 18,551,683 acres, or 59.4 per cent., were under arable cultivation, slightly less than in 1871; and 12,575,606 acres or 40.6 per cent., were under grass, an excess of 140,000 over 1871. In Ireland the proportions are very different, 35 per cent. only being arable. In the Isle of Man and the Channel Islands arable land greatly predominates. The following were the amounts of the chief crops under cultivation in 1872: wheat, 3,598,957 acres; barley, 2,316,332 acres; oats, 2,705,837 acres; rye, 66,875 acres; beans, 524,005 acres; peas, 361,545 acres; potatoes, 564,088 acres; turnips, 2,083,507 acres; mangold, 329,90 acres; grass, clover, and rotation, 4,513,451 acres. Woods and plantations occupy in England, 1,325,675 acres, in Wales 126,823 acres, and in Scotland 734,490 acres, being 1-28th of the total area of the United Kingdom.

PAUPERISM.—The official monthly returns show that at the end of April 1873, the number of paupers in receipt of relief from the rates in England and Wales was 808,354, being less by 59,792, or 6.9 per cent than at the end of April, 1872; but these returns do not include vagrants nor lunatic paupers in asylums, together constituting about 3.3 per cent of the total pauperism.

BANKRUPTCY.—The returns under the bankruptcy Act for the year 1872 showed a total number of 6,835 bankruptcies, liquidations, and compositions against 6,280 of the previous year, and 5,002 of 1870. Total for the three years was 18,117. The liquidations by arrangement were nearly as many as bankruptcies and compositions together. Out of 587 bankruptcies closed, dividends were paid in 340. In 182, chiefly small estates, the assets were absorbed by the costs, and in 65 cases no assets were realized. In two years the law costs were more than one-half of the charges of realisation. In 1872 the Solicitors' bills were taxed at \$988,094; High Bailiffs' bills, \$30,244; Assignees' bills, \$1,259; Auctioneers', &c., bills, \$141,215; Trustees' bills, \$83,240; Accountants' bills, \$7,553; which with other bills, made a total of \$1,273,475.

COUNTY COURTS.—The business of the County Courts of England shows a tendency to decrease. The plaintiffs entered, which exceeded 975,000 in 1868, and seemed fast approaching a million, have since declined, and in 1872 were only 900,775.

POST-OFFICE AND TRUSTEE SAVINGS-BANKS.—The annual return from the trustee savings-banks of the United Kingdom shows that at the end of their year, on the 20th of November, 1872, the amount due to depositors was \$198,403,260—namely, in England and Wales, \$162,732,005; in Scotland, \$22,262,460; in Ireland \$11,109,260; and in the Channel Islands, \$2,299,535. To this is to be added \$95,591,695 due at the end of 1872 to depositors in Post-Office savings-banks, making the total deposits in round numbers, \$295,000,000. The deposits increased in 1872 by upwards of \$15,000,000: in the Post-Office savings-banks by more than \$11,250,000, and in the trustee savings-banks by \$4,300,000. The number of accounts open was nearly equal in the two classes of Savings-banks; in the trustee banks, 1,427,147, and in the Post-Office savings-banks, 1,442,448. The number of accounts will soon reach 3,000,000 for those in the

trustee banks increased by 21,069 in the past year, and in the Post-Office banks by 138,956. There were 484 trustee savings-banks in the United Kingdom at the end of the year, but the Post-Office banks had risen to 4,607 in number.

The Obituary of the Year, 1873.

The obituary of the year just closed was marked by an usual number of great names of men eminent in every profession, and whose reputation may be fairly described as world-wide. Early in January the Emperor Napoleon passed away in the little village of Chislehurst, at the age of sixty-five, while still more recently, on the 29th of October, another European monarch, King John of Saxony, died at the age of seventy. Among our own nobility, we find the names of Lord Lytton, better known by his family name of Bulwer, the great novelist; of Lord Marjoribanks (Mr. Robertson) a peer of a few days only, who died on the 19th of June, aged seventy-seven; of the ex-Lord Chancellor Westbury, whose death was announced in the Monday's papers with that of Bishop Wilberforce, although he died one day later, the Bishop having died on Saturday evening, the 19th of July, and Lord Westbury on Sunday, the 20th; of Lord Wolverton, better known as George Carr Glynn, the eminent banker and a former chairman of the London and North-Western Railway; of Lord De la Zouch, well known in the records of Eastern travel; of the Earl of Hardwicke, who died on the 17th of September at the advanced age of seventy-four; of Lord Delawarr, one of the three Army Purchase Commissioners, who committed suicide in the month of April; and of Viscount Ossington, the late Speaker of the House of Commons. The Lower House of the Legislature has lost some of its most useful if not of its most distinguished members:—Mr. Graves, the member of Liverpool, whose sudden death at the Euston Hotel on the 18th of January caused much regret among his constituents; Mr. Lowry-Corry, a former First Lord of the Admiralty, and Colonel French, who died within two days of each other, on the 4th and 6th of March, and each of whom had rendered upwards of forty years' service at St. Stephen's; Sir William Tite, C.B., F.R.S., the eminent architect; Sir David Salomons, Mr. Gladstone's colleague at Greenwich; Dr. Donald Dalrymple, whose death following that of Sir William Tite, deprived Bath of both its members in the course of five months; Mr. Thomas Baring; Mr. Gore-Langton; and, only a few days since, Mr. Winterbotham, the senior Under-Secretary of State for the Home Department. Among scientific and learned men we may name Guillaume Combrouse, the French archæologist; Professor Sedgwick, the English geologist; Sir Frederick Madden, of the British Museum; Professor Partridge, the surgeon; Christopher Hansteen, the Danish astronomer; Baron von Liebig, the German chemist; Dr. Bence Jones, the physician; Mr. Arrowsmith, the hydrographer, who reached the age of eighty-three; Mr. John Stuart Mill, who died at Avignon on May 9, aged sixty-seven; Emanuel Deutsch, the celebrated Hebrew scholar; Dr. Brandis, the chief authority on ancient metrology, who died at the early age of forty-two; Dr. Otto Obermeier, a veritable martyr to science, who died at Berlin, aged thirty-one, from poison which he injected into his own veins from a cholera patient; Professor Tedlchenko, the Prussian naturalist, who died on the Col du Géant; Professor Donati, the astronomer; Dr. Nélaton, the French surgeon; and Sir Henry Holland, the English physician. Art has to mourn some of its oldest professors:—Robert Graves, A.R.A., the engraver; Charles Lucy, the historical painter; Marstrand, the Danish painter; Henry Shaw and S. S. Teulon, architects; Antoine Chintreuil, the French landscape painter; Rinaldo Rinaldi and Hiram Powers, the sculptors, and lastly, our own great painter, Sir Edwin Landseer. The deaths among the clergy include the name of Dr. Wilberforce, already mentioned; Dr. McIlvain, an American prelate, whose body rested in Westminster Abbey on its way from Florence, where he died on the 12th of March, to Ohio, his diocese; Professor Ogilvie and Dr. John Wilson, of Oxford; Dean Garnier of Winchester; Mr. Upton Richards, the Vicar of All Saints, Margaret-street; Mr. Venn, of the Church Missionary Society; Archdeacons Rose, Pollock, and Sandford; Dr. Ewing, Bishop of Argyle and the Isles; Dr. Guthrie, a distinguished minister in the Scotch Free Kirk, and eminent as a philanthropist; Dr. Candlish, another well-known Scotch divine; Thomas Jackson, the

patriarch of the Wesleyan Methodists; and Mr. Baptist Noel. Musicians have lost the talented amateurs Prince Poniatowski, Dr. Pierson, Thomas Oliphant, and J. L. Ellerton; and among the profession Adolphe Fétis; Dr. J. L. Hopkins, organist to the University of Cambridge; Hainl, the Parisian chef d'orchestre; Ferdinand David, the Leipzig concertmeister; Frank Mori, the song-writer; Charles Bridgeman, the patriarch of English organists, who had played for eighty-one years at All Saints, Hertford; and Hellmsberger, the popular Viennese violinist. In the legal profession the losses have not been so heavy. Among the most noticeable names on our list after Lord Westbury are the Right Hon. Stephen Lushington, Baron Channell, Sir John Wickens, Sir William Bovill, and Chief Baron Pigott, of the Irish Bench, whose death is only just announced. To this roll we might add many more names eminent in various other ways. We may briefly mention Count Bernstorff; Charles Knight, the pioneer of cheap literature; Amédée Thierry, the historian; General Sir Richard Church; the Countess Guiccioli; M. Girardin, the vice-president of the French Assembly; Henry William Wilberforce, one of the earlier converts from the English Church; Chief Justice Chase, of New York; Alessandro Manzoni; Clara Mundt; Admiral McClure, and William Charles Macready, all names more or less known to fame. In a long list of eminent persons, such as that from which we have selected these names, it is worthy of note that it is almost the exception to find any one whose age is returned as under fifty, the average being about sixty, while many of the hardest workers and thinkers, who have passed away during 1873, have reached seventy, eighty, and some even ninety years.—(*Pall Mall Gazette*.)

Biographical Sketches.

When a man dies who has lived a long and useful life, it is fitting, both in honor to the dead and for the benefit of the living, that his peculiar traits of character should be made known.

JOHN GOUGH NICHOLS, ESQ., F. S. A.,

The well-known antiquary, died on the 14th Nov., 1873, at Holmwood Park, Dorking. He was born May 22, 1806, the eldest son of John Bowyer Nichols, Esq., of Hanger Vale, Ealing, by Eliza, his wife, daughter of John Baker, and was grandson of John Nichols, Esq., author of "History of Leicestershire" and other works. Mr. John Gough Nichols was educated at Merchant Taylors' School, and carried on a printing business in Parliament-Street, which had been previously conducted by his father and grandfather. He contributed many historical essays and reviews to the *Gentleman's Magazine*, which for some years he partly edited, and was the author of numerous works on genealogical, archæological, and antiquarian subjects. He was treasurer of the Surtees Society in 1834, and was one of the Camden Society, for which, as for other similar bodies, he edited several volumes. He was chief editor of the *Collectanea Topographica et Genealogica* and its sequel, and established in 1862 the series of the *Herald and Genealogist*. Mr. Nichols contributed many papers to the transactions of antiquarian societies, and amongst his writings may be mentioned "London Pageants," "The Pilgrimages of Canterbury and Walsingham, translated from Erasmus," and "Literary Remains of King Edward VI." Recently he was engaged on a new edition of Dr. Whittaker's "History of Whalley."

THOMAS BARING, ESQ., M. P.

The death of Mr. Thomas Baring, the head of the great mercantile house of Baring Brothers & Co., and M. P. for Huntingdon, took place on 18th Nov., 1873, at Fontnell Lodge, Bournemouth, whither he had gone with the view of recruiting his shattered health. He was born on the 7th September, 1799, and consequently had attained his 74th year. After the usual course of education at Winchester College he joined the banking-house of Hope & Co., at Amsterdam, and remained with them till 1828, when, in company with Joshua Bates and John Baring, he entered the London house. His eminent capacity for business soon made him a leading member of the partnership. On the one hand, his judgment was remarkable for soundness and caution, while, on the other, there was extensive knowledge of men and affairs, a high and scrupulous tone of honor, and a watchfulness to avail himself with energy and spirit of the new openings for commerce which the rapid changes of the last forty years have constantly presented. When Mr. Baring joined the house, it had already, for some years, occupied the first place in the American trade; and it was in the front rank of the great European firms concerned in the negotiation

of loans and advances to foreign states. Mr. Baring enlarged and deepened the influence of the house in both these directions, and he had the satisfaction of seeing Baring Brothers & Co. become more and more established as a centre of international finance.

He cultivated a taste for art in its highest manifestations, and as a patron of efforts to advance excellence in painting, and as a collector of one of the most famous of private galleries, his influence has been of great service to the country. For the advancement of knowledge he was ever ready to give time and money. There was scarcely an institution in the metropolis having any claims to the performance of useful scientific and educational work which he did not support with the liberality and constancy characteristic of him. Nor was he a patron attracted by mere success. If he had satisfied himself that a scheme was sound, no temporary discouragement or failure could render him less its friend; and the same may be said of his charities—but the modesty which so strongly marked all his actions renders it impossible to trace in public more than a faint outline of the ample stream of his benevolence. To say that he filled in the city of London nearly all the professional posts of honor in a sense inseparable from his eminence as a merchant is almost a record of course. For a long period of years he was chairman of Lloyd's. He was a director of the Bank of England from 1848 to 1867, when, on the union of the house of Messrs. Finlay, Hodgson & Co. with his own, he retired in order that Mr. Kirkman Hodgson might remain in the Bank court. He was a director of the East and West India Docks, Chairman of the West India Mail Company, and a neutrality laws commissioner.

It is publicly known that in March, 1852, Lord Derby pressed upon him the office of Chancellor of the Exchequer—an office which Mr. Baring declined, preferring his sphere of quiet usefulness as a member of the mercantile body. It is also true that at least on one occasion he had the opportunity of becoming a peer, if he had so desired. The death of Mr. Baring removes an influence and a presence from the city and the House of Commons which will not be soon forgotten. He was in everything simple, modest, courteous and patient, and abhorred every trace of the self-assertion and inordinate display in equipage and entertainment which have become so offensive among certain of the commercial classes, and in all essential respects exhibited the nobleness and liberality of the true merchant—in whom sagacity and prudence, directing the employment of abundant resources, move in harmony with largeness of mind and generosity of feeling.—*Economist*.

PROF. LOUIS AGASSIZ.

Prof. Agassiz died at Cambridge, Mass., 14th Nov., 1873. A grand simplicity of character, and an earnest warmth of feeling which the severe studies of his life never abated, would have made him a man not easily forgotten by those who have known him, if well-earned and widespread fame and had not waited upon his labors. Even those who have only formed their notions respecting him from his writings have been impressed by the depth and solemn fervor of his words, when he stepped aside a moment from the drier details of science to its broader generalities. At the lecture desk, though handling themes that rarely interest any but professional students, and speaking with what might rather be termed a foreign enunciation than an accent, he never failed to kindle in others that enthusiasm that glowed within him. Some friends prepared a social reception for him one evening at Washington. He was asked to hold himself in readiness. "You will not ask me to make a speech?" he inquired. "Oh, no!" was the reply; "we only want you to come and beam upon us." The reception was a great success. "Agassiz," said the hostess afterward, "merely shook hands. There was nothing formal; but he beamed on every body with such a pleasant smile that it seemed as if he was diffusing happiness through the whole company."

The secret of the great personal influence exerted by Prof. Agassiz, and which enabled him to secure from wealth the assistance that his extensive scientific undertakings required, lay principally in his singleness of soul. He had but one object ever in view, and other matters were not merely subsidiary, they were all but forgotten. To science he was not only a humble student, a ministering priest—he was a self-abandoning devotee. One expression indicating this characteristic has been often quoted. A business man was urging him to become a partner in some commercial undertaking in which the technical knowledge of Prof. Agassiz was to be regarded as an equivalent for the capital and mercantile experience of the other members of the firm.

"You would make any amount of money in the business," said the man of dollars.

"I have no time to make money," replied the man of science.

Somewhat similar is another incident which he mentioned in private conversation, with the request that it should not be repeated with names. A publishing firm wrote to him urging him to write a book on natural history for use in schools, and offering him a large pecuniary inducement. "I wrote them," said he, and his eyes

sparkled with indignation, "that I was not the man to do this sort of work. And I told them too, that the less of this work was done the better. It is not school books that we want, it is students. The book of nature is always open. All that I can write and say shall be to make them study that book and not pin their faith to any other." The self-denial of Prof. Agassiz may be better appreciated when the fact is mentioned that the salary of his professorship was only \$1,500 per year.

His love for truth in science was only equalled by his antipathy to shams and falsehood. In the rare instances where he thought imposition was practised, it called forth from him a wrath that astonished those who had only seen the gentler side of his nature. Some friends made arrangements, when a noted exhibition of "spiritualists" was in progress, to have a scientific investigation of the alleged "phenomena," and invited Prof. Agassiz to make one of the party. He turned his back upon his friends, pointing them to the open door in almost speechless anger, and only adverted to it afterward in expressions of surprise that any body who knew him should insult him by asking him thus to waste his time.

Prof. Agassiz was simple in dress and mode of living. His figure was somewhat under the medium height. His massive head, slightly inclined forward, rested on a thickset and sturdy frame. The natural expression of his face was cordiality and good humor. His large eyes of bluish-gray were ever ready to brighten with kindly interest when a student was seeking information or telling of what might, perhaps, be a new discovery. But whether the thought presented was new or old, Prof. Agassiz rarely failed to bring forth from the storehouse of his memory some illustrative or cognate fact, investing the subject with a broader significance. His lectures and public addresses were, with few exceptions, extemporaneous, or at all events largely dependent upon the inspiration of the moment for their form of words. He was a fluent speaker, using English, though evidently not a vernacular tongue, with ease and accuracy, hesitating, or rather pausing, sometimes for a moment, not as if there was any deficiency of thought or words, but as if he was in doubt which to select from a throng of ideas presenting themselves.

We have but space for a brief account of the crowded labors of his life. Louis John Rudolph Agassiz was of French descent, born at Motiers, Switzerland, May 28, 1807. His lineal ancestors for six generations were clergymen, his father being pastor of the Protestant parish of St. Imier. His mother, the daughter of a physician, superintended his education in early youth, and for many years his studies had in view the medical profession. After leaving the college at Lausanne, he went to the medical school at Zurich and afterward to the University of Heidelberg, where he studied anatomy and physiology under Tiedemann; zoology under Luckart, and botany under Bischoff. At the age of 20 he entered the University of Munich.

The science of fossil ichthyology is almost due to the labors of Agassiz; he laid its foundation and built upon them a vast amount of erudite information. Thirty-seven years ago he began to unfold the glacial theory, meeting on every hand the most violent opposition. But as years have rolled on and proof after proof has been brought forward to the existence in geologic eras of a vast ice sheet which overspread the continents and left its records in the rocks, the theory has become an accepted fact with most men of science, and has formed the basis of new accessions to knowledge of still greater importance.

In 1846 Prof. Agassiz came to the United States and shortly afterward identified himself with its scientific interest by assisting in the labors of the Coast Survey. The next year he accepted the chair of zoology and geology at Harvard. He made a series of scientific expeditions in subsequent years, along the coast, and to different localities on the lakes and rivers among the mountains of the United States, and his success as a lecturer at intervals in the great cities gave an impulse to science in that country which it had never before received. His expeditions to Lake Superior in 1848, and to the Florida reefs in 1850, produced most valuable results. A Boston merchant in 1865 defrayed the expenses of the celebrated expedition to the Amazon region, in the course of which he ascended that great river to the frontier of Peru. It was upon this expedition that Prof. Agassiz saw and described the celebrated "walking-fish"—a fish which at certain seasons uses certain spinous fins as legs, and actually walks up the river bank, dryshod.

The death of Prof. Agassiz, says the New York *Tribune*, is a heavy blow to American science. More than a quarter of a century ago he identified himself with our scientific progress and became one of our most eminent citizens. It was not simply then that we gained what Europe had lost, and that he brought hither the laurels elsewhere won. Had he lived and died abroad, eminent among eminent men, Agassiz would have been to us nothing more than a great name; identified with certain important researches and discoveries, but nothing more. But from the hour he first set foot upon our shores Prof. Agassiz recognized his own true position as the great missionary of science to the New World.

From city to city he travelled, preaching the gospel of his belief,

and awakening in the breasts of others something of the ardor of his own. Under his direct tuition many of our most prominent young naturalists laid the foundations of their knowledge. Our older men of science acknowledged him for a leader, and he became connected with our foremost scientific undertakings. And in the enterprises which were peculiarly his own he was singularly successful in obtaining material aid from wealthy individuals.

It is the fortune of but few men to assist so greatly in the progress of the day. Considered merely as a scientific student and discoverer, he must be ranked with the highest. But the rare faculty of communicating knowledge, and yet rarer power of spreading a love for it, place him among the great teachers of the race. The extraordinary impulse which his individual efforts have given to the pursuits of science can scarcely yet be calculated; they belong to no one department of research, and are just beginning to show their magnitude.

E. P. POMMINVILLE, ESQ., Q. C.

The death of Mr. Pomminville, which occurred on Friday evening, Dec. 5, 1873, was the occasion of sorrow to a very large circle of friends. The deceased gentleman, who was the legal partner of the late Sir George Cartier, held a highly honorable position at the Montreal Bar for many years. As a lawyer he was ever faithful and devoted to the interest of his clients; and in private life as well as in his intercourse with his professional brethren, his many amiable qualities gained him in no ordinary degree the affection and esteem of all who enjoyed his acquaintance.

HON. JAMES LESLIE, SENATOR.

Died at his residence, in Montreal, on Sunday morning, Dec. 7, 1873. The deceased was in his 88th year, being born Sept. 4th, 1786. He was a son of Capt. J. Leslie, 15th Regiment of Foot, who was Assistant-Quarter-Master-General to the army of General Wolfe at the capture of Quebec. He was born at Kair, Kincardine, and educated at Aberdeen. For many years he was engaged in business as a merchant at Montreal. He was a member of the Executive Council of Canada, and President of that body in 1848. At a later date he held the office of Provincial Secretary and Registrar. From 1824 until the Union of the Provinces in 1840, he represented the East Ward of Montreal in the Lower Canadian Assembly, and he afterwards sat for Vercheres from 1841 to 1848, when he was summoned to the Legislative Council. After Confederation he was called to the Senate by Royal Proclamation. The deceased was a Conservative in politics.

HON. SAMUEL NELSON.

The death was announced, at Cooperston, N. Y., on 13th Dec., 1873, of Hon. Samuel Nelson, who for twenty-eight years served his country on the bench of the United States' Supreme Court, and for twenty-two years was a judicial officer in his native State (New York). Judge Nelson was born at Hebron, Washington County, New York, in 1792. His first appearance in public life was as a member of the Constitutional Convention of New York, in 1821. Such was the ability and legal acumen displayed by him in the Convention that in 1823, at the early age of thirty, he was appointed a Judge of the Circuit Court of the State of New York. In 1831, on the election of William L. Marcy to the United States Senate, he succeeded him as a Judge of the Supreme Court of the State of New York, and in 1836 was elevated to the Chief Justiceship of the same court on the retirement of Chief Justice Brownson. On the 13th of February, 1845, he was nominated by President Tyler, and confirmed by the Senate, Judge of the United States Supreme Court in place of Judge Thompson, deceased. How well he performed the duties of his high station the current judicial history of the country attests, and as "a patent Judge," if we may so designate him, he stands without a peer, or even a rival, in the world. In acknowledgment of his legal acquirements and judicial ability, he was appointed by President Grant one of the members of the "Joint High Commission" on the part of the United States, and it is understood, and we believe generally conceded, that our Commissioners relied almost entirely upon him in all questions of legal construction. His last official act was to affix his signature to the Treaty of Washington.—*American Paper.*

CHARLES SMALLWOOD, M. D., LL. D., D. C. L.

Our obituary this morning (*Montreal Gazette*, Dec. 23.) contains the announcement of the death of Dr. Smallwood, after a comparatively brief illness. Dr. Smallwood was widely known throughout Canada as a meteorologist, his devotion to the science amounting to enthu-

siasm. He was born in England, but resided about forty years in this country, and during a considerable part of the time lived at St. Martin, Isle Jesus. After removing to Montreal he continued his observations, in connection with McGill College observatory, and also practised his profession, as a physician. As a doctor he was energetic and popular and his sudden decease will be the source of deep regret. But it is as an ardent student of meteorology that his name will live longest. In a field in which there are few laborers, he toiled long, and at one time, almost alone, his health even sustaining injury by the assiduity with which he pursued his observations. His labors, some of the results of which have appeared from time to time in the *GAZETTE*, will no doubt have made valuable contributions to the important science to which he was deeply devoted. In a future number of the Journal, his contributions to its pages for the last seven years will be duly acknowledged.

M. JEAN-ANTOINE GALIGNANI,

The responsible editor of *Galignani's Messenger*, and the eldest son of the founder of that journal, died in Paris on December 31, 1873.

Jean-Antoine Galignani was born in London, Oct. 13, 1796, and becoming naturalized in France, with his brother William, succeeded to the management of *Galignani's Messenger* at the death of their father, in 1821. M. Galignani, the father, was a Lombard, born in Brescia, and was familiar with most of the European languages. His residence in England fitted him for the literary labors with which his name was so long associated. In 1800 he removed from London to Paris and established in that city an English book store, and from 1808 published a monthly, of some importance in its day, entitled a *Monthly Repertory of English Literature, Arts and Sciences*. In 1816 he established the journal bearing his name, which he published till his death. Passing into the hands of his sons, it was enlarged and appeared daily in the form of the great journals of London and Paris. The political aim of *Galignani's Messenger* was to preserve friendly relations between France and Great Britain. In the reign of Louis Philippe, William Galignani was decorated with the Legion of Honor, and was for a considerable period Mayor of Soisy-sous-Etoiles. He is two years younger than his brother, Jean-Antoine Galignani was always the signer of the articles in which the editorial opinions of the *Messenger* were presented.

HENRY GLASSFORD BELL, ESQ.,

Who was Sheriff-Principal of Lanarkshire, since the death of Sir Archibald Allison in 1867,—died recently at his residence in Glasgow,—erysipelas having supervened after undergoing amputation of the right hand.

Henry Glassford Bell was born in Glasgow, in 1805. He received his education at the Glasgow High School and the University of Edinburgh.

In early life he displayed high literary tastes; and the society in which he found himself in Edinburgh did much to stimulate and foster such inclinations. He was the associate of James Hogg, the Ettrick Shepherd; of Prof. Wilson, and of "Delta"; and he formed more or less intimate relations with Sir Walter Scott, who was then astonishing the world with his novels; with Sir William Hamilton, who was engaged in his brilliant metaphysical researches; with De Quincy whose wondrous feats as a literary gymnast and extraordinary conversational powers astonished his contemporaries, and with Jeffrey and his fellow-laborers of the *Edinburgh Review*. He lived in Edinburgh when literature was controlled by men of Titanic intellect, and was influenced by them. He was only twenty-three when he was editor of the *Edinburgh Literary Journal*, and in that position he became acquainted with most of the great authors of the time; but "Maga" and the *Review* completely occupied the field of criticism, and the *Journal* died after struggling for about three years. Notwithstanding the brightness of the great suns in the literary firmament at that time, his prolific pen won for him deserved praise from the most eminent of his contemporaries. He wrote vigorous prose. His verse was the emanation of true poetic fire. In 1834 he published a volume of poems entitled "Summer and Winter Hours." It includes the well-known and oft recited piece on Mary Queen of Scots. As he grew older, he wrote more in accordance with æsthetic canons; but his power of poetic expression by no means increased, as is shown by his "Romances and other Poems" published in 1866. What he gained in finish he seemed to lose in force and character. When he was young, he was insensibly acted upon by the manner of the Byronic school; latterly his brow caught a portion of the light and was fanned by the cooler, healthful breezes of that higher plain of Parnassus where Tennyson is the presiding genius. His literary remains will be valued most as the expression of the transition period. His prose and verse contributions in defence of the character

and career of Mary Stuart will alone long endear his memory to most Scotchmen. It was not till 1832 that he began to practise in the courts; but what work he obtained as a lawyer he did well, and his ability in debate was far beyond his opponents. Sir Archibald Allison in 1839 had him made Sheriff-substitute; and on Sir Archibald's death, instead of a selection of an advocate-deputy for the Sheriffship of Lanarkshire—the most important position of the kind in Scotland—the singular legal acumen which Mr. Bell displayed in his decisions won for him the appointment, and the country had no reason to regret the choice. As a citizen of Glasgow he aided and advanced every measure for the public good. Socially he was held in the highest estimation. He leaves a void which will not easily be filled.—(N. Y. Witness).

HON. ROBERT JONES,

The death of the Hon. R. Jones, (January 2), removes one more from the list, fast diminishing, of those whose names are closely connected with the early history of this country. Mr. Jones was an active member of the Legislature whether in the Assembly or the Council. Though not a brilliant debater, he was remarked for his good common sense and soundness of judgment. He was energetic in regard to the opening up of the Eastern Townships and mindful of the interests of the farmers generally, more especially in the parts in which he resided, as the residents of the Township of Stanbridge and the neighborhood of St. Johns can testify. Whether as a Justice of the Peace, Deputy Grandvoyer, or Colonel of Militia, his active mind was ever ready for the public good. His declining years were spent in comparative retirement, in which, by his many social and domestic virtues and public and private benevolence, he evinced the genuineness of his Christian character and endeared himself to all around him.

AMÉDÉE-AUGUSTE-LUCIEN TURCOTTE, ESQ., ADVOCATE,

Who was Professor of Law in the Laval University, Quebec, died on the 12th January, 1874, at the early age of 27, being born on the 2nd February, 1847, at Three-Rivers, Province of Quebec.

Although Mr. Turcotte was carried off in the very flower of his youth, yet his career was such as to promise a brilliant future. He was said to be passionately fond of study—so much so that his zeal outran his better judgment—and like many other ardent students he succumbed under the weight of his self-imposed labours.

DR. LIVINGSTONE.

Intelligence was received in London on the 26th January, that Dr. Livingstone, the famous African traveller and explorer, had died in Africa from an attack of dysentery while travelling from Lake Bembo to Unyanyambe. His body has been embalmed and is being conveyed to England by way of Zanzibar.

The Revd. David Livingstone was born at Blantyre, upon the banks of the Clyde near Glasgow, about 1818. He was sent as a youth to earn his livelihood in the cotton mills at his native town, and even at that time was possessed with a genuine love of learning. Enabled by hard labor to purchase the means of gratifying his thirst for information, he pursued his studies at Glasgow during the winter months, resuming his occupation at the mills during the summer vacation of the classes. In this way he contrived to pick up some acquaintance with the classical writers, and at the age of seventeen could repeat portions of Horace and Virgil. As he grew to manhood he resolved to devote himself to missionary life, cherishing a hope that Africa or China would be the scene of his labors. His wishes in this respect were fully realized. After having studied medicine for a few years, during which period he attended one or two courses of theological lectures and having been admitted a Licentiate of the Faculty of Physicians and Surgeons in 1838, he offered himself to the London Missionary Society for missionary work in Africa, and his offer was accepted. Having been ordained to the pastoral office in 1840 he soon after left England for Port Natal, where he became acquainted with his fellow-countryman, Rev. Robt. Moffat (now residing in England), one of the most active and enterprising of African missionaries, whose daughter he eventually married, and she accompanied him in his travels until her premature death in 1862. From 1840 till his return to England at the close of 1856, he laboured perseveringly as one of the agents of the London Missionary Society at several stations in South Africa and made several expeditions into the interior. He became thoroughly acquainted with the language, habits and religious notions of the African tribes, and twice crossed the entire continent, a little south of the tropic of Capricorn, from the shores of the Indian Ocean to those of the Atlantic. He returned to England at the close of 1856, after an absence of sixteen years, and was warmly received by the scientific men, and was granted several honors. In 1858 he returned to Africa, accompanied by a small band of assistants, sent out by Her Majesty's

Government. After many perilous journeys, during which his wife died, the Zambesi expedition, as it was termed, was recalled in 1863. Dr. Livingstone visited the United Kingdom, and after giving interesting particulars respecting his discoveries, and making arrangements for the explorations, again left England in 1865. This was his last expedition. He never afterwards visited England. The circumstances of the expedition headed by Stanley are well known, and Dr. Livingstone's hope that he would yet revisit England has not been fulfilled. The extent of his travels may be gathered from his writings, and his published works furnish interesting and instructive reading.

As this goes to press it may be stated that the "Rev. Mr. Moffat, Dr. Livingstone's father-in-law, doubts the correctness of the report of the doctor's death. He thinks it hardly credible the latter could have reached the place where he is said to have died, and says his supply of provisions was ample. The doubt is shared in by the British Foreign Office, and it will be a remarkable thing if after all Dr. Livingstone should come through safe and sound and find obituary biographies once more penned in the belief that he had finally departed this life."

BARON COLONSAY.

Baron Colonsay, formerly Lord Justice-General and President of the Court of Session of Scotland, died Feb. 1, aged eighty years. Baron Colonsay was the son of the late John McNeil, Esq., of Colonsay, Argyshire, and was born in that place in 1793. He was educated at the University of St. Andrews and Edinburgh, and in 1816 was admitted an advocate at the Scottish Bar. From 1820 to 1824 he was one of the junior counsel for the Crown; was Sheriff of Perthshire from 1825 to 1834, and Solicitor-General of Scotland under Sir Robert Peel's Administration in 1835. He held the same office during the second Administration of Sir Robert; was Dean of the Faculty of Advocates from 1843 till 1851, when he was appointed a Judge of Session. In 1852 he became Lord Justice-General and President of the Court of Session, and the next year was sworn a member of the Privy Council. On his retirement from the judicial bench in 1867, he was raised to the peerage by the title of Baron Colonsay.

FIELD MARSHAL BARON VON GABLENTZ.

A cable despatch (Feb. 3,) announces the suicide at Zurich, Switzerland, of Field Marshal the Baron Ludwig Carl Wilhelm Gablentz, General in the Austrian service. The deceased was born at Jena, June 19, 1814, and after receiving a preparatory education at a local college, he joined the Saxon cavalry, in which he served for several years. He afterward transferred his allegiance to the house of Austria, and fought through the Italian campaign of 1848, under Marshal Radetsky. At the battle of Custozza his bravery was so conspicuous that he was made Chief of Staff. After the Hungarian war, in which he played a distinguished part, he was intrusted with some important political mission which he conducted with ability. The declaration of war between Russia and Turkey necessitated the occupation of the eastern frontier by the Austrians, and accordingly Baron Von Gablentz again found himself in the army, this time in command of a brigade of the Army of Occupation of the Danubian provinces. In the subsequent Italian campaigns, Von Gablentz was in command of a brigade operating in Lombardy. He distinguished himself at the disastrous battle of Magenta, and at Solferino, where, being intrusted with the command of a division, he defended Capriana, and covered the retreat of the defeated Austrians. In 1863 the Baron received the baton of Field Marshal and the following year he commanded the Sixth Army Corps in the Schleswig-Holstein campaign. In the disastrous war of 1866 Baron Von Gablentz was placed in command of the Tenth Corps, and at Koniggratz had the Eighth Corps attached to his command, both of which were totally routed by the Second Prussian Army. After the Prussian invasion of the Silesian provinces the Baron was promoted to the important post of Commander-in-Chief of the Army in Hungary.

THE RIGHT REV. JOSEPH-EUGENE GUIGUES, D. D., OTTAWA.

It has been our melancholy duty upon more than one occasion lately to pen the parting words of tribute to those who, like unto us all, had been born into the world to undergo the ordeal of probation upon this earth. Their predestined days had elapsed, the sands of their mortal existence had run, and whether prospering beneath the smiles of a community, enjoying the confidence and approbation of a people, or engaged in a work of a public good, the solemn summons from the "land o' the leal" had to be obeyed, and they left us—left a blank among us. Of those whose demise this city has to lament, the death of none will cast a gloom over so many as that of the Reverend Bishop Guigues, which took place at twenty minutes past ten on the night of 8th Feb., 1874.

He has gone to the eternal abode of the good, borne heavenward by the sincere prayers of thousands of pious Christians. His Lordship's whole life was one of constant devotion to the advancement of religion, and the furtherance of all good works. In Ottawa, and the surrounding country more especially, we see many monuments to his revered name and his honored memory. When he came to this city, or rather to Bytown, in 1848, there were in the Diocese only five priests, whereas there are now seventy-five—there were only five parishes where there are now fifty prosperous and populous ones. In the city itself we believe the Cathedral was the only sacred edifice belonging to the Catholic people; but since then St. Joseph, St. Anne's, St. Patrick's and the church of St. Jean-Baptiste have been built. Further, through his encouragement, the educational institution of Villa-Maria was induced to open a branch establishment in this city a couple of years ago, and to his benign supervision and kindly guidance the Convent of *Notre Dame* owes in great part the success with which it has been attended. The Christian Brothers' school, an educational institution of a public character, and of immense benefit to the city, likewise sprung up, and has flourished under his patronage and encouragement. His Lordship was born on the 28th of August, 1805, at Gap, his parents being comparatively humble. In his boyhood's years he exhibited unmistakable evidence of the possession of talent and abilities. His education was therefore committed to the Jesuits of Forcalquier, where he completed his studies, and was ordained priest in the year 1828, being then only about twenty-three years of age. He soon afterwards became professor of philosophy in an academical institution, of which he was afterwards appointed Superior. Before leaving France he was for some time engaged in missionary labors, in the course of which he was almost constantly associated with the present Archbishop of Paris, Cardinal Guibert. In the month of August, 1844, he arrived in Canada and being sent out as Superior of the Order of Oblates, he went to Longueuil, where their headquarters were at the time. Assisted by those under his charge he gave missions throughout Lower Canada, until 1847, during which year, and a part of 1848, he stayed with the clergyman of St. Columbkille's parish, Diocese of Montreal, studying to improve his knowledge of the English language, preparatory to his elevation to the episcopate. On the 5th of July, 1848, he was consecrated first Bishop of the Diocese of Ottawa, by Bishop Goulin, of Kingston assisted by Bishop Bourget and Bishop Phelin. The Diocese at present comprises the Counties of Prescott, Russell, Carleton, South and North Renfrew, Pontiac, Ottawa, and northward to Manitoba. The Catholic population of the Diocese is now estimated at about 100,000, a large number of people to claim the supervision of one person. His Lordship, in years gone by, was an able and eloquent preacher, and during his missionary labours, as well as after his elevation to the episcopate, he was instrumental in rescuing many a benighted soul from perdition. He was most assuredly fitted by nature for the sacred office of the priesthood, as he was essentially of a pious and religious temperament.

His whole life was one of usefulness—of sanctity, prayer and good works, and in observing the commandments of the Church he was very strict. Self-abnegation was a prominent feature in his character, and fasting and abstinence he carried to an extreme. He was a person of great affability, meek and humble as a child, and of such amiability of character that he was beloved by all who knew him. His death leaves a void in the community, and in the hearts of the people, which it will be difficult to fill. He died in the 68th year of his age, the 45th year of his priesthood, and the 23rd of his episcopate. He has gone to the eternal home of his fathers. His last words were "I am not suffering any." *Requiescat in pace.*—*Ottawa Free Press*

MISCELLANY.

Boston Schools inferior to those of Austria.—Boston has been proud of nothing so much as of her schools and school system, and that justly, as compared with the schools of this country; but her honest pride has been taken down a little by the report of Mr. Philbrick, her Superintendent of schools, lately returned from a European tour of observation. He spent four months in Vienna, and visited also the schools of Dresden, Munich, Prague, Berlin, Brussels, etc. On the whole he regards the Austrian system of education as most advanced, and worthy of imitation. Her schools are graded from the lowest primary up to Middle, Real, Gymnasias, Polytechnic, and the University. So high is the standard, that one cannot become a teacher without attainments seldom thought necessary for a college professor in this country. But the severe task of fitting for such a position, Mr. Philbrick says, is made an object by Government, which pays liberally, and in case of death the family is guaranteed a pension

equal to his salary, and at the end of thirty years the teacher may retire with a pension equal to his salary. Educational buildings are on the same grand scale, one of high grade built five years ago, costing \$500,000, and another of subordinate grade \$300,000. So it has come to pass that Austria now leads in educational enlightenment and progress. The most perfect model of a school-house, Mr. Philbrick found in Sweden, though its furniture was not equal to that of Boston manufacture.—(*N. Y. Evangelist*).

A Flood of Literature.—A London paper in speaking of the number of books published in Great Britain in 1873, says:

In twelve months we sent forth 3463 new works, and if we count the new editions of old books the number comes to 4991. Some of them, it is true, were written in America, and merely reprinted in this country; but those must have been only a small fraction of the whole mass, and the total number is prodigious. Nearly 5000 separate books. That is a considerable library in itself. Within the covers of 5000 volumes we could put all, and more than all, the classic literature of every land under the sun. All the English books which are possessions for ever, because they do not merely lie on the library shelves, but are the daily companions of every student, could be contained in a marvellously small compass.

A mechanic could buy them with his savings. The classic literature of France would not fill a larger space, and that of Germany might not be so large. Yet here we have 834 novels and stories published in a single year, and 770 works on theology. Science and art reach the respectable figure of 588. Poetry and the drama stand for 329. History and biography give us 428. Never was there so prodigious a stream of writing. What were the ages of Homer, Sophocles, Plato, Cicero, Virgil, Livy, Dante, Tasso, Pascal, Racine, Moliere, Shakespeare, Milton, Goethe and Schiller compared with ours? We publish a hundred books for every one that appeared in those times.

Poetry and Nature.—Wordsworth, in the supplementary preface contained in the second volume of his works, asserts in the most emphatic way the deplorable ignorance of "the most obvious and important phenomena" of Nature which characterizes the poetical literature of the period intervening between the publication of the "Paradise Lost" and the "Seasons." It is to be feared that his opinion is, to a large extent, justified by the facts of the case. A very cursory examination of the productions of the poets who flourished during the seventy years referred to will suffice to show how little they were affected by the manifold beauty and grandeur of the visible universe everywhere around them. In this respect they contrast unfavorably, not only with their successors of the present century, which might have been expected, but with those of the two preceding centuries as well. The latter, whose works embrace a period dating back a hundred years from Milton, display, generally, a much more accurate acquaintance with the appearances and phenomena of the natural world, and spontaneousness in the expression of it, than the school of Dryden and Pope, who may be regarded as the most conspicuous examples of Wordsworth's strictures. Of Pope, particularly, it might almost be said that, from his writings, it could scarcely be inferred that there was much else in existence than courts, and fashion, and scandal—not much, at all events, that was worth caring for. He excelled in the representation of the modish life of the day, its fine ladies with their patches, its fine gentlemen with their periwigs, and its general artificiality. Of Nature in its endless continuity, and variety, and mysteriousness, which has stirred the hearts of men in every age, and kindled many smaller poets into enthusiasm, he knew and cared little, and the trim alleys and botanical distortions of Versailles, which he has characteristically described, may be taken as typical of his own inspiration on the matter. It may be worth while mentioning, as a pertinent illustration of these comments, that in his poem of "Windsor Forest," with the exception of a semi-patriotic allusion to the oak, in connection with ship-building, there is not a reference to a single forest-tree, not even to any of those famous historical oaks which abound in the locality. Nature and simplicity, in truth, had gone out of fashion, and were not much in vogue again till far on in the century.—(*From "Tennyson and Botany," in Popular Science Monthly for December.*)

Kew Gardens.—Among the scenes of interest near London which earliest attract the foreign visitor, is the magnificent Botanical Garden at Kew. It occupies 300 acres, which are crowded with the

wealth of the vegetable kingdom, and forms the most extensive and perfect horticultural establishment in the world. It has three museums, containing upwards of 50,000 objects of rare scientific interest exquisitely arranged, the completest botanical library ever yet brought together, a series of ample and admirably-constructed hot-houses, a pinetum, a water-lily aquarium, an extensive and richly-stocked arboretum, fern-houses, both tropical and temperate, an orchid house, a house for begonias and gesneraceae, together with a variety of other greenhouses and extensive plots of ground covered with herbaceous plants, and beautified to perfection. Kew Garden is one of the most popular places of resort in England. Some 700,000 people visit it annually, and the least educated of this multitude cannot pass through it without learning something. The exotic plants nurtured in the hot-houses; the indigenous and naturalized plants blooming in the gardens; the dried specimens preserved in the herbarium; the various objects of curiosity treasured up in the three museums of economic botany—vie with each other in claiming the attention of even the most indifferent observer.

Learned philosophers and young children can equally find there abundant objects replete with interest for each, and worthy of lengthened contemplation: one lingers to examine curiosities of vegetation, such as the inner bark of "traveller's joy" (*Clematis vitalba*), used by the Swiss as a vegetable sieve for straining milk; or the inside of the towel-gourd, used in the West Indies as a sponge or a scrubbing-brush. There is an orange-tree, such as in the island of St. Michael, produces 20,000 oranges in a year. Here is the caricature-plant, with the whimsical variation of its leaves; the telegraph-plant, with the jerking of its lateral leaflets like the signals of the old semaphore; the tuberose, exhaling the most delicious perfume, and the stinking carrion flower of South Africa; in the pitcher-plant, each blossom containing half a pint of water and a swarm of drowned insects; and the Venus's flytrap, which springs its toothed leaves together for the capture of gnats and flies. At every turn and nook there are curiosities to excite the observant, and gratify the seeker for systematic, economic, or descriptive botanical knowledge.—*From Popular Science Monthly for December.*

Suicide of a Schoolboy.—The story of David White, the School-boy, twelve years of age who committed suicide, on the 28th January, in N. York, by hanging, is a very sad one, and proves that children are sometimes more sensitive to humiliation than people suppose them to be; and no one can envy the feelings of any parent whose want of consideration may drive a child to such a depth of despair. He was studious and outstripped boys older than himself. He had been recently promoted to a higher class, and at this point his troubles began. He was unable to keep pace with his classmates, and, disheartened by his failure, he grew careless and neglected his studies—a course which soon sent him to the foot of his class. Finally, as a punishment for his carelessness, his teacher placed his name on the black-board as that of an imperfect student, and left it there for the inspection of the whole school. He was a proud, high-spirited boy, and the publicity thus given to his shortcomings, together with the recollection of his former successes, affected him keenly. He told his brothers that he intended to end his life, and so was found dead in his room next day.

Immigration into New York.—Official returns made to the Bureau of Statistics show that during the quarter ended Dec. 31, 1873, 44,789 immigrants arrived at New York. Of this number, 24,699 were males, and 20,090 females. Under fifteen years of age, 11,223; fifteen and under forty, 27,583; forty and over, 5,983. Died on the voyage, 47.

Of the total arrivals, 7,523 were from England; from Scotland, 1,292; Wales, 76; Ireland, 5,912; Germany, 21,487; Austria, 850; Sweden, 831; Norway, 297; Denmark, 672; France, 1,507; Switzerland, 783; Spain, 64; Portugal, 2; Italy, 1,933; Belgium, 67; Holland, 500; Russia, 209; Poland, 365; Hungary, 122; Finland, 21; Turkey, 12; Greece, 7; China, 4; Japan, 14; Canada, 28; Nova Scotia, 6; Newfoundland, 2; Mexico, 20; South America, 1; Brazil, 10; United States of Columbia, 1; Venezuela, 2; Chili, 1; Peru, 1; Buenos Ayres, 2; Cuba, 46; Porto Rico, 1; St. Croix, 18; Hayti, 1; San Domingo, 4; Jamaica, 10; Bonaacca, 2; Bahamas, 1; Bermuda, 12; Malta, 1; Sicily, 30; Australia, 4; Persia, 3; Armenia, 2; Africa, 1; Egypt, 1; New Zealand, 5; born at sea, 26.

The immigrants reported 277 different occupations.

American Finance and Commerce.—An American paper says:—One the most hopeful signs of an improving financial condition in the country is the decline of imported luxuries. According to the report of the Bureau of Statistics there was a considerable falling off in the importation of the principal articles of British manufacture for the year 1873 as compared with the previous

year, and particularly during the last months of 1873. Take cotton piece goods, for example and we find that in 1872, 131,617,336 yards were imported, while in 1873 the number of yards was 109,500,343. The entire list of imported articles shows a corresponding reduction. Iron is specially worthy of mention. In 1872 there were 467,304 tons of railroad iron, 64,553 tons of bar, angle, bolt and rod iron, and 195,151 tons of pig iron imported; while in 1873 the amount was—railroad iron, 185,702 tons; pig iron, 102,624 tons; and bar and other kinds of iron, 23,006 tons. This is a difference of over \$20,000,000 in iron alone.

The Perfection of Acoustics Accidentally Created.—The New York Times says that an interesting fact has been discovered in the building now erecting for the Coliseum on Thirty-fifth street and Broadway. In the general promenade there is a circular wall over 300 feet in length. This surface has been found by mere accident to possess acoustic properties to such an extent that the slightest whisper is conveyed a distance of 150 feet with the utmost delicacy. Indeed, it has been pronounced by those witnessing the phenomenon to be superior to the celebrated whispering gallery in the dome of St. Paul's Cathedral. The principles of acoustics seem to be almost unknown to most architects, who leave that consideration to a great degree to chance.

Welcomed with a Dirge.—It is hardly a singular fact that American musicians are not familiar with Russian music, but it is rather singular that what we have heard played as the Russian National Anthem for several years past is not the anthem but the "Dirge of St. Catherine," a piece played in Russia only at the funeral of members of the Imperial family. Fancy the feelings of Alexis the first time he heard it! He has an allusion to the mistake of our musicians in the book which he is to publish narrating his tour around the world. He never alluded to it when here, being willing to accept the intentions of the people in their effort to pay him a compliment in music.—*Am. Paper.*

Cost of the Insane Asylums of Ontario.—The different asylums of Ontario for the insane cost during the year \$201,478.66, the revenue derived from the labor and payments of the inmates amounted to \$22,344.91. Since the opening of the Provincial Asylum in 1841, there have been 5,410 admissions. Of these 1,257 died, 2,575 were discharged, 73 eloped, leaving, 1,505 in the different establishments at the close of the last official year. It is a sad fact that, after all the increased accommodation for the insane during the past years, the cry is still for more. Every bed is at present full, and admissions can only be made as death or dismissal may pave the way.

Juvenile Smoking.—Smoking is now so common among persons of unformed constitutions, says *The Builder*, that the ascertained facts of the effects of tobacco acquire a grave importance. If juvenile smoking continues and extends, we may look for generations endowed with weaker brains and duller intellects in a continued series of degradation. Let those who would not have our brave, bright lads degenerate into a race of dyspeptic dullards, warn them, as they wish for the full exercise of that power to think which is their greatest privilege and glory; as they hope for clear heads and unclouded brains, to resist the dreamy seductions of tobacco.

Royal Canadian Institute, London.—The proceedings of the Royal Colonial Institute, for the past year, recently published, contain many interesting papers, and the reports of the discussions thereupon, which are of great value and imperial importance to all persons, whether they may be colonists or not. The Washington Treaty, the San Juan Award, the Fisheries of Canada, the timber wealth of Tasmania, and especially the much-vexed question of Colonial Defence, have all been very ably treated at the various meetings of the Institute. The council, already including amongst its members many of the chief authorities on Colonial subjects, has received some notable additions for the coming year. The honorary secretary, Dr. Eddy, is most indefatigable in his exertions to promote the success of the association and to extend its sphere of usefulness. One of his latest acts has been to address a letter to each of the forty Colonial Chambers of Commerce, recommending them to join the Association of the Chambers of Commerce of United Kingdom, it having been ascertained from the authorities of the Associated Chambers that the application would be readily acceded to. In case the Colonial Chambers fall in with this suggestion, the Colonial Institute offers to be the medium of communication or to obtain any information in its power.

International Copyright.—A meeting of the Social Science Association was held on the 17th ult., in London, when a paper on "International Copyright" was read by Mr. T. Webster, Q. C., who, in speaking of copyright as affecting British authors in the colonies,

United States, and foreign countries, said that property in intellectual labour was recognized in most civilized nations, and the laws of such property, as regards subject matter and ownership, may be regarded as substantially the same in all countries, but the practice and procedure all widely different. The assimilation of law, practice, and procedure affecting such property was one worthy the attention of the Social Science Association. In considering the subject it would be desirable to ascertain the actual state of the existing law, the difficulties and grievances which have arisen, or are alleged in its operation, and the suggestions made or schemes proposed for their amelioration or removal. He then alluded to the various Acts relating to the law of copyright, which acts are said to have proved a complete failure. The subject of the paper was discussed by the meeting, and amongst the speakers were Mr. Frederick Hill, Mr. White, and Mr. Longman, the latter observing that if copyright was property it should have extended to it the same protection as any other property.

Telegraphic Clocks.—In Pittsburg Pennsylvania, an electric clock has been established to move the hands of seventy different clocks, scattered all over the city. The motive clock is powerful, and has a pendulum composed of hollow coils of copper wire. These swing to and fro over the poles of horseshoe magnets, and every time they pass from one pole to the opposite a current of electricity is called up inductively in the coils, flows up the wire, and thence to the seventy dials, giving a current of an opposite nature at each swing. Behind each dial is an astatic permanent magnet, suspended on a pivot, and surrounded by a coil of wire, and it rotates under the electric influence from the wires. A small weight may be used to each dial if the hands are heavy, and the pivoted magnet may merely regulate the time. Of course every clock will be exactly alike, and will run with very little attention. To prevent the pendulum of the motive clock from moving too fast by the increase in the length of vibration of the pendulum, a magnetic briding apparatus is attached.

Warmth as a Preventive of Disease.—Dr. Whitmore, Medical Officer of Health, Marylebone, in his last report to the guardians refers to the high price of coals, and says: "The value of the means employed for preventing the diffusion of epidemics or contagious diseases may be open to question, but there cannot be two opinions as to the efficacy of bodily warmth in resisting a class of diseases which unfortunately are but little thought of, and which as a rule are ten times more destructive of life than the most fatal epidemics."

The Tomb of Napoleon III.—A firm of granite sculptors at Aberdeen have just completed, to the order of the Queen, an elegant sarcophagus for the remains of the late Napoleon III. The stone used is red Peterhead granite, and the design of the memorial is exactly like that made for the last resting-place of Her Majesty's mother, the Duchess of Kent. The sarcophagus itself weighs 2 tons 16 cwt; the lid, 2 tons 5 cwt; and two resting stones, 1 ton 9 cwt. Until the erection of a new chapel, the Queen's memorial to the deceased Emperor will be placed in the little Catholic chapel at Chiselhurst, where His Majesty's remains at present lie.

Transparent Paper.—A German invention, recently patented, has for its object the rendering more or less transparent of paper used for writing or drawing, either with ink, pencil or crayon, and also to give the paper such a surface that such writing or drawing may be completely removed by washing, without in any way injuring the paper. The object of making the paper translucent is that when used in schools the scholars can trace the copy, and thus become proficient in the formation of letters without the explanations usually necessary; and it may also be used in any place where tracings may be required, as by laying the paper over the object to be copied it can be plainly seen. Writing paper is used by preference, its preparation consisting in first saturating it with benzine, and then immediately coating the paper with a suitable rapidly-drying varnish before the benzine can evaporate. The application of varnish is by preference made by plunging the paper in a bath of it, but it may be applied with a brush or sponge. The varnish is composed of the following ingredients:—Boiled, bleached, oil, 20 lbs.; lead shavings, 1 lb.; oxide of zinc, 5 lbs.; Venetian turpentine, 1 lb.; Mix and boil eight hours. After cooling, strain, and add white gum copal 5 lb, and gum sandarac, 4 lb.—*Journal of Applied Science.*

Paper as a Building Material.—The use of paper as a substitute for wood in the construction of railway carriages has long been known, but the use to which this material can be put seems now to be without limit. The Journal of the Society of Arts says there is a paper church actually existing near Bergen, which is capable of containing about 1,000 people. It is circular within and octagonal

without. The relieves outside, and the statues inside the roof and ceiling, are all of *papier maché*, rendered waterproof by saturation in vitriol, lime water, whey, and white of egg.

Metallic Thermometer.—Professor Palmieri, director of the observatory of Mount Vesuvius, has constructed for the Empress of Russia a metallic thermometer, which gives a signal at every appreciable change of temperature. The apparatus is so sensitive that the indicator is almost always moving. When the variations of temperature reach a certain degree, little bells begin to ring, and notice is then given of the rising or falling of the mercury. The instrument also marks the highest and lowest degrees of temperature which have taken place during a certain period.

Advice with a Vengeance.—At the last meeting of the Scotch Education Board in Edinburgh various documents were read concerning the action of the Greenlaw School Board in regard to Mr. Williamson, the teacher of the public school. After a careful consideration of all these documents, the Board resolved that the majority of the School Board have, in numerous instances, claimed and attempted to exercise authority to which they are not entitled under the Education Act, and that they have exercised their statutory power in a manner calculated to destroy the usefulness and comfort of the teacher, and seriously to injure the educational interests of the parish. Further, as the three before-mentioned members of the Greenlaw School Board "earnestly crave the advice of the Board of Education in reference to this matter," the Board unanimously and earnestly recommend, that as the only effectual mode of restoring harmony both in the School Board and the parish, Messrs. Kynoch, Gibson, and Milne should without a day resign their seats at the said Board, and allow the rate payers the opportunity of electing in their room persons who will discharge the duties of their office in a peaceful and efficient manner.

It will be seen, says the *Schoolmaster*, from the foregoing that the Education Board has acted very justly towards the teacher of the Greenlaw Public School in a controversy between him and his local Board. The majority of the local conclave have systematically annoyed the teacher in his work, and for their pains the worrying trio have been officially snubbed. They ask earnestly for the advice of the Department in Edinburgh, and have received it in the form of a very strong recommendation to seek the shades of private life. We are gratified to find the shield of the Board thus held over the head of the struggling schoolmaster, and trust the profession in Scotland will note the incident, and give credit where it is undoubtedly due.

Teachers' Services and Worth Appreciated at last.—We (The *Schoolmaster*) hear from Dublin that a commission is at present investigating the condition of the Civil Service. The Education Office there is under consideration at the present time, and it is understood that considerable changes are to be introduced. Several of the Inspectors are to be called upon to retire or resign, and their places are to be filled from the ranks of the National School Teachers. There is thus a prospect of promotion for a class who have long groaned under their difficulties. If the plan be adopted in Ireland, it cannot long be delayed on this side the Channel. It is one of the things that are sure to come, and its coming will not be delayed by agitation in the proper quarter. As the public is becoming more directly informed on the details of elementary school work, it is beginning to understand that no better Inspectors could be found than those who have gained their experience by actual teaching. The representatives of the people also are acknowledging that such is the case; and it rests with the teachers themselves if the former are not in every district instructed on the question. Let teachers allow no opportunity to pass which gives them the means of informing Members of Parliament and others in power regarding the claims of the profession in this direction.

Classical Philology in Russia.—The Russian Government, which is much in want of University and Middle-Class school teachers, has created, at Leipsic, a high school for the study of classical philology, at the head of which are Professor Rich and Dr. Horschmann. The pupils, who are kept at the cost of the Government, are obliged to serve for every year which they have passed at the school two years as Professors in the Russian Government Schools. Persons able to teach classics or science in middle class schools are, it is stated, eagerly sought and well remunerated by the Russian Government.

Manchester Free Library.—The free library Committee of the Manchester (England) City Council has its annual report which shows that the institution is working with great success and maintains its popularity. In the past year 609,462 volumes were issued for home reading, and 1,741,960 persons used the reading-rooms.

The Condemned Marshals of France.—Of the nine marshals of France who have been condemned to death since Gilles de Laval, Marshal de Retz, was hanged at Nantz in 1440, Marshal Bazaine is the only one who has not suffered capital punishment. Louis de Luxembourg, Constable of France, was beheaded on the Place de Greve, in 1475, for conspiracy and rebellion against Charles VII. and Louis XI. Charles de Gontant, created Duc de Biron by Henry IV., was a son of the great soldier whom that monarch declared to be the "right hand" of his throne, and ancestor of the Marquis de Gontant Biron, now French Ambassador at Berlin. The Duc de Biron, after covering himself with glory at Ivry and Arques, was discontented with the treatment which he received from the King, and, though he was made Governor of Burgundy, he several times conspired against Henry IV., who pardoned him again and again. His last crime was to propose to Spain and Savoy that France should be dismembered; and as a reward of his treason, the Duke of Savoy was to bestow on him the hand of his daughter, and he was to be created the reigning Prince of Burgundy and Perigord. The plot was discovered, and Henry IV., who entertained a deep affection for his old companion in arms, was ready to forgive even this act of treachery if the Duc de Biron would have acknowledged his misdeeds. But he would not, and he was beheaded within the walls of the Bastille in 1602. Henry II., Duc de Montmorency, was taken prisoner at the battle of Castelnaudry by the royal troops, and beheaded in the Court yard of the capital at Toulouse in 1632, and in the same year Marshal de Marillac, arrested while at the head of his army for plotting against Cardinal Richelieu, was beheaded on the Place de Greve. Baron de Luckner, who had served under Frederick II. in Prussia, entered the French army before the Revolution, and rallying to the Republican cause, was created Marshal of France and appointed to the command of the army of the North. After achieving some insignificant triumphs over the Austrians at Courtrai and Valenciennes, he was suspected of trafficking with the enemy, and being brought before the Revolutionary tribunal in 1794, was condemned to death and guillotined. Philippe de Noailles, Duc de Mouchy, who attempted to defend Louis XVI. from the popular fury, was also a victim of the Revolution, for both he and his wife were sent to the scaffold during the same year; and the list of French Marshals brought to a violent end terminates with Marshal Ney who was shot upon the 7th December, 1815.—*Pall Mall Gazette*.

Accidents in England by Machinery.—A terrible list is that comprised in the returns of deaths and injuries in factories for the half year ending April 30th last. The tale of slaughter and maiming reads like a record of the results of a fierce and sanguinary struggle on the battlefield, and is a grim satire on the proverbially gentle arts of peace. Within the period mentioned 162 persons were killed in factories, 491 were so much injured as to necessitate the amputation of a limb or part of a limb, 390 received fractures of one sort or another, 257 were wounded more or less seriously in the head or face, and there were 2,340 injuries of a less grave nature, such as lacerations, contusions, &c.,—in all 3,040 casualties in places of industry in six months. With regard to the causes of this sad catalogue of disasters we have one remark to make. While admitting the probability of the great bulk of them being due to carelessness on the part of the victims themselves, we must confess to a fear, justified by some amount of personal knowledge, that for this very carelessness, with its lamentable consequences, employers are in many instances chiefly responsible, in that they place the working of rapidly-moving and dangerous machinery in the hands of persons incompetent by reason of youth or inexperience, from whom the exhibition of much caution is not to be expected. Evidently there is need for the exercise of more conscientiousness in the process of manufacture of other articles besides those of food and drink.—*The Lancet*.

Collegiate Institutions in the United States.—Collegiate progress during the past year has been most marked in the United States. The Republic now boasts of no less than 298 Collegiate institutions. The total number of degrees conferred by them was 4,493, not including 375 honorary. Out of this number, 198 ladies received degrees. The question of sex necessitated a change in the nomenclature of the degrees, and the ladies' parchments therefore bear titles of "Mistresses," "Maids," and "Sisters of Art" and "Mistresses of Literature," instead of "Masters" and "Bachelors." The West has shown the most liberality in opening its colleges to both sexes, the report

showing that Illinois has 13 colleges in which women have the same educational privileges as men; Wisconsin, 4; Iowa, 3; Missouri, 4; Ohio, 10; and Indiana, 9; while the great States of New York and Pennsylvania have but 7 each. Notwithstanding the constant drain upon the popular pocket for benefactions to academies, seminaries, and general charities, the colleges have been handsomely remembered. During the year, Trinity College received \$65,000; the Wesleyan University, \$7,750; Yale College, \$196,284; Amherst, \$82,100; Harvard University, \$158,075; Mount Holyoke, \$8,500; Tuft's College, \$86,000; Williams College, \$13,635; Cornell University, \$185,000; Ing-ham University, \$8,500; Madison University, \$80,000; St. Lawrence University, \$15,960; Union College, \$19,500; Vassar College, \$6,000; Wells College, \$100,000; College of New Jersey, \$386,000; and Rutgers College, \$78,607; in all, \$4,493,000, which has come from the generous ambition of the people to enlarge the facilities of education. Arrangements have been made for the erection of thirteen new colleges—a sure sign of the healthy growth of the education department.

Extent of the United States.—The United States have a frontier line of more than 10,000 miles. We have a line of sea-coast of more than 4,000 miles, and a lake coast of 1,200 miles. One of our rivers is the size of the Danube, the largest river in Europe. The Ohio is 600 miles longer than the Thames. The single State of Virginia is a third larger than England. Ohio contains 5,120,000 acres more than Scotland. From Maine to Ohio is further than from London to Constantinople, and so we might go on and fill pages, enumerating distances, rivers, lakes, capes and bays, with comparative estimates of size, power, and population.—*N. O. Morning Star*.

Silence.—Silence is the element in which great things fashion themselves together; that at length they may emerge, full-formed and majestic, into the day-light of life which they are henceforth to rule. Not William the Silent only, but all the considerable men I have known, and the most undiplomatic and unstrategic, forebore to babble of what they were creating and projecting. Nay, in thy own mean perplexities, do thou thyself but hold thy tongue for one day, on the morrow how much dearer are thy purposes and duties; what wreck and rubbish have these mute workmen within thee swept away, when intrusive noises were shut out! Speech is too often, not as the Frenchman defined it, the art of concealing thought, but of quite stifling and suspending it, so that there is none to conceal. Speech, too, is great, but not the greatest. Speech is silvery, silence is golden; or, as I might rather express it, speech is of time, silence of eternity.—*Carlyle*.

Dublin School of Art.—There are, just now, six vacancies in the salaried list of students at the National Training School, South Kensington. There should be little difficulty in procuring a goodly representation from the Dublin School of Art, in the filling up of these vacancies, if one may judge from recent performances. Under the able conduct of Mr. Lyne, the students of the Royal Dublin Society's Schools have made such wonderful progress that they need have little fear of competition from any quarter; and, if they enter the lists for those vacancies, we have little doubt they will acquit themselves with distinction. Each of the successful candidates will receive a salary of \$5 per week, to which, in the case of students who come from places outside London, a maintenance allowance of \$4 a week will be added. These allowances will be granted for one session only, but they may be renewed, at the discretion of the Board, for a period not to exceed five sessions. None but those who have already taken the society's first certificate in art will be qualified to compete. Students from Ireland are to qualify themselves at the Schools of the Royal Dublin Society. In addition to these vacancies the Council of the London Art Union offer two prizes of \$175 and \$75 respectively, for the best design for the decoration of a circular tazza, according to the dimensions set forth in a printed form. These prizes are open to all past or present students in schools of art in which painting on pottery is taught. "The designs are to be on paper, in water colours or temper, of the size to suit the tazza, and are to be sent to the Society's house, 444, West Strand, on any day from the first to the seventh of May next." It would not be much matter of surprise if some owner of the fertile brains and cunning fingers which have lately contributed to make the name of Belleek famous were to bear off either of those worthy objects of emulation.—*Freeman*.

The Effects of Worry.—That the effects of worry are more to be dreaded than those of simple hard work, is evident from noting the

classes of persons who suffer most from the effects of mental overstrain. The case book of the physician shows that it is the speculator, the betting man, the railway manager, the great merchant, the superintendent of large manufacturing or commercial works, who most frequently exhibits the symptoms of cerebral exhaustion. Mental cares accompanied with suppressed emotion, occupations liable to great vicissitudes of fortune, and those which involve the bearing on the mind of a multiplicity of intricate details, eventually break down the lives of the strongest. In estimating what may be called the staying powers of different minds under hard work, it is always necessary to take early training into account. A young man cast suddenly into a position involving great care and responsibility, will break down in circumstances in which, had he been gradually habituated to the position, he would have performed its duties without difficulty. It is probably for this reason that the professional classes generally suffer less from the effects of overstrain than others. They have a long course of preliminary training, and their work comes on them by degrees; therefore, when it does come in excessive quantity, it finds them prepared for it. Those, on the other hand, who suddenly vault into a position requiring severe mental toil, generally die before their time.—*Chambers' Journal*.

A First Step to Ruin.—It may to some seem trilling to say that the first cigar a young man takes within his lips often proves his first step into a career of vice. I grieve and tremble over every youth whom I see contracting this habit; it often leads to other and worse things.—*John Angel James*.

Normal Schools in the United States.—*Appleton's Journal* furnishes the following statement respecting normal schools in the United States: "Every State of the Union has normal schools except Texas and Nevada. Massachusetts has one normal school for every 208,193 of her population; Illinois ranks next, having one normal school for every 254,941; Ohio has one for 296,140; and New York has the greatest number of normal schools, yet only one for every 398,432 of her population. The whole number of normal institutions in the United States is 114, of which 51 are State schools, 16 city schools, 27 connected with colleges and universities, and the remainder supported in various ways. There are 10,922 pupils in these schools and 445 teachers. Nearly one-tenth of all the normal pupils in the country belong to the Female Normal College of New York City. During the three years that the college has been in existence not a single student has been expelled, not one suspended, and not more than half a dozen cases for discipline have been reported to the president, and these were but for trivial offences."

School House Ventilation.—In my estimation, no ventilation is good which requires the opening of doors and windows at any time. Window ventilation is often used in warm weather, but I consider it undesirable, because it admits insects, dust, and hot air; *i. e.*, air hotter than might be secured by properly arranged air-ducts, which may be so contrived as to introduce comparatively cool air. But window ventilation certainly should never be used in cold weather, while the scholars are not taking active exercise. It is never necessary in good ventilation. Ventilation should, as far as possible, be automatic, and should be beyond the control of every one except the person who has it in charge. This self-acting ventilation may best be secured by combining the ventilating system with the warming apparatus, so that the active condition of the warming apparatus shall necessitate an active ventilation; because we are much more sensitive to a change of temperature than we are to the stupefying influence of foul air.—*R. C. Kedzie, M. D., in Sanitarian*.

Meteorology.

—OBSERVATIONS taken at Halifax, N. S., during the month of December, 1873; Lat. 44° 39' North; Long. 63° 36' West; height above the Sea 125 feet, by Sergt. John Thurling, A. H. Corps.

Barometer, highest reading on the 2nd.....	30.586 inches
" lowest " 28th.....	28.950
" range of pressure.....	1.636
" mean for month (reduced to 32°).....	29.873
Thermometer, highest in shade on the 4th.....	54.0 degrees
" lowest " 16th.....	—
" range in month.....	56.0
" mean of all highest.....	34.2
" mean of all lowest.....	15.7
" mean daily range.....	18.5
" mean for month.....	24.9
" highest readings in sun's rays.....	89.0
" lowest reading on the grass.....	-2.0

Hygrometer, mean of dry bulb.....	27.0 degrees
" mean of wet bulb.....	25.7
" mean dew point.....	19.8
" elastic force of vapour.....	.107
" weight of vapour in a cubic foot of air.....	1.3 grains
" weight required to saturate do.....	0.4
" the figure of humidity (Sat. 100).....	72
" average weight of a cubic foot of air.....	569.3 grains
Wind, mean direction of North.....	6.00 days
" " East.....	2.75
" " South.....	6.75
" " West.....	13.00
" " Calm.....	2.50
" daily force of 0-12.....	2.7
" daily horizontal movement.....	302.0 miles
Cloud, mean amount of 0-10.....	6.4
Ozone, mean amount of 0-10.....	2.4
Rain, No. of days it fell.....	4.
Snow, number of days it fell.....	14.
Amount collected on ground (rain & snow).....	5.9 inches
Fog, No. of days.....	4.

—OBSERVATIONS taken at Halifax, Nova Scotia, during the month of January, 1874; Lat. 44° 39' North; Long. 63° 36' West; height above the Sea, 125 feet, by Serg't John Thurling, A. H. Corps.

Barometer, highest reading on the 6th.....	30.620 inches.
" lowest " 16th.....	29.292 "
" range of pressure.....	1.328
" mean for month (reduced to 32°).....	29.945
Thermometer, highest reading on the 8th.....	52.3 degrees.
" lowest " 27th.....	-15.7
" range in month.....	68.0
" mean of all highest.....	36.0
" mean of all lowest.....	17.2
" mean daily range.....	18.8
" mean for month.....	26.6
" highest reading in sun's rays.....	92.8
" lowest reading on the grass.....	-17.0
Hygrometer, mean of dry bulb.....	28.1
" mean of wet bulb.....	27.1
" mean dew point.....	23.0
" elastic force of vapour.....	.123
" vapour in a cubic foot of air.....	1.5 grains.
" vapour required to saturate do.....	0.3
" the figure of humidity (Sat. 100).....	80
" average weight of a cubic foot of air.....	569.5 grains.
Wind, mean direction of North.....	5.50 days.
" " East.....	5.00
" " South.....	8.00
" " West.....	10.00
" " Calm.....	2.50
" daily force.....	2.6
" daily horizontal movement.....	306.2 miles.
Cloud, mean amount of (0-10).....	7.8
Ozone, mean amount of (0-10).....	2.3
Rain, number of days it fell.....	9
Snow.....	11
Amount collected on ground.....	6.94 inches.
Fog, number of days.....	8

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