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EDUCATION AND PROSPERITY IN UPPER CANADA.

(Continued from last No.)

II. FROM AN ENGLISH POINT OF VIEW.

It is no less gratifying than complimentary to Canada, to observe the testimony borne both by the press of England and by intelligent travellers—English and American—to the prosperous activity of the Province, and to her growing greatness. Her municipal system, her educational system, her system of responsible government, and the vastness of her yet undeveloped resources are now referred to with satisfaction, no less in the eloquent and impromptu speech than in the grave and comprehensive essay. The Elgin era will long be memorable in the history of Canada for the true “uprising of the nationalities”—the English, Irish, Scotch and French colonists—to the dignity of a people conscious of their strength, and self-reliant in their attempts to promote public prosperity and to secure all the inestimable blessings conferred by the dissemination of Religion, Education and Liberty: “Religio, Scientia, Libertas—tria juncta in uno.”

In this number of the *Journal* we insert one of the “leaders” of the *London Times* upon Canada, as represented at the Industrial Exhibition at Paris, indicative not only of the favorable impression which Canada has made upon the public mind of Europe in regard to her capabilities and resources, but also of the growing interest felt in England in Canadian affairs. We also insert the following extracts from a very recent book of travels, published in London, by the Honorable Henry A. Murray, R. N., relating to his visit to the

Normal School in 1853. Captain Murray thus refers to Toronto and its public buildings:—

“Toronto is prettily situated, and looks flourishing and prosperous. . . . The position of the town is admirably adapted for a great commercial city; it possesses a secure harbor; it is situated on a lake about 190 miles long by 50 broad; thence the St. Lawrence carries its produce to the ocean, and the Rideau Canal connects it with the lumberer’s home on the Ottawa. . . . Some of the buildings are very fine. . . . The Lunatic Asylum is one of the best. . . . Trinity College is one of the finest edifices in the neighborhood; at present it only contains thirty-five students, but it is to be hoped its sphere of usefulness may be extended as its funds increase. It has the foundation of a very good library, which is rapidly extending; the University of Cambridge sent them out a magnificent addition of 3000 volumes. The last building I shall mention is the Normal School, to visit which was one of my chief objects in stopping at Toronto.

“The ceremony of laying the foundation stone of this building was inaugurated with all due solemnity, and under the auspices of the able representative of our gracious Queen, on the 2nd of July 1851. In his eloquent speech on that memorable occasion, when referring to the difficulties on the question of religious instruction, the following beautiful passage occurs:—“Sir, I understand from your statements—and I come to the same conclusion from my own investigation and observation—that it is the principle of our Common School educational system, that its foundation is laid deep in the firm rock of our common Christianity. I understand, sir, that while the varying views and opinions of a mixed religious society are scrupulously respected, while every semblance of dictation is carefully avoided, it is desired, it is earnestly recommended, it is confidently expected and hoped, that every child who attends our Common Schools shall learn there that he is a being who has an interest in eternity as well as in time (applause); that he has a Father towards whom he stands in a closer, more affecting and more endearing relationship than to any earthly father, and that Father is in heaven (applause); that he has a hope far transcending every earthly hope—a hope full of immortality—the hope, namely, that that Father’s kingdom may come; that he has a duty which, like the sun in our celestial system, stands in the centre of his moral obligations, shedding upon them a hallowing light which they in their turn reflect and absorb,—the duty of striving to prove by his life and conversation the sincerity of his prayer, that that Father’s will may be done upon earth as it is done in heaven. (Applause.) I understand, sir, that upon the broad and

solid platform which is raised upon that good foundation, we invite the ministers of religion, of all denominations—the *de facto* spiritual guides of the people of the country—to take their stand along with us. That, so far from hampering or impeding them in the exercise of their sacred functions, we ask and we beg them to take the children—the lambs of the flock which are committed to their care—aside, and to lead them to those pastures and streams where they will find, as they believe it, the food of life and the waters of consolation. (Applause.) Permit me in conclusion, to say, both as an humble Christian man, and as the head of the Civil Government of the Province, that it gives me unfeigned pleasure to perceive that the youth of this country, of all denominations, who are destined in their maturer years to meet in the discharge of the duties of civil life upon terms of perfect civil and religious equality—I say it gives me pleasure to hear and to know that they are receiving an education which is fitted so well to qualify them for the discharge of those important duties, and that while their hearts are yet tender, and their affections green and young, they are associated under conditions which are likely to promote among them the growth of those truly Christian graces—mutual respect, forbearance and charity. (Loud applause.)

"The position of the building is well chosen, being surrounded with cultivated ground sufficiently extensive to be usefully employed in illustrating the lectures given on Vegetable Physiology and Agricultural Chemistry.* The rooms are all very lofty, airy, and scrupulously clean; a notice at the entrance warns you, 'The dirty practice of spitting not allowed in this building;' and, as far as the eye could discern, the notice is rigidly obeyed. I was told that a specific had been found to cure the filthy habit. I mention it for the benefit of hotel keepers and railway conductors, in all places where such a relic of barbarism may still find a welcome. On a certain occasion the lecturer, having received undeniable proof that one of the students had violated the before-mentioned regulation, stopped in the middle of one of his sublimest flights, repeated sonorously the notice, called the culprit by name, informed him that his endeavour to dissipate his filth into infinity by the sole of his shoe was useless, and ordered him forthwith to take his handkerchief out and wipe it up clean. Disobedience was expulsion: with crimson cheek he expiated his offence by obedience to the order, and doubtless through the hushed silence in which he completed his labour he became a confirmed anti-expectoratorist.

"Great attention is very properly paid to cleanliness, inasmuch as if these young men, who are destined to teach others, acquire filthy habits, they naturally encourage the same vice in their pupils, and thus may be almost said to nationalize it. All the tables and stools are fitted like those in the schools of the United States, which is an immense improvement on the one long desk and long form to match, which predominate all but universally at home. The instruction given is essentially by lecture and questioning, and I was particularly struck with the quiet, modulated tones in which the answers were given, and which clearly proved how much pains were taken upon this apparently trifling but really very important point.† You heard no harsh declamation grating on your ear, and, on the other hand, you were not lulled to sleep by dreary, dull monotony.

"There are two small schools attached to the establishment, for these Normal aspirants, male and female, to practice upon, when considered sufficiently qualified. Those thus employed during my visit, seemed to succeed admirably, for I never saw more merry, cheerful faces, which I consider one of the best tests of a master's efficiency. The little girls taking a fancy for music, purchased among themselves a cottage piano, which being their own instrument, I have no doubt increased their interest in the study amazingly. The boys have a kind of gymnasium under a shed, which, when released from school, they rush to with an avidity only equalled by that which the reader may have experienced in his early days when catching sight of a pastry-cook's shop immediately after receiving his first tip.‡

"I believe that to this establishment, which was founded in 1846, belongs the honor of being The Pioneer Normal School in the Western Hemisphere. But while giving due credit to the Governor General and the government for their leading parts in its foundation, it should never be forgotten how much indebted the establishment is to the unwearied zeal and patient investigations of Dr. Ryerson, the Chief Superin-

* Some idea of the useful practical information taught in these lectures may be formed by a reference to the following, which are the chief subjects upon which the pupils are examined:—Spelling, Reading, Grammar, Composition, Geography—Mathematical, Physical and Political,—Arithmetic, Algebra, Geometry, Mensuration and Mechanics, Book-keeping, History, Natural History, Hullah's Vocal Music, Natural Philosophy, Agricultural Chemistry, Science of Education, Art of Teaching, School Organization, &c.

† My observations at various schools in the United States, satisfied me that no attention is paid by the teachers to the tone of voice in which the boys give their answers.

‡ The females are regularly taught calisthenics, and the boys gymnastics, by a professor.

tendent of Schools in Canada. This gentleman carefully examined the various systems and internal arrangement of scholastic establishments, not only all over the States, but in every country of the Old World, selecting from each those features which seemed to produce the most comfort, the best instruction, and the greatest harmony.

"With reference to religious instruction at the Normal Schools, Dr. Ryerson has kindly furnished me with the following statement:—'A part of each Friday afternoon is set apart for this purpose, and a room allowed for the minister of each of the religious persuasions of the students, to give instruction to the members of his church, who are required to attend, as also to attend the service of such Church at least once every Sunday. Hitherto we have found no difficulty, reluctance, or neglect, in giving full effect to this system.

"To those who take an interest in education, the report of the system used in Canada, drawn up by Dr. Ryerson, and printed by order of the Legislative Assembly, will afford much pleasure and information; it is of course far too large a subject to enter upon in these pages, containing, as it does, so vast an amount of matter worthy of serious reflection.

"Some estimate of the value of the scholastic establishments of Upper Canada may be formed from the fact, that while its sphere of usefulness is rapidly extending, it has already reached the following honourable position:—The population of Upper Canada is close upon 1,000,000; the number of children between the ages of 5 and 16 is 263,000; the number of children on the rolls of common school establishments is 179,587; and the grand total of money available for these glorious purposes is £176,000. I feel conscious that I have by no means done full justice to this important subject; but the limits of a work like this render it impossible so to do. Let it suffice to say, that Canada is inferior to none of its neighboring rivals as regards the quality of instruction given, and that it is rapidly treading on the heels of the most liberal of them, as regards the amount raised for its support. The Normal School I conceive to be a model as nearly perfect as human agency has yet achieved; and the chemical and agricultural lectures there given, and practically illustrated on the small farm adjoining the building, cannot fail to produce most useful and important results in a young uncultivated country possessing the richest soil imaginable. The Governor General and the government deserve every credit for the support and encouragement they have given to education; but if I may draw a comparison without being invidious, I would repeat, that it is to the unusual zeal and energy of Dr. Ryerson, to his great powers of discriminating and selecting what he found most valuable in the countless methods he examined, and to his combination and adaptation of them, that the colony is mainly indebted for its admirable system. Well may Upper Canada be proud of her educational achievements, and in her past exertions read a hopeful earnest of a still more noble future."

III. FROM A NEW ENGLAND POINT OF VIEW.

The time has arrived when the "schoolmaster" must go "abroad" to gain instruction, as well as to impart it. The teacher who is satisfied with his own experience, and will not take the trouble to inquire what progress others are making, is in great danger of finding that he is detached from the rest of the train, and that the passengers have all gone into the "car forward."

Teachers above all other classes in the community, are favored with frequent and regular vacations, and are, therefore, the more inexcusable if they fail to become in some degree familiar with the systems and modes of instruction that are adopted in the best schools. Most of the teachers of the State are so situated that they can enjoy these advantages with only a moderate expenditure of either time or money.

Availing ourselves of a recent vacation, we went as far as Canada West, and spent several days in studying the educational system of that Province. We stopped *en passant* at Utica, with the assembled teachers of the Key-stone State, and found that the New York State Teachers' Association embraces several hundred of the best teachers in the country, with three times as much intellectual and moral power as they can bring to bear effectively in one organized body. We lingered also at Trenton Falls, near Utica, long enough to learn that it is one of the most beautiful summer retreats that an exhausted teacher could possibly desire.

A few of the impressions received during our visit to Toronto, and facts gathered there, may not be wholly destitute of interest to the readers of the "Teacher."

So much has been written and said of the Prussian system of schools, that well-informed teachers have become familiar with most of its prominent features; but a system of education, in some respects more complete and imposing than that of Prussia, has sprung up on our own borders, which appears to have attracted less general attention among us.

The present system of education for Upper Canada is identified with the name of the Rev. Egerton Ryerson, D.D., Chief Superintendent of Schools. Dr. Ryerson entered upon the duties of his office in 1844, and spent an entire year in examining the different systems of other countries, both in Europe and America. The results of these

investigations were embodied in an elaborate Report, published in 1846, and in a bill for the establishment of an improved system of schools, which became a law the same year. The system adopted by Dr. Ryerson is eclectic. Many of the general features of the school law were borrowed from the system of the State of New York; the principle of supporting schools according to property, was derived from Massachusetts; the elementary text-books adopted, were those published under the sanction of the National Board of Education in Ireland; and the system of Normal School training was derived from Germany. Dr. Ryerson acknowledges himself specially indebted to these sources, but the features he has derived from them are essentially modified in their application.

The course of instruction provided by law in Upper Canada, embraces every grade of school, from the lowest to the highest. The attention of the Educational Department is devoted more especially to the interests of Common and Grammar Schools, and yet it would be difficult to find another country in which an equal amount of pecuniary aid is furnished to students in the higher departments of education. In the University of Toronto, there are distributed annually among the students about sixty scholarships, each worth \$150, besides numerous prizes and medals. The scholarships are given to those who sustain the best examinations in the different branches, at several different stages in their college course.

The Normal School at Toronto is an institution that would be an honour to any country in the world. It consists of a Normal School proper, and two Model Schools. In the Normal School, pupils are "taught how to teach;" in the Model Schools, they are taught to give practical effect to their instructions, under the direction of teachers previously trained in the Normal School. The Model Schools are designed to be the *model* for all the public schools in the Province. The buildings were erected by Government in 1852, and the grounds occupy an entire square of more than seven acres. The whole cost of the buildings and site was about \$125,000. The buildings and premises are by far the most commodious and elegant of the kind in America. The main building is 184 feet long and 84 feet deep, and the extreme height of the cupola is 95 feet. The arrangement of rooms is such that the male and female students are entirely separated, except when in the presence of one of the teachers. More than half of the lower floor is occupied by the rooms of the "Education Office" and the "Map and Public Library Depository."

The Pupils of the Normal Schools are divided into two classes, and the lectures and other instructions are given chiefly by Thomas J. Robertson, Esq., and Rev. William Ormiston. These gentlemen had both been distinguished for their scholarship and ability before engaging in the school at Toronto, and they have shown themselves fully equal to the duties they are now called to discharge. Those who attended the recent meetings of the New York State Teachers' Association, enjoyed the privilege of hearing an off-hand speech from Mr. Ormiston, and it is no disparagement to others to say that it was not excelled by any similar effort during the sessions. Whenever we have occasion again to refer to a speaker who illustrates the *vehement* in style, we shall name the Rev. William Ormiston.

Much of the instruction in the Normal School is given in the form of familiar lectures, but the examinations of the pupils are thorough and searching. The number of pupils in attendance at the time of our visit was about eighty, but this is considerably less than the usual attendance. The course of instruction extends through two half-yearly terms, and embraces both common and higher branches of English study. The course appears to be less strictly professional than in several of the Normal Schools in the United States. Less time is devoted in the Normal department to the theory and practice of teaching; but this deficiency is in a great degree supplied by the extensive practice required in the Model Schools, under the direction of competent and experienced guides.

The Model Schools are more extensive and complete in their arrangements than any in the United States, unless we except the Model Schools at New Britain, Conn., which are unquestionably the best we have. The number of scholars attending the Model Schools at Toronto is about 400.

The business of the "Education Office" furnishes full employment for the Chief Superintendent and his Deputy, with some three or four Clerks. The *Journal of Education* is issued from this office monthly, under the direction of Dr. Ryerson, assisted by the Deputy Superintendent, J. George Hodgins, Esq.

Another important branch of the establishment is the "Apparatus, Map, and Library Depository." An extensive assortment of works in the various departments of literature and science, is kept constantly on hand, and schools and libraries are supplied at cost throughout the Province. The books furnished by this Depository to the public libraries, amount to nearly 100,000 volumes annually.

It may, perhaps, aid in forming an idea of the amount of business transacted by the Department of Public Instruction, to state that the number of letters received by its several branches, amounts to about 500 a month.

At the head of the whole system, are the Council of Public Instruction and the Chief Superintendent of Schools, both appointed by the Crown.—*Massachusetts Teacher*, Nov. 1855.

IV. FROM A NEW YORK POINT OF VIEW.

While contemplating our own progress as a nation, we are apt to fall into the belief that all other communities are standing still. Thus our opinion of the Canadians is unfavourable, and, to many minds, they are little removed above the savage. The same habit of derogation is common also to England, in adjudicating on continental affairs and through the English press are tendered us as truths the vapourings of her egotists. Both people, however, may be somewhat excused for the peculiarity, and especially when we consider that the greater portion of the information respecting foreign countries comes to them either through the discontented of their several communities or otherwise through those who have "left their countries for their country's good." Such instructors are always dangerous and their teachings savour little of truth.

To obtain a just knowledge of things at a distance, we must refer to official papers and peruse them with a liberal forbearance. In such a spirit let us examine the recent reports on Education in Upper Canada, and compare them with those made by our own authorities.

In 1852, the population of Upper Canada was 952,004, and that of the United States in 1850, exclusive of slaves, 19,967,568. The number of persons of school age (between 5 and 20) was respectively 368,552 and 7,134,873.

The following compares the school censuses of the two countries, referring to the years above quoted:

I.—UPPER CANADA.			
	Establishments.	Schools.	Incomes.
Common Schools.....	3,127	194,786	\$647,076
Academies, &c.....	256	8,396	150,104
Colleges and Universities .	8	756	
Total.....	3,391	203,888	\$797,180
II.—UNITED STATES.			
Common Schools.....	80,978	3,354,011	\$9,529,542
Academies, &c.....	6,085	363,096	4,644,214
Colleges, &c.....	289	27,321	1,964,428
Total.....	87,302	3,644,928	\$36,138,184

Reducing the aggregate of these statements to their proportions to the total population and to the school age population, the result compares as follows:

CANADA.		UNITED STATES.	
Establishments..	School pop.	Total pop.	School pop.
1 to 280	1 to 109	1 to 229	1 to 82
1 to 4.67	1 to 1.81	1 to 5.49	1 to 1.96
1 to 1.19	1 to 0.46	1 to 1.24	1 to 0.41

These figures speak for themselves. They tell us that Upper Canada has fewer schools than the United States in proportion to population; but the ratio of scholars is considerably larger than in the United States. The remarkable fact is also disclosed that the pecuniary provision for education is about equal in the two countries *pari passu*; in Upper Canada, \$100 for every 46 scholars, and in the United States \$100 for every 44 scholars. The provisions in proportion to the whole population exceeds in Canada that in the United States. So far, it would appear that Upper Canada is in advance of the United States in its liberality to education. It has, however, fewer school-houses, and this may be consequent on the aggregation of its population, whereas in the United States the population is diffused over a wider space and is considerably less dense. The comparative rate is as 109 to 82, and this is also the rate of attendance in each establishment.

In Upper Canada, the number of teachers was 3,539; in the United States, the number was 105,904, or in the ratio of—in Upper Canada—one to 57.5 scholars, and in the United States, one to 34.4 scholars, making a difference of 67 per cent. in favor of the latter. Much of this difference, however, may be accounted for in the same manner as the necessity for the greater number of school-houses has already been; and again it might be stated that there is a scarcity of eligible teachers in Canada, since none are employed in the public schools who are found deficient on examination. In many states of the Union, there is no bar to the most illiterate becoming teachers, and there are few persons, even in this region, but may confess that they are acquainted with one or more such instances.

For all this no one can doubt that the United States, excluding the slaveholding States, are far ahead of Upper Canada in all that constitutes educational means and educational success. The same superiority, especially in numbers, applies to every grade of schools. We have more efficient colleges and professional schools; more numerous academies, and a more complete system of common schools. Of the normal school at Toronto much might be said, and that in proper

and also of the Canada system of school libraries. These are not surpassed in any of our States. It is the Slave States that hang as a millstone about our neck: we participate in all their degradation, and thus in the fairest portion of our system we can, as a whole, scarcely compare with our young and vigorous neighbour. No, indeed; Canada has none of this oppressive monstrosity to contend against, and hence it has progressed and will progress, and that rapidly. Without envy we bid it God speed, and should it eventually pass us in the race the fault lies in our own social system, and we have no other party but ourselves to blame.

The annexed table exhibits the progress of the educational means of Upper Canada, and the result since 1842:

Year.	School pop.	Colleges.	Acad's, &c.	Com. Sch'ls.	Scholars.
1842	141,143	5	69	1,721	65,976
1843	—	5	—	—	—
1844	183,539	5	85	2,810	96,756
1845	202,913	5	95	3,736	120,062
1846	204,580	5	111	2,589	101,912
1847	230,975	6	160	2,727	131,360
1848	241,102	6	152	2,800	135,295
1849	253,364	7	196	2,871	144,409
1850	259,253	7	283	3,066	159,616
1851	258,607	7	281	3,001	175,895
1852	262,755	8	244	3,410	189,319
1853	268,957	8	256	3,127	203,936

The number of teachers in 1845 was 2,890, and in the years succeeding 2,925, 3,028, 3,177, 3,209, 3,476, 3,277, 3,338, and 3,539, respectively.

The following exhibits the proportion of scholars at school to the whole population in the undernamed countries:

Upper Canada	1 to 4.7	Saxony	1 to 9.0
Lower Canada	1 to 3.2	Belgium	1 to 8.3
United States	1 to 5.5	Holland	1 to 14.3
Great Britain	1 to 7.0	Austria	1 to 13.7
Ireland	1 to 14.5	Greece	1 to 18.6
Denmark	1 to 4.6	France	1 to 10.5
Sweden	1 to 5.6	Russia	1 to 50.0
Norway	1 to 7.0	Portugal	1 to 31.5
Prussia	1 to 6.2	Spain	1 to 42.6

It will be seen from the above comparative table, and need scarcely be stated here, that in Lower Canada the educational status is much inferior to that of Upper Canada. But even in this section of the Province, there has been much accomplished, and many of the barriers which formerly negated all attempts at improvement have been thrown down.

From the Report for 1853, it appears that in Lower Canada the total number of educational institutions was 2,418, and of scholars 108,284. These are represented in detail, as follows:

2,114 Elementary Schools	with 92,275 scholars.
67 Model Schools	with 3,524 scholars.
53 Superior girls' Schools	with 3,041 scholars.
19 Academies	with 1,169 scholars.
14 Classical Colleges	with 2,110 scholars.
44 Convents	with 2,786 scholars.
35 Independent Schools	with 4,923 scholars.

The number of teachers of all grades was 2,212, of which 808 were males and 1,404 females. The amount expended for wages, school-houses, &c., in the year, was \$275,587, of which sum \$109,739 was appropriated by Government, and \$165,848 was derived from assessments and contributions. Of the whole number of scholars attending schools

- 55,351 were learning the alphabet and reading.
- 27,865 could read well.
- 50,072 could write.
- 18,281 were learning simple arithmetic.
- 12,418 were learning compound arithmetic.
- 12,185 were learning geography.
- 6,788 were learning history.
- 15,358 were learning French grammar.
- 7,066 were learning English grammar.

—New York Tribune, December, 1855.

THE "LONDON TIMES" ON CANADA AS REPRESENTED AT PARIS.

Canada has had many compliments paid to her for her representation at London in 1851, and at Paris in 1855, and to receive them is pleasant. The *London Times* exceeds itself and all other papers in the article, which we copy below, from its impression of the 7th ult. The circulation of such views cannot fail to produce the benefit that we have ever hoped from this Exhibition:—

We have said that the interesting characteristics of separate nationalities have been broken up by the piecemeal way in which the Exhibition has been completed, but in some respects, perhaps, it is not to be regretted that such should be the case, for one result is that visi-

tors are enabled to concentrate their attention upon specialties which amid the grandeur and more comprehensive attractions of 1855, scarcely obtained the notice or consideration which they deserved. For example, we were not then, as we are now, fascinated by that rivalry between the most advanced productions of private enterprise and of Government establishments which strikes us in the contrast between Minton and Sevres, between Whitcomb and the Ecole des Arts et Mé-tiers, between the Engineering works of English enterprise and those of the French Ponts et Chaussées Corps. In Hyde Park, with a free-trade policy established, it was not necessary, as now, to take the measure of that remarkable system, made up of protective duties on the one hand, and of Government patronage and endowment on the other, under which the natives of the country are seeking to rear the fabrics of their special industries. Nor had we much inducement or opportunity there to study with the attention which they undoubtedly deserved the contributions of those new and now just rising into form and consistency in fresh regions of the world, and moulded from the overflowing materials of European civilization. Of all the subjects of interest which the Paris Exhibition presents to an enquiring mind, the last is certainly one of the most striking. What can be more delightful than to watch the first stages of progress in infant communities—how hardly and industriously, applying every resource of modern science and skill, they hew out wealth and independence for themselves from primeval wilds—how they subjugate nature with a rapidity and completeness unknown in any past age of the world, and self-governed and self-relying, tread with confidence in the face of the nations, the path of greatness to which their destiny manifestly calls. That is the touching and sublime spectacle which, with pride in his heart, every Englishman will scan as, making the round of this Exhibition, his steps lead him to where our colonies unfold their young resources. Let us take our readers with us through the Canadian Department as a specimen of the rest, and invite them to ponder well over the significance of a display possessing little external beauty, but not the less pregnant with that moral and intellectual interest which we have endeavoured thus faintly to indicate. On entering the department, the first objects that attract attention is a great timber trophy, occupying the centre, and in which are collected specimens of all the more important results that our adventurous emigrants have won with their axes and strong arms from the "backwoods" of the "far West." There are sections sound to the core, of the trunks of all the most useful timber of commerce, including oak, yellow pine, black walnut, maple, beech, birch, cherry tree, and hickory, and, close beside the wood itself, its manufactured products, turned out by machinery at a price which, even to Englishmen, with their wealth of mechanical appliances as compared with other countries, appears fabulously low. There are window frames complete, with jalousie blinds on the French pattern, for 7s, and doors with their framing, ready for use, for 16s, and mouldings, 8 inches wide and 100 feet long, at the same price, and capital oak wheel-spokes for 5d each, and beautifully turned and shaped handles for axes in the best material for 6d, and oak flooring, ready made at 20s per 10 square feet. Even the waste of this branch of manufacture has, in a careful spirit of industry which cannot be too highly commended, been overhauled, and among the objects to which the attention of the European markets is thus invited, gigantic shavings, which give some idea of the scale of the operations in wood, are included. In other portions of the space are exhibited a number of objects further illustrating the advanced state and capabilities of this branch of colonial industry, and among them may be specially mentioned a good, strong wooden bridge of 150 feet span, costing only £600, and the part of a strong box for packing sugar, which go into the smallest possible space when in pieces, can be put together when required at once, are much better for stowage and in every other way than hogsheads, and cost only 2s. Following up this subject of manufacturing in wood, we find the Canadians exhibiting, at the opposition end of the Annexe, some excellent and ingenious machines for working in this material. One of these, shown by Mr. Munro, is capable of performing seven different operations in planing, tonguing, and grooving. Another, for heavy ship carpenters' works, by Mr. Rodden, besides its special merits, points to what the colony is doing in the formation of a commercial marine; and besides these there is an ingenious nail-making machine and other interesting objects.

So much for the results which Canadian enterprise has extracted from the forests which it has to vanquish that these vast provinces of the British empire may be subject to the full dominion of civilized man. Now what has Canada done in agriculture, the next stage in the great progress of young communities. She has not carried away the prize for the finest cereals, but her display of agricultural produce is superior to any other in the cleanness of the different kinds of seeds, the evenness of their quality, the compactness with which large samples in proper bulk are exhibited, and the admirable variety in which the most useful fruits of the earth for human use are shown. Not only is the abundant and varied fertility of the soil perfectly illustrated by the actual produce in its unmanufactured state, but the collection

includes wheat of the finest color and grain—biscuit still, after the lapse of months, fresh and palatable to the taste, for 4½d. per lb—and, more important still, a mode of preserving and economizing without salt or other expensive processes the vast supplies of animal food which are at present lost for the want of some simple method by which they can be brought into the great markets of the world. This preserved meat is exhibited in powder, and not in cakes, as was the case with Jael Border's biscuit which attracted so much attention in 1851. It appears, however, in other respects to be manufactured much in the same way, and is said to possess the same remarkable quality of swelling into bulk when combined with hot water. We must not forget to notice, among other striking features of the Canadian display, some excellent specimens of oil cake, the use of which in the colony, apart altogether from the question of commercial profit in exporting it, marks significantly the advanced state of agriculture there.

It was hardly to be expected that these provinces, not yet emerged from the first labours of settlement, should, nevertheless, in a rough way have taken count of their mineral resources. Yet such is the case. In this Exhibition, the Canadian Commissioner, Mr. Logan, himself the surveyor of the geological structure of the colony, and a man of rare scientific attainments, has arranged a magnificent collection of all that in this field of industry the provinces may be expected to yield. Here are found building stones, and slate and marbles, masses of phosphate of lime embedded in calcareous rocks and whetstones, and sandstone so pure as to be considered well fitted for use in glass manufacture. Here, also, is a good display of copper ore, rich enough to promise for the future, and great blocks of magnetic iron, containing 65 per cent. of the metal, being in itself a natural loadstone, and extracted from a bed 500 feet thick. Unfortunately, there is no coal. The American field terminates just beyond the verge of the southern frontier, and this great source of wealth is withheld from the colonists—who shall say for what wise purpose? Perhaps to stimulate their industry in clearing away those interminable forests interposed between western civilization and the Rocky Mountains. Certainly we may hope to enable Canada to compete with Sweden in supplying our iron trade with an abundance of the finest quality of iron smelted with wood charcoal.—Like Australia, Canada has her goldfields, and Mr. Logan exhibits numerous specimens of nuggets collected there but with exemplary patriotism, he expresses, in showing them, his hope that these fields may remain unprospected by the digger so that the sturdy industry of the colony may escape that source of demoralization.

From the water as well as the land these provinces illustrate in the Paris exhibition the abundance of their resources. In 1851 they showed a new leather, formed out of the skin of the porpoise, and possessing remarkable strength and durability. The novelty on this occasion is isinglass, which is now obtained in large quantity and of the best quality by the colonists, acting on a suggestion made by Professor Owen four years ago. They are not the men to neglect such hints, and the result is that we are now able to look to a fresh source of supply for a valuable material, which, until the war commenced, we drew almost entirely from Russia.

Of such articles as edge-tools; boots and shoes, harness; carriages, agricultural implements; and fire engines, in all which the Canadians have now a species of recognized excellence, their Paris collection is complete. The temper of axes is superior to that of Sheffield; they show 2s.6d. per pair warm winter boots; such as are used by our troops in the colony, and are admirably adapted for withstanding intense cold in a dry climate. Prince Napoleon has bought one of the beautiful light hickory-built carriages which they exhibit; and, as to the fire-engine, Mr. Perry, the shrewd superintendent of the department, who has had some experience in fires, asserts that with 16 men it will do as much work as one of ours with 24.

Such as a whole, is the Canadian Exhibition here selected by the Government from local exhibitions held previously at Montreal and Quebec, and sent at the public expense to Paris to shew what can be done by a young community on the furthest verge of our western civilization, with equal law, and left by England, the mother country, to find its own feet and proper level among the producing Powers of the world. Has the philosophic mind not reason to feel confidence in the future destinies of human industry when it traces in the rising States of the earth manufacturing energies so forward and vigorous; directed to objects so strictly in accordance with the material necessities of the position they occupy?

The *Times* further remarks, in speaking of the value of these Exhibition:—

“A striking illustration of the use of such exhibitions will be found in the isinglass from Canada. Knowing that the sturgeon abounded in the North American rivers, and struck by the absence of isinglass from the quarter in 1851, Professor Owen drew the attention of the Colonial Commissioner to the fact, introducing him to the chief London importer of that article. What is the consequence? Why, that when our English Cuvier visited the Canadian department of this Exhibi-

tion, the same commissioner drew his attention to the specimens there displayed, and gratefully recounted the success which had attended the efforts to establish a commerce for this new and valuable product, which, previous to 1851, had been rejected among the useless entrails of the sturgeon. ‘The value of the isinglass from this fish,’ says Professor Owen.—‘Is chiefly due to its peculiar organic texture, on which its property of clarifying wines and beers depends; no artificial isinglass, however pure the gelatine, or identical as to chymical composition with the air bladder of the sturgeon, answers the purpose of the preparers of fermented liquors. Hitherto Russia has been the chief source of the supply of isinglass. Our present relations with that country add to the development of the same product in one of our colonies, and it might be recommended to the colonial authorities to afford every due encouragement, aid and instruction to the Canadians living in the vicinity of the rivers and lakes, in the capture of sturgeons and the preparation of the air bladder and the outer tunic of the alimentary canal, after the modes of obtaining the best Russian isinglass.’”

CANADA AT THE UNIVERSAL EXHIBITION OF 1855, IN PARIS.

From the Montreal Herald.

We are now in receipt of official documents regarding the great Exhibition of 1855 in Paris. They give a most minute and, we believe, extremely impartial description of the nature and value of the numerous articles which the different countries on the face of the earth have contributed to render this Exposition one of the most brilliant that ever took place. In the grand catalogue of countries mentioned in these documents, Canada has not been forgotten, and the following extract which we translate from the French original will show better than anything else in what high estimation this Province is held in France by persons most competent to judge of the utility and value of the natural and industrial productions of a country. The extract in question reads thus:—

The graceful trophy, erected in the centre of the space allotted to Canada, (in the building of the Exposition at Paris,) at once indicates the special character of the productions of this country. Barrels containing articles of food, as grain and preserved meat and fish, have been ranged at the foot of the trophy. On the upper part appears a collection of blocks of timber which support the implements of the agriculturist and wood cleaver. Samples of fur and British flags crown the summit.

In 1853 the value of the export of wood amounted to 47 millions, precisely one-half of the value of the total export. This sufficiently proves of what importance those immense forests, which cover a great part of the soil of Canada, are to that country. The samples of walnut are magnificent.

The Canadians know how to skilfully employ the natural richness of their country. All the turning work sent to the Exhibition is remarkably well done, and so is the cabinet ware. The trophy contains a well constructed door, the price of which does not reach seventeen francs; in France a similar door would cost at least twenty francs.

Grain is a very important article of export for Canada, and the Montreal gardeners have preserved the traditions of the beautiful French culture; they export their fruits and vegetables to several parts of North America.

Although a war of extermination has somewhat depopulated the forests of Canada there are many beautiful furs at the Exhibition, among which those of black and silver foxes deserves especially to be mentioned. The price of this sort of fur is incredibly high and reaches sometimes 500 francs for one single black fox hide. The trophy is surmounted by a beaver which interesting animal has almost disappeared.

The Gulf into which the waters of the St. Lawrence flow is well known for its extreme abundance of fish, and the fisheries there add considerably to the wealth of Canada.

The minerals of the country chiefly consist of iron and copper. Considerable beds of native copper have recently been discovered near Lake Superior, and their exploration has already commenced. The Exhibition contains several beautiful samples of this copper, as also of pyrites of copper and malachites. Sulphate of zinc, argentiferous galena and native silver and gold, complete the beautiful collection of the metallic productions of Canada.

Long since inhabited by Europeans, the country already possesses a notable industry, pretty carriages, beautiful tissues, a fine collection of ironware, which show that the time is perhaps not far distant when the importation of manufactured articles will no more have that importance to Canada which it still retains. The agricultural machines of Canada are decidedly not inferior to even those of England.

Finally, the enormous works of art undertaken by Canada show her riches; the country is covered with a net work of railroads joining from all sides the St. Lawrence, which is the great vein of North America, and has by immense works been brought into communication with the Lakes. The facilities of navigation, and the cheap rates

of travelling for the conveyance of merchandize, will give this grand route a decided importance with regard to the communication with Western America, and make it a serious rival to the Canal of the State of New-York. The great river itself will soon be crossed near Montreal by a railroad bridge; its length will be two kilometres (about 6,156 feet.) A colony which executes similar works to avoid the expense of transshipment, is certainly enjoying a fine state of prosperity."

JOURNAL OF  **EDUCATION,**
Upper Canada.

TORONTO: DECEMBER, 1855.

* * * Parties in correspondence with the Educational Department will please quote the number and date of any previous letters to which they may have occasion to refer, as it is extremely difficult for the Department to keep trace of isolated cases, where so many letters are received (nearly 500 per month) on various subjects.

THE ANNUAL ELECTION OF TRUSTEES.

We have so frequently referred to the highly important duty which devolves annually upon the school electors in each School Section of Upper Canada, that it may not be considered necessary to repeat it. Still, an anxiety to impress upon the minds of the people the absolute necessity of circumspection in the discharge of their duty at the approaching annual school meetings, induces us again to refer to the matter.

The successive School Acts have invested the office of Trustee with great authority, ample powers, and a corresponding responsibility and dignity. No man should aspire to this office who does not fully understand and appreciate the spirit in which it should be exercised. Intelligence, integrity and a large liberality should invariably characterise him; so that in his official intercourse with the Teacher, the inhabitants of the Section and the children of the school, he could command their personal respect, and the ready assent of all parties to any measure designed to promote the interests and prosperity of the Section.

On the other hand, the inhabitants of a School Section should exercise great discrimination in the selection of these important officers. The Trustees possess the sole authority to select and employ the Teacher of the Section, to impose the rates, build the school-house, direct and manage the library, and, in short, perform all those executive duties of the School Section, on behalf of the inhabitants, which pertain to the office. While, in the performance of these important duties, the Trustees should, when once in office, be cordially sustained by the inhabitants, great care should be exercised in their first election. It must be obvious to every one, that to take little interest in the annual meeting, and to exercise little discrimination in the selection of the Trustee representative of the Section, and afterwards to display a disproportionate sensitiveness at every act of the Trustees, and an indiscriminate opposition to every measure involving the necessary expenditure of money, is not the way to remedy the evil complained of, but rather to increase it, by creating ill-feeling in the Section, and embarrassing the Trustees in the lawful performance of their duty. The duties of Trustees are clearly defined: they must keep open their school for at least six months of the year; they must provide a qualified Teacher, and pay him a liberal salary; they are responsible for

the books in the library, and the maps and apparatus in the school; they must keep the school-house and premises in a proper state of repair, besides incurring other necessary expenses on behalf of the inhabitants and for the Section, in which they can only have no more personal interest than any of their neighbours. If they do not faithfully perform all these duties, they either subject themselves to a fine, or incur personal responsibility. They must discharge their liabilities, and are therefore bound to exercise all the corporate powers with which they are invested for the fulfilment of their contracts and engagements. These facts should not be lost sight of, but a careful consideration of the matter should lead to a deeper interest in the schools generally, in the ordinary examinations, and in the annual meetings of the Section. This would promote a more united action on the part of the Trustees and people in sustaining and perpetuating those invaluable institutions for the enlightenment and social elevation of the County—the Common Schools, not unaptly termed the Colleges of the people.

TO LOCAL SUPERINTENDENTS AND TRUSTEES.

Early in the present month the blank forms of half-yearly and yearly returns were sent to local Superintendents for distribution among the rural School Sections. Local Superintendents should see that each Section is promptly supplied with a form. Any additional copies which may be required, can be obtained from the Department.

The half-yearly returns should be sent to the Local Superintendent during the first week of January; on the 12th of January the last half year's instalment of the School fund, (which is, by the 27th section of the School Act of 1850, made available whether collected or not,) will be payable to teachers, upon the check of the Local Superintendent; and any treasurer refusing to pay such lawful order, after that date, can be sued for the amount by the teacher holding it. The Trustees' annual report is required by law to be read at the annual school meeting, on the 9th of January, and then sent to the Local Superintendent, on or before the 15th. If delayed after the 31st of January, Trustees are liable to a fine of \$5 for each week's delay.

The blank forms of reports for Grammar and Common School Boards of Trustees, and for Local Superintendents, &c., will be sent out in due time, without further application on their part.

The school registers were despatched some time since, as intimated in the *Journal* for October.

A copy of the new edition of the Common School Acts will be sent early in January, to the Trustees of each School Section in U. C.

TO TEACHERS.

It should be borne in mind by teachers (as intimated in the *Journal of Education* for May, 1854, page 86), that in order to avail themselves of the Superannuated Common School Teachers' Fund, it will be necessary for them annually to transmit their subscriptions, beginning with 1854, to the Chief Superintendent of Schools. No teacher, now engaged in teaching, will be entitled to share in this fund who does not thus contribute to it annually. Subscriptions should be sent in as early in the year as possible.—See Chief Superintendent's Annual Report for 1854, pp. 234—237.

THE UNITED EMPIRE LOYALISTS.

How little is known of the "pre-historic annals" of Western Canada! A belief that there settled on the shores of the great lakes, about the time of the Revolution, a number of men and women distinguished by the above name, is the sum of the knowledge possessed by very many of the present inhabitants of the colony, which these very people called into existence. What brought them there at that period, whence they came, how they did, what they suffered, are all questions seldom asked, and more seldom answered. Nor shall we at this time reply to them, any further than by saying, that these people were devoted subjects of the British Crown, who would not and did not join in the war of Independence, but took up arms for the United Empire, and who, when the victory went with the colonists, refused to abandon their allegiance, and, suffering the confiscation of all their earthly goods, went forth, in 1783, to seek a home in the wilderness of Canada.

In us, no ignorance of history can be more reprehensible than that which we now censure. It amounts to an utter obliviousness of our peculiar story. And surely, if a man would know anything of the life of nations, he should first know a little about the origin of his own. Here, then, we are, in the sixty-second year of our being in Upper Canada, with the only men who could accurately inform us, fast dying, if not already dead, all but grossly ignorant of our provincial parentage and birth. Such indifference is to be expected in barbarians, and the historian of this age sighs over the "hollow waste" which these have left our fancies to fill up; but in us it is wholly unpardonable, and, unless an effort be soon made, its consequences will be, to a large extent, irretrievable.

But, irrespective of our future, such carelessness is a cruel injustice to our fathers. We should know who they were. No bar sinister stains our escutcheon. They were men of whom we need not be ashamed. The United Empire Loyalists form an ancestry of which any people might be proud. They had every characteristic which can go to constitute an enduring substratum for a coming nation. They were men, of whom the descendants of contemporary foes, now utter disinterested eulogies. Respecting them, even prejudice is dead, and the grand-child of the Revolutionists can speak generously of the Political opponents of his ancestors. More is known and thought in Boston of the virtues of the Canadian Loyalists, than in this land, where their honor was tried as in a crucible, and their undistinguished ashes repose. And this is wrong. They merited a better fate, at all events, from us. They are *our* Pilgrim Fathers. They are our heroes. They were martyrs to their principles. Believing that a monarchy was better than a republic, and shrinking with abhorrence from a dismemberment of the empire, they were willing, rather than lose the one and endure the other, to bear with a temporary injustice. And their sincerity was put to the test. They took up arms for the king; they passed through all the dangers and horrors of civil war; they bore what was worse than death itself—the hatred of their countrymen; and when the battle went against them, they sought no compromise but forsaking their most splendid possessions upreared the banner to which they had sworn fealty, and, following where it led, went forth to seek, on the then inhospitable shores of Ontario, a miserable shelter, in exchange for the home from which they were exiled. Nor did they ever draw back. The Indian, the wolf, the famine, could not alter their iron resolution; and for their allegiance, they endured a thousand deaths. They lost every treasure but their honor, and bore all sufferings but those which spring from self-reproach. A still surviving and venerable son of that band, flushed with the feelings of his father, tells us that "their loyalty consisted of something more than a name. They did not stop even to weigh their lives with the crime of treason." Thus they lay down in the wild woods, "with a conscience void of offence, and in the enjoyment of that peace and tranquillity, which was a result of the performance of their duty, no less to God than to their king," such were the sentiments of the United Empire Loyalists, once more uttered by their aged descendant, and here repeated by us, that this generation may know the chivalrous race which has passed away.

It may be said by some, that all men now admit the Revolt of the American Colonies to have been a just one. And such we believe it was. They were ill-used. A foolish King sought to tread on them. We all know, and have said this a thousand times. But the fact that George the Third played the tyrant, makes nothing against our LOYALIST FATHERS. They were not tyrants, but faithful subjects. In many instances they held the Royal views, and even when they did not altogether endorse them, were willing to bear an evil which seemed to them little, when compared with what they deemed rank rebellion. We are as much bound to believe that they acted conscientiously, as we are bound to believe that those did so, who took the opposing side.—It was a question of opinion, and they made their election. As provincials, they had the right to make what choice they pleased. The dispute affected themselves. Thus, sentiments which in the King were tyrannical, and commands, which, when issued by him, we utterly condemn, are when held, and performed

by the Colonists themselves, to be spoken of in a wholly different tone. They might be in error as to the use of the prerogative, but that creed cannot be a tyrannical one, by which we will to manage our own affairs. A man cannot be a tyrant to himself. George the Third acted despotically; the mass thought so; but the LOYALIST FATHERS were of another mind. Therefore, while the King did wrong, all that can be said of those who adhered to him is, that they differed from the majority of their countrymen as to the extent of his power. We find them then following the dictates of principle; we find them doing so in the face of ruin; we know, therefore, that they were sincere; and so, giving to them that freedom of judgment which we claim for ourselves, we see in them only fellow subjects, to whom we are bound by every tie which can unite the successive generations of a people.

In reality these men need no defence. But inasmuch as the world at large, now view the history of that period in another light, and not a few seem prone to condemn all who, two generations back, did not think with themselves, we deem it not an idle thing to vindicate the Heroes of the Province, from the unfair remarks which have often been made about them, and to urge their claims on our filial respect. It will be remembered, too, by all Canadians, that these men's deeds have been narrated by their enemies, and that we have heard of them oftener from those who most abhorred them. But this will not do. The Loyalists are our own men. Their reputation is ours. We must put ourselves, therefore, in their circumstances, and while we may not now see all things as they saw them seventy years ago, we are called on to defend them where we can, and to honor them always. Nor in doing so, is there any need for us to abandon any principle. We have nothing to do with the points in which we differ. It is our business to honor them for those in which we are agreed.

The Americans have set us an example in this direction. Their Puritan Fathers are held in perpetual remembrance. Men make pilgrimages to the place where they landed, and Plymouth Rock is now their monument. And yet the American people do not agree in every iota with these worthies. There are multitudes who can see in their principles, points, where there is room for difference, and in their conduct, some things to censure. On one matter, however, all are agreed, and this is to admire their zeal for Religious Liberty, and to reverence men, who could bear so much for the sake of their convictions. Precisely similar should be our treatment of our LOYALIST FATHERS. There are points in which we differ from the opinions which they held, but we can all agree in admiring their attachment to the Mother Country, and the patient sincerity with which they suffered for their loyalty. Thus we should venerate them. Nor do we know any better mode of doing so, than by seeking to learn more about them. To this end efforts should be made. Nor need there be any difficulty. There are those in Canada, whose position, talents, and connections, give them many facilities for full investigation. Why, for example, could not our Superintendent of Education perpetuate their story? The son of an U. E. Loyalist himself, such a work would be a graceful tribute to his ancestors, and a solid contribution to the literature of his country. Something must be done, in justice alike to the past, and to coming generations. Nor can we believe that the growing intelligence of the Province, will fail to produce some one patriotic enough, to tell the world a tale of lofty principle and noble sacrifice, which when set forth as veritable history, will kindle a healthful glow in every bosom. No people has made a figure in the life of nations, without its heroes. The LOYALIST FATHERS are the heroes of Canada. Let us therefore know all about them.—*The Globe*.

WHAT A SCHOOL TRUSTEE SHOULD BE.

The time is now coming when another election of these functionaries must take place, and the subject is of too much importance to be neglected, if a word of advice as to the duties of electors, and the requirements of candidates, can be of any service. The position of a School Trustee is very important. It is his business to assess the city for school purposes; he it is who must examine into the education wants of his fellows; on him also devolves the duty of appointing Teachers, and examining these when appointed, and looking to the progress of the children under their care. Now, for the performance of such onerous and honorable services, varied qualifications are requisite. On Trustees sacred responsibilities rest, and they should ever be persons worthy of implicit confidence, and capable of wise and careful action. The mere matter of assessing demands the exercise of sound judgment; for, while it is of primary importance that the full sum needed be forthcoming, it is also important that no more rate should be laid on than the good of the city requires. No tax is more cheerfully paid than that for our Schools; but for this very reason, those who send the Collector to our houses, should be careful about the amounts which they authorize him to collect. A School Trustee, therefore, should be a good and honest man of business. If he is not, he is unfit for the office. New School-houses have likewise to be built, and much care is required in deciding on a plan, and seeing that the public work is

well performed. Here again the business man is necessary. But intelligence of another sort than that which is generated at the desk is also needed; the Trustee must know enough of school architecture to provide for the convenience of the teachers, and the health of the taught. And as a great deal of a child's education depends on the accidents which encircle him, this officer should likewise have taste and refinement enough, to care for and create these little accessories which so greatly tend to imbue the young with self respect, to banish coarseness, and to develop elegance. Education is not all done when a lad can read, write, and cipher; we wish to make him feel that there are graces to be cultivated, as well as utilities to be acquired. Further, the Trustee has to choose instructors, and he cannot possibly do this unless himself be instructed. A man of small education cannot judge of the tutorial qualities of one who has much. He may be able to say that people are as ignorant as he is, but he cannot tell whether or not the candidate for a teachership be competent to teach. To judge properly of such a matter, a Trustee would almost need to be himself a teacher; but since we cannot elect this class of men, we have a right to expect that those who do sit in judgment on the qualifications of others, should themselves possess some knowledge. An ignorant, uneducated School Trustee is an absurdity. Far better put in a straw man than such an one. The stuffed figure would at all events do no harm. Again: how can an uneducated man examine a school? How can he tell whether the method of the teacher be good, and his success adequate? He may count heads, but he cannot possibly comprehend what is in them. He cannot discern between good and bad, between something and nothing. Probably many of the children know more than he does. Undoubtedly the master is better informed, otherwise he is not fit to be there. The result is that such a person may praise what is censurable, and may censure what should be praised. His report is not worth a groat. Like the Scotch Provost, when the boys read Cicero, he may hold the book upside down, and be in raptures with the translation. A school Trustee should be a man of much respectability in every way. The children look up to him, and can think but little of the system, when they see among the magnates, those with whom, in private, they possibly might not associate. People may tell us that our standard is too high; but we answer that this is impossible. A school Trustee cannot be too good a man; if there be an important office it is his; and if there be a duty laid on the citizens which they should conscientiously discharge, it is that which is involved in the choice of such officers. Our system is yet in its infancy, and all depends on the first start. It seems almost ridiculous to add, that *party spirit* should have no place in this business. The question for voters to ask is, who is the most active, intelligent, and reputable man to be set over the educational concerns of the rising race? Let each, at the next election, make this enquiry, and act accordingly.—*Globe*.

Papers on Practical Education.

SIMULTANEOUS ANSWERING.

One of the chief improvements in Education, made by Mr. Stow, is a method of communication, styled by him "a picturing out in words." In this method simultaneous answering holds a prominent place; and it ought, accordingly, to be clearly understood, and regularly employed by all teachers who profess to act upon the principles of his system. As far as our experience goes, there is no point in the Training System which is more frequently misunderstood and neglected, even by its professed advocates; and hence it is no wonder if persons indifferent or opposed to it, should ridicule its use. We are fully convinced that it is by far the most efficient instrument known, for the purpose of collective teaching, and consequently we are anxious to point out its use, and to guard against the perversion of it.

For obtaining simultaneous answers from a large class, no special arrangement is absolutely necessary. A thoroughly skilful teacher is able, with almost any arrangements, to elicit such answers; but, nevertheless, as a general principle, the closer the arrangement of the children, and the more complete their exposure to the eye of the teacher, the better. As these two points are best secured by a raised gallery, this should be secured, if possible, by every one who intends habitually to employ collective teaching; and we shall for our present purpose, assume that a large class (say 60 or 70) is to be taught in such a gallery.

When any attempt has been made to deviate from the mere exercise of memory for words or facts in education, some form of questioning has been almost invariably employed. A distinction has been drawn by Mr. Stow, between questions, properly so called, and eclipses; but it goes no farther than to shew that the eclipse is merely an indirect form of questioning, calculated under suitable circumstances to carry on the current of thought or explanation more quietly and agreeably, than can be done by employing the direct form. We may, therefore, take for granted that in every attempt to develop mental power (in contradistinction from the mere inculcation of facts), a system of question and answer will find place. Excluding purely Catechetical Examina-

tions, in which a set answer is given to a set question, it appears to us that there are only three kinds of answering possible; and these we shall speak of as individual, indiscriminate, and simultaneous answering. Each of these has its proper place and use in collective teaching; and what this is we shall now attempt to show.

Individual answering requires no explanation of its nature, further than to state that each child is asked one or more questions in rotation; to which it answers as well as the extent of its information will allow. When a small class only is to be taught, this plan has many advantages, and it should never be neglected; but with a large class it becomes inapplicable. In the case now before us, if we allow only half a minute for the putting the question, for the child's consideration of it, for his reply, and for the teacher's approval, rejection or modification of it, it is plain that half an hour must elapse before the same child would be questioned again. There are a few exceptional cases in which children of superior information, and great mental activity would sustain their attention through all this period; but undoubtedly the great majority, knowing by experience that they would only be questioned twice an hour, would withdraw their attention, and content themselves with a desultory attempt at answering the questions addressed to them, individually. The great waste of time, the bad mental habits thus induced, the consequent want of progress, and the almost inevitable disorder, form insuperable obstacles to our relying on this process alone for the instruction of large classes.

By indiscriminate answering, we understand the answers given by an indefinite number of children in a class; to a question addressed to all. The process is only too often exemplified by unskilful teachers. They ask a question, and hearing from somebody a right answer, they signify their approval, and proceed to ask another question to be answered in a similar manner. Or it may be that they observe a wrong answer, and express their disapproval, or attempt to exhibit the error by a series of similar questions answered in the same way. This is, obviously, nothing more than a conversation between the teacher and a few of his most advanced pupils, leaving the mass of the children in complete inactivity and ignorance. Those who answer, learn comparatively little, since they mostly do it from their previous knowledge; and those who do not answer, in nearly all cases, learn nothing at all, and form the very pernicious habit of listening to a speaker without making any effort to comprehend his meaning. The mistaking this for simultaneous answering, has prevented many teachers from making efforts after a more excellent way; and has caused much discredit to be cast on collective teaching by imperfectly informed persons, such as Inspectors, or Patrons of Schools. Taken by itself, it is a practice even more inefficient than purely individual answering; and it should be carefully shunned, though, as we shall now proceed to shew, methods are very valuable when properly applied.

A simultaneous answer, in our sense of the term, is an answer given by all, or by nearly all the children of a class, *as the result of a previous educative process*. Where this previous process has not taken place, the answer is merely indiscriminate, how few or many soever have united in giving it; and its value comparatively small. Questions addressed to children may involve various degrees of difficulty. If the question refers to something familiarly known, it may probably be answered by all; if, on the other hand it refers to something entirely new to the class, it may as likely be answered by none. The real use of such extremely easy or extremely difficult questions consists in their serving to guide the current of thought in those directions in which the teacher wishes it to flow, to introduce a new subject, or to recall old knowledge of which he wishes to avail himself. Between these two extremes, questions of any degree of difficulty may be asked, and they constitute the first step in the educative process above alluded to. The answer given to such a question is an indiscriminate one, and the purposes it serves are chiefly to keep the more advanced members of the class active, to encourage thought among them, to promote a kindly species of emulation, and to carry on the process of instruction in a manner more interesting to the children, than could be done by stating each successive points of the lesson as a separate proposition. In most cases, if the questions are not reasonably difficult, perhaps an answer will be got from half a dozen children.

This answer may be right or wrong, and must be dealt with accordingly. In either case the second part of the process now begins, and the purpose of it is to correct what may be erroneous, to complete what may be partial in the children's knowledge, and to render the information and thought of the few, the property of all. Merely allowing the children a little time to dwell upon what has just been brought before them is sometimes sufficient, and this may be done by simply inverting the answer given, and making an ellipsis; or by asking the question again in a simpler form. But, if this is not sufficient, (a point which the scarceness of the answers given will sufficiently indicate), we must then resort to familiar illustrations of the topic under consideration. Of course such an illustration, to be of any value must be familiar to the children, not merely to the teacher. This turning over of each successive point before the minds of the children, simplification by means of analogies, and presentation of it in various lights, if suc-

cessful, makes it the property of all; and we now arrive at the third stage of the process, which is the simultaneous answer properly so called. The teacher reverts to the points which was the subject of the first indiscriminate answer; he presents it again, either as a direct question, or as an ellipsis, and the answer ought now to be given by all, or nearly all the children. The simultaneousness of this is the test of success in the preceding part of the process; and if it is not attained, the illustration by analogies, &c., must be recommenced, however great the demand may be on the teacher's patience; and the success of this further illustration must be tested again in the same way. Every successive step in the lesson ought to form the subject of a simultaneous answer, and be thus fixed in the minds of the children. No collective lesson can be given with life and effect where this is overlooked. It will infallibly degenerate into a lecture, or into something not so efficient as that.

When the proper simultaneous answer has been obtained, we shall find employment for individual answering. It is in comparatively rare cases that every child can be got to answer with all the rest, by any amount of teaching skill. There are always to be found a number of children, who from constitutional dullness, or habitual idleness, cannot be got to keep pace with their school-fellows; and of course every teacher knows where to look for them in his own school. After every simultaneous answer, one or more of these should have his attention and exertions quickened by a question addressed to himself; and the teacher should ever be on the alert to see where they are most needed. If in addition to these he should now and then select others less markedly deficient, or even now and then the more advanced scholars, the results will be beneficial. He will be saved from making too high an estimate of the progress of favourite scholars; and will now and then discover where he needs to be more exact or more lucid, even for his most advanced pupils.

In illustration we take the liberty of subjoining a specimen of what we desire from the lesson on the Mole, in Mr. Stow's training system. The italics mark the words supplied by the children, and the dots indicate the places where ellipses are made.

"When you look at a land bird and a water bird, and compare them, what do you notice? *A great difference in the way in which they are made.* What was the word formerly given instead of 'the way in which they are made?' Try to remember. *Structure.* Quite right; and they are made differently, or have a different...*structure...* because they differ in their...*ways of living...* or their... Who remembers the word that means ways of living? *Habits.* Now all sit upright and attend. When you find an animal of a particular structure, what will you be led to think about it? *That it has particular habits.* And if you are told that a animal lives in an uncommon place, or has particular habits such as the mole, what will you expect it to be? *Of a particular structure.* All will now answer me. The form or structure of the animal is always well...*fitted to its way of living...* All again. The habits and structure of the animal always...*agree — suit one another very well...* We will now hear this boy in the lowest seat repeat it..... Quite correct."

We consider this as a fair specimen of the way in which a skilful teacher makes good each successive advance in a collective lesson; but to exemplify the varied modes in which the second part of the process, that of simplification and illustration, may be conducted, we must refer to the lesson as it stands in Mr. Stow's work.

Since it is in collective lessons, both sacred and secular, that the mind of the principal teacher can be brought most directly in contact with the understanding and moral feeling of the children, no pains should be spared to perfect our modes of communication in such lessons; and we know of no instrument of collective teaching which rivals this in power. If in the large circle of professional men by whom this publication is read, these few remarks render this mode of teaching better understood; or more easily practised, we shall feel amply repaid for thus putting on record the results of many years' experience and careful observation.—*Papers for the Schoolmaster.*

THE PROPERTIES OF NUMBERS.

Curious properties of numbers do not lie immediately in the track of the mathematical investigator. There will probably, however, be a new light thrown on them at no distant period; and those strange and beautiful laws whose uses we cannot ascertain will be justified even to utilitarians.

Dr. Brooth's law, in reference to numbers of six places, may be much extended; and there is most likely some general theorem, yet to be discovered, on which all its extensions depend. The following, which (simple as they are) I do not remember to have seen any where enunciated, may be productive of some interest to the younger mathematical readers of the *Journal of Education.*

I. Any number of eight places consisting of any four figures repeated, is divisible by 73 and 137. *Ex. gr.:*—

$$98329832 \div 73 = 1346984;$$

$$11021102 \div 137 = 80446.$$

II. Any number of eighteen places, consisting of any nine figures repeated, is divisible by 7, 11, 13, and 19.

III. Any number of sixteen places, consisting of any eight figures repeated, is divisible by 17, &c.*

The "Self-proving Examples" just published by Mr. Alexander Ellis, I have not seen; such a work, well executed, cannot be otherwise than valuable. The theory of fractions—most important of arithmetical subjects—requires copious practical illustration; and there are one or two fractional formulæ which I have found useful for furnishing multitudinous examples. *Ex. gr.:*—

$$\frac{2}{5} + \frac{5}{6} + \frac{8}{10} + \dots = \frac{n(n+1)}{n+2}$$

Thus

$$\frac{2}{3} + \frac{5}{6} + \frac{8}{10} + \frac{14}{15} + \frac{20}{21} = \frac{5 \times 6}{7} = 4\frac{2}{7}$$

$$\frac{2}{4} + \frac{27}{28} + \frac{35}{36} + \frac{44}{45} = \frac{8 \times 9}{10} = 7\frac{1}{5}$$

Again,

$$\frac{2}{15} + \frac{3}{35} + \frac{4}{63} + \dots = \frac{n}{1+n+9}$$

when an even number of terms is taken and $n =$ half that number. This formula is very serviceable with the aid of Barlow's Tables of Squares, &c., thus:—

$$\frac{13}{165} + \frac{28}{3135} - \frac{29}{3363} = \frac{14}{177}$$

$$\frac{100}{1209} + \frac{202}{163215} - \frac{203}{164835} = \frac{101}{1921}$$

Combinations of the various fractional processes are easily managed by algebraic formulæ; and, as De Morgan observes, if the boy detect the secret, he is fit for something more difficult. Indeed, it is a good algebraic exercise to give the detection of the formula as a problem to be solved. The following is an easy instance, by no means unserviceable:—

$$\frac{\frac{a}{x}}{a - \frac{x}{a-1}} = \frac{1}{x}$$

Ex. gr.:—

$$\frac{9\frac{7}{8}}{11\frac{2}{3}} \div \left(9\frac{7}{8} - \frac{9\frac{7}{8}}{11\frac{2}{3}}\right) = \frac{23}{235}$$

—MORTIMER COLLINS in *English Journal of Education.*

Miscellaneous.

WRITTEN EXAMINATIONS.

Frequent written reviews are among the most successful means that teachers can employ for securing thoroughness and accuracy of scholarship. Several topics are written distinctly on the blackboard, and the pupils are required to expand them as fully and accurately as possible. Each pupil is seated by himself, and furnished with pen and paper; but receives no assistance, direct or indirect, from either teacher or text-book. This mode of examining a class accomplishes at least three important objects at the same time. It affords a thorough test of the pupil's knowledge of the subject; it is one of the best methods of cultivating freedom and accuracy in the use of language; and it furnishes a valuable discipline to the pupil's mind, by throwing him entirely on his own resources. The task of examining so many separate written exercises, and of estimating their value, increases the labor of the teacher, but the gain to the pupil is more than an equivalent for the extra service required.—*Mass. Teacher.*

VENTILATION.

In the process of respiration, a full grown man draws into his chest about 20 cubic inches of air; only one-fifth of this is oxygen, and nearly one-half of this oxygen is converted into carbonic acid. Now, allowing fifteen inspirations per minute for a man, he will vitiate about three hundred cubic inches, or nearly one-sixth of a cubic foot of atmospheric air, and this, by mingling as it escapes with several times as much, renders at least two cubic feet of air unfit for respiration. Now the removal of this impure air, and the bringing in of a constant fresh supply, have been provided for by nature in the most perfect manner, and it is by our ill-contrived, artificial arrangements

* The following properties—for which *vide* Wood's Algebra—are curious:—

Any number divided by 6 leaves the same remainder as its cube divided by 6.

The difference of the squares of any two odd numbers is divisible by 8.

The difference of the squares of any two prime numbers, above 5, is divisible by 24.

Any number of 4 digits is divisible by 7, if the first and last digits be the same, and the digit in the place of hundreds double that in the place of tens.

that the provision is defeated. The expired and vitiated air, as it leaves the chest, is heated to very near the temperature of the body, viz., 98°, and being expanded by the heat, is specifically lighter than the surrounding air at any ordinary temperature; it therefore ascends and escapes to a higher level, by the colder air pushing it up as it does a balloon. The place of this heated air is constantly supplied by the colder and denser air closing in on all sides. In the open air, the process is perfect, because there is nothing to prevent the escape of the vitiated air; but, in a close apartment, the hot air, rising up to the ceiling, is prevented from escaping; and gradually accumulating and becoming cooler, it descends and mingles with the fresh air, which occupies the lower level. We have thus to inhale an atmosphere which every moment becomes more and more impure and unfit for respiration; and the impurities become increased much more rapidly by night when lamps or candles, or gas, is burning, for flame is a rapid consumer of oxygen. Under these circumstances, our only chance of escape from suffocation is in the defective workmanship of the house-carpenter; the crevices in the window frames and doors allow the foul air a partial exit, as may be proved by holding the flame of a candle near the top of a closed door, in a hot room; it will be seen that the flame is powerfully drawn towards the door in the direction of the out-going current; and on holding the flame near the bottom of the door, it will be blown away from the door, showing the direction of the entering current. If we stop up these crevices, by putting list round the windows and doors, so as to make them fit accurately, we only increase the evil. The first effect is, that the fire will not *draw*, for want of sufficient draught; if the inmates can put up with a dull fire and a smoky atmosphere, they soon become restless and uncomfortable; young people get fretful and peevish, their elders irritable, respiration becomes impeded, a tight band appears to be drawn round the forehead, which some invisible hand seems to be drawing tighter and tighter every moment; the eye-balls ache and throb, a sense of languor succeeds to fits of restless impatience, yawning becomes general, for yawning is nothing more than an effort of nature to get more air into the lungs; under these circumstances the announcement of tea is a welcome sound, the opening and shutting of the door necessary to its preparation give a vent to the foul air, the stimulus of the meal mitigates the suffering for a time, but before the hour of rest, the same causes of discomfort have been again in active operation, and the family party retires for the night indisposed and out of humour.

But in the bedroom, the inmates are not free from the malignant influence. The closed doors, the curtained bed, and the well closed windows, are sentinels which jealously guard against the approach of fresh air. The unconscious sleepers, at each respiration vitiate a portion of air, which, in obedience to the laws of nature, rises to the ceiling, and would escape, if the means of escape were provided; but, in the absence of this, it soon shakes off those aerial wings which would have carried it away, and, becoming cooler and denser it descends, and again enters the lungs of the sleepers, who, unconsciously, inhale the poison. When the room has become surcharged with foul air, so that a portion must escape, then, and not till then, does it begin to escape up the chimney. Hence, many persons very properly object to sleeping in a room which is unprovided with a chimney; but it is evident that such a ventilator is situated too low down to be of much service. If there be no chimney in the room, a portion of the foul air escapes by forcing its way out of some of the cracks and crevices which serve to admit the fresh air.

That this sketch is not overdrawn, must be evident to any one who, after an early morning's walk, may have returned directly from the fresh morning air into the bedroom which he had left closely shut up an hour before. What is more disgusting than the odor of a bed-room in the morning? Why is it that so many persons get up without feeling refreshment from their sleep? Why do so many persons pass sleepless nights? The answers to these and many other similar questions may be frequently found in defective ventilation. How much disease and misery arises from this cause, it would be difficult to state with any approach to accuracy, because the causes of misery are very complicated.

Now, as no person would consent habitually to swallow a small portion of liquid poison, knowing it to be such, though diluted with a very large portion of pure water, so it is equally unwise to consent habitually to inhale a small portion of gaseous poison, knowing it to be such, though diluted with a very large portion of pure air; and yet this is what the majority of persons actually do who occupy apartments unprovided with proper ventilating apparatus.—*Tomlinson on Warning and Ventilation in Mass. Teacher.*

THE ENGLISH A COMPOSITE LANGUAGE.

In one of Mr. Trench's new lectures upon words, he treats of English as a composite language, and enumerates certain Hebrew, Arabic, Persian, Turkish, Indian, Italian, and Celtic words which are in general

use. Among Hebrew words we have "manna," "cherub," "sabbath," etc. Among Arabic words "algebra," "cypher," "zero," "zenith," with the chemical terms "alkali," "elixir," "alcohol," and the names of their articles of merchandise, as "giraffe," "saffron," "lemon," "orange," "sherbet," "mattress," "coffee," "sugar," "amber," and "jasmin." From the Persians we derive the words "bazaar," "lilac," "azure," "caravan," and "pagoa;" while from the Turks, "tulip," "dragoman," "turban," and "chouse," the word current among schoolboys. To the Indians we owe the words "tobacco," "maize," "potato," and "wigwam;" to the Italians, "bandit," "charlatan," "duenna," "pantaloon," "gazette," and "alligator;" while Celtic things are designated by truly Celtic words, as "bard," "clan," "kilt," "reel," "piroch," and "plaid." We are glad to observe that Mr. Trench does not depreciate either the Saxon or the Latin portion of the English language. "Both," he remarks, "are indispensable; and speaking generally without stopping to distinguish as to subject, both are *equally* indispensable. Pathos, in situations which are homely, or at all connected with domestic affections, naturally moves by Saxon words."

PAPER AND PAPER DUTIES.

In 1721, it is supposed that there were but about 300,000 reams of paper annually produced in Great Britain, which were equal merely to two thirds of the consumption. In 1780 the value of the paper manufactured in England alone amounted to £800,000, the duty on which was £16,867 9s. 9½d. At that time the duty was divided into seven distinct classes or rates of collection. Twenty years after, when the mode of assessment was reduced to three classes, the duty has risen to £315,802 4s. 8d; in 1830, fifteen years after, to £619,824 7s. 11d.; in 1835, to £38,822 12s. 4d., or, in weight, to 3,655,287 lbs., which was again in fifteen years nearly doubled. The quantity of paper charged with excise duty in the United Kingdom in 1850 was no less than 141,032,474 lbs., and last year (1854) the enormous weight of 179,896,222 lbs.—*Herring on Paper and Paper Making.*

THE NEW PALACE AT WESTMINSTER.

In connection with the New Palace there are three towers which forms its most prominent features, and which, in consequence of their great height may be seen from almost every portion of the metropolis. The one at the south end of the building is the magnificent Victoria Tower, which forms the entrance of her Majesty on the occasion of her visits to the House of Lords. It has a square tower, richly decorated in the Gothic style, and when completed will be 340 feet in height, or 94 less than the height to the cross of St. Paul's. The sides of the tower are 75 feet in length. The central tower is one that covers the grand central hall between the Houses of Lords and Commons. It is circular in form, 60 feet in diameter, and the top of the lantern which surmounts the dome is 300 feet above high water mark. The tower at the north end close to Westminster Bridge, is the Clock Tower, which when completed will be 320 feet high. Like the Victoria Tower, this tower is square in its construction, each side being forty feet in length, but it will differ from the larger tower in being surmounted by a beautifully perforated belfry spire. The tower has now reached an elevation of about 200 feet, there yet remaining 125 feet to complete the work. There are five stories in the tower beneath that in which the clock will be placed. An air shaft 20 feet in diameter at the top, runs down the entire length of the tower, through which the supply of pure air is proposed to be drawn by Dr. Reid into these subterranean chambers where it is warmed, cooled, or mixed previous to being inhaled by hon. members and noble lords. The floor in which the clock is intended to rest is 165 feet 7 inches above high water mark, and the centre of the dial plate of the clock will therefore be 182 feet 7 inches. Above the clock there will be a small pointed tower rising from each of the angles 20 feet high, while the central tower will soar to the height of 70 feet, and will be surmounted by a tall vane.

SOCIAL ADVANTAGES OF FEMALE EDUCATION.

Due cultivation of the female mind would add greatly to the happiness of males, and still more to that of females. Time rolls on, and when youth and beauty vanish, a fine lady who never entertained a thought into which an admirer did not enter, finds in herself a lamentable void, occasioning discontent and peevishness. But a woman who has merit, improved by a virtuous and refined education, retains in her decline an influence over the men, more flattering even than that of beauty; she is the delight of her friends as formerly of her admirers. Admirable would be the effects of such refined education, contributing no less to public good than to private happiness. A man, who at present must degrade himself into a fop or a coxcomb in order to please the women, would soon discover that their favour is not to be gained but by exerting every manly talent in public and in private life: the two sexes, instead of corrupting each other would be rivals in the race of virtue: mutual esteem would be to each a school of

urbanity; and mutual desire of pleasing would give smoothness to their behaviour, delicacy to their sentiments, and tenderness to their passions. Married women in particular, destined by nature to take the lead in educating their children, would no longer be the greatest obstruction to good education by their ignorance, frivolity, and disorderly manner of living.—*Lord Kaimes.*

Educational Intelligence.

BRITISH AND FOREIGN.

THE CLOSING KNELLER-HALL NORMAL SCHOOL.

This important training college is about to be closed. It was an institution well situated for salubrity and proximity to the metropolis, well provided with educational appliances, conducted by a gentleman of such acquirements and energy as Mr. Temple, and seconded by talented assistants, open also nearly gratuitously to students of ordinary diligence. We need not however, look very far for the causes of failure in regard to the number of students trained; and that is the only defect urged against Kneller-hall. It has trained a staff of teachers thoroughly efficient for the discharge of their duties; indeed, this normal college has distinguished itself among the most successful for results in the work of training. Most of the teachers from Kneller-hall filled their intended positions as teachers in reformatory and union schools. A legal agreement on the part of the student to continue not less than five years in his special vocation was proposed, but in only one instance, we believe, enforced. The feeling of gratitude for such an education does not appear, however, to have been strong enough to induce many of these teachers to continue in their vocation for the specified number of years. How was this? Simply, we apprehend, from the absence of any attractions and the presence of much that was repulsive in the union schools to which they were sent. However reprehensible, indeed, may be the desertion of the object for which these students were specially trained, we do not see why they should be judged more severely than the young men from other normal schools, as the education in most of these institutions has been nearly as gratuitous as at Kneller-hall; and the vast number of teachers who have been trained, but have relinquished the vocation, is indeed astonishing. The records of our largest educational societies prove that for one teacher who continues in the profession, twenty have left it. The cause of this is as obvious as that for the diminution of handloom weavers; they can get a better living in other employments. Lawyers, doctors, and clergymen generally remain in their professions. It would really be absurd to expect schoolmasters, more than any other class, to possess a monopoly of self-devotion and any other self-denying virtues. A few years ago it was a subject of just complaint that the education of pauper children was truly lamentable and discreditable. Surely voluntary effort and local self-government had plenty of time to remedy this evil. We believe that it was owing to the Government that the necessity for any education to these neglected pauper children was insisted on. At first indeed, Government interfered as little as possible, and merely required the guardians of a union to select a schoolmaster. In many cases these gentlemen appear to have made such a selection on the ground of in-competency. Under such circumstances we need not be surprised that the Government Inspectors found the education of the poor little ones to be painfully ludicrous. Better schoolmasters were indispensable; there was no hope of these being forthcoming, from the paucity of numbers that attended the then indifferent normal schools. Government was thus driven to devise some expedient for the supply of teachers: Kneller-hall was for this purpose established, and was perfectly successful in training efficient schoolmasters for the special service of unions and reformatory schools. It was soon found that there would be a considerable waste of teaching power and expenditure in confining an efficient schoolmaster to the teaching of some twenty or thirty children of a single union, and, for this as well as other important reasons, the formation of large district schools was contemplated, in which children from several unions might be collected, and not only economically taught, but effectually removed from the contaminating influences of adult paupers. This most essential part of the plan was never carried out, and hence the failure of Kneller-hall. The sooner, however, we have courage to look at one fact, not merely from the example of Kneller Hall but from the general practice, the better—that unless all classes of elementary schoolmasters be paid very much better than at present, there will be but little hope of the worthy and talented members remaining in a profession to which we owe so much more of honour as well as of emolument than we now give.

UNITED STATES.

ESTIMATE OF MONEYS TO BE RAISED FOR SCHOOLS IN 1856.

The Board of Education have submitted an estimate of moneys required for our common schools for 1856. The following are extracts:—

It is provided that the Board of Supervisors shall raise annually, by tax, an amount sufficient to support the state common schools, and also one-twentieth of one per cent. of the value of the real and personal property of the city.

The estimates of the several bills thus provided for, are as follows:—

1st. The amount apportioned from the Common School Fund of the State by the State Superintendent of Public Instruction; and it is shown in the notice to the County Clerk to amount to.....	\$132,711 68
2d. An amount to be raised by tax equal to the sum specified in the said notice of the State Superintendent of Public Instruction to the County Clerk.....	132,711 68
3d. A sum equal to one twentieth of one per cent. of the real and personal property in the City of New York, liable to be assessed thereon.....	\$243,499 00
Total.....	\$508,922 36

The sum of \$508,922 36 is the amount provided by law, without the action of the Board of Education, for the purposes of common school instruction. In addition to these, the sixteenth section provides that the Board of Supervisors shall also raise and collect at the same time, and in the same manner, such additional sum or sums as the Board of Education shall have reported to be necessary for the purposes mentioned in the first subdivision of the third section of chapter 386 of the laws of 1851.

This Board, therefore reports, that the whole number of pupils who have actually and been taught in the schools entitled to participate in the apportionment during the preceding year, is 128,608, which at four dollars each pupil, amounts to \$514,432. This added to the amount provided by the fifteenth section of the said act, makes \$1,023,354 36, as the aggregate sum allowed by law to be raised for school purposes for the year 1856.

Under the provisions of the third section the Board of Education proceeds to report to the Board of Supervisors and to the finance commissioners, in accordance with the seventeenth section of the amended charter of 1853, that there will be required during the year 1856 for the purpose of meeting current annual expenses of public instruction in said city, to wit:

For Teachers' Salary.....	\$475,000
For support of Free Academy.....	43,000
For support of Normal Schools.....	10,000
For support of Evening Schools.....	30,000
For salaries of Superintendents, Clerks, and Assistants.....	19,000
For rent.....	10,000
For repairs of the Free Academy.....	2,000
For incidental expenses of Ward Schools.....	75,000
For books, stationery and supplies.....	80,000
	\$744,000 00
For purchasing, leasing and procuring sites, for erecting buildings, enlarging and repairing the buildings and promises under the charge of the Board of Education, and for the Support of Schools which shall have been organized since the last annual apportionment of the school moneys made by the Board.....	119,354 36
For deficiencies in the moneys of the Board of Education, to meet the expenses of the School system for the years 1853 and 1854.....	160,000 00
Total.....	\$1,023,354 36

The above sum of \$1,023,354 36 comprises the whole estimated amount of money required for school purposes by the Board of Education for the year 1856.—*N. Y. Commercial Advertiser.*

PEOPLE'S COLLEGE.

The City of Troy has subscribed \$110,000 to endow a College for the People, to be built in that city, and \$54,000 additional has been subscribed in other parts of the State. It is necessary to raise the sum to two hundred thousand dollars before regarding the enterprise as complete, as it is intended to make the Institution second to none in the Union. This enterprise originated with the Methodists, but gentlemen of all denominations of Christians share in its benefits, and contribute to its funds. The President is Hiram Slocum, Esq., of Troy, and the leading men in the various congregations at Troy are among the Board of Directors and officers.

Literary and Scientific Intelligence.

REV. DR. LIVINGSTON'S AFRICAN RESEARCHES.

Our enterprising missionary has, since the early part of 1853, been engaged on his fourth tour of exploration in the interior of Africa. Arriving at the town of the chief Sekelelu, on the river Linyanti, in September of that year, he proceeded in a north-westerly direction, in company with a detachment of the followers of that chief, in search of an outlet on the west coast, and after surmounting great difficulties and hardships, he at length reached St. Paul de Loanda, at the end of May, 1854. Here Dr. Livingston was entertained with the greatest kindness and hospitality by her Majesty's commissioner, E. Gabriel, Esq., and throughout the territories bordering on the west coast, subject to the crown of Portugal, he was also treated by the authorities with the utmost consideration and respect. In consequence of the loss of some of Dr. Livingston's letters, by the wreck of the vessel in which they were despatched, the detailed account of his extended journey has not come to hand. In his last communication he announces his intention to traverse the country in an opposite direction, in the hope of reaching the east coast at Quilimane, and, by that route, to take ship for England.—*Evangelical Magazine*.

LEVEL OF THE TWO OCEANS.

The popular notion which has so long prevailed that the Atlantic Ocean was many feet higher than the Pacific at the Isthmus of Panama, has been formally exploded. Colonel Totten has decided, after a series of careful tidal observations, taken at Panama and Aspinal Bay, and connected by accurate levels along the line of railroad, that the mean height of the two oceans is exactly the same, although owing to the difference in the rise of tide of both places, there are of course, times when one of the oceans is higher or lower than the other; but their mean level, that is to say, their height at half-tide, is now proved to be exactly the same.—*Belfast Journal*.

DEATH OF PROFESSOR JOHNSTON.

The Durham (England) Chronicle says:—Prof. Johnston was born at Paisley, somewhere about the year 1796. From this town he was transferred, while very young, to Manchester, where his father continued to reside for a few years, but afterward returned to Scotland, and settled at Kilmarnock. Thrown upon his own resources at an early age, the youth commenced the battle of life with characteristic courage and resolve. He entered the University of Glasgow, supporting himself for some time by private tuition. In 1825 he opened a school at Durham, and in the year 1830 married one of the daughters of the late Thomas Ridley, Esq., of Park End. Thus possessed of a competent income, he resolved to gratify a taste for chemistry, which had now acquired predominating force, and for this purpose he chose Berzelius as his preceptor, and visited Sweden to study under that celebrated man.

Upon the foundation of the Durham University in 1833, the readership in Chemistry and Mineralogy was bestowed upon Mr. Johnston; and this appointment was retained until the period of his decease.—Except during term time, however, he continued to reside in the neighborhood of Edinburgh, and in the year 1843 he was elected chemist to the Agricultural Society of Scotland. When the society was dissolved, he made Durham his domicile. Most of his substantive productions relate to the chemistry of agriculture. Without enumerating them fully, we may refer to the "Lectures on Agricultural Chemistry and Geology," and to the "Catechism" of the same sciences, as the more celebrated of his works in this department. Of the latter, thirty-three editions have been published in England alone. It has been translated into nearly every language of Europe, and has been sown broadcast in America.

Rarely, perhaps, has a scientific man travelled so far or so rapidly. Among his less professional productions, the "Notes on North America" should be mentioned with respect. But the most attractive of his compositions is "The Chemistry of Common Life." It is also the most recent. In addition to these publications, the Professor contributed occasionally to the Edinburgh Review; and frequently to Blackwood's Magazine. Professor Johnston's last illness was somewhat rapid, and his death to many unexpected. He had been on the continent for several months, and was about to return to England, when he caught cold, but without apprehending any serious results. Scarcely, however, had he reached Durham when symptoms of hemorrhage in the lungs appeared, and he died September 18, 1855, to the age of 59.

ANNUAL MEETING OF THE CANADIAN INSTITUTE.

The Annual Meeting of the Canadian Institute was held in their rooms, in York Chambers, on Saturday evening last. The Chair was occupied by the late President, the Hon. Sir John Beverley Robinson, Bart. After the ordinary routine business was transacted, Professor Wilson, of University College, at the request of the President, read the Annual Report. Whilst the balloting for the new officers of the Institute was proceeding, some interesting remarks "On points in the Natural History of the Leech," were made by Professor Bovell, of Trinity College; and a carefully prepared paper on "A specimen of the Proteus of the Lakes," was read by J. G. Hodgins, Esq., Deputy Superintendent of Education. Several specimens of this reptile were exhibited. A committee was appointed to examine into its claims to be considered a new species, peculiar to the Canadian Lakes; and we may have something to add in regard to this curious creature at a future time. The following is the list of the Office bearers for the Session 1855-6:

President—George William Allan, Esq.

1st Vice-President—Professor J. Bovell, Trinity College.

2nd Vice-President—E. A. Meredith, Esq.

Treasurer—Dalrymple Crawford, Esq.

Recording Secretary—F. W. Cumberland, Esq.

Corresponding Secretary—Thomas Henning, Esq.

Librarian—Sandford Fleming, Esq.

Curator of Museum—Professor E. Chapman, University College.

Council—Professor Wilson, Professor Croft, Professor Cherriman, Prof. Hind, Samuel Thompson, Esq., and Oliver Mowatt, Esq.—*Globe*.

Departmental Notices.

To Municipal and School Corporations in Upper Canada.

PUBLIC SCHOOL LIBRARIES.

The Chief Superintendent of Schools is prepared to apportion *one hundred per cent.* upon all sums which shall be raised from local sources by Municipal Councils and School Corporations, for the establishment or increase of Public Libraries in Upper Canada, under the regulations provided according to law.

In selecting from the General and Supplementary Catalogues, parties will be particular to give merely the catalogue number of the book required, and the department from which it is selected. To give the names of books without their number and department, (as is frequently done,) causes great delay in the selection and despatch of a library. The list should be written on a distinct sheet of paper from the letter, and attested by the corporate seal and signature of the Trustees; or by the corporate seal and signature of the Reeve or Clerk of the Municipalities applying for libraries.

SCHOOL MAPS AND APPARATUS.

The Legislature having granted annually, from the commencement of 1855, a sufficient sum of money to enable this Department to supply Maps and Apparatus (not text-books) to Grammar and Common Schools, upon the same terms as Library Books are now supplied to Trustees and Municipalities, the Chief Superintendent of Schools will be happy to add one hundred per cent. to any sum or sums, not less than five dollars, transmitted to the Department; and to forward Maps, Apparatus, Charts and Diagrams to the value of the amount thus augmented, upon receiving a list of the articles required by the Trustees. In all cases it will be necessary for any person, acting on behalf of the Trustees, to enclose or present a written authority to do so (upon a form which will be furnished upon application), verified by the corporate seal of the Trustees. A selection of articles to be sent can always be made by the Department, when so desired.

THE STUDENT AND SCHOOLMASTER,

A MONTHLY READER FOR SCHOOL AND HOME INSTRUCTION. Edited by C. A. CALKINS and A. R. PHIPPEN. The objects of this Magazine are to supply wants long felt by Teachers: first, a Monthly Class Reader, coming with something new and interesting, each month to awaken a fresh and deeper interest in the reading exercises. Secondly, new Speeches and Dialogues for School Declamation. Third, a Magazine that will more intimately unite the instruction of School with reading in the family, while it stimulates youth to self-improvement. Every school and family should have it.—Terms: \$1.00, a year in advance. Teachers wanted in every Town to act as Agents. Apply at once, Post-paid, to

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All communications to be addressed to Mr. J. GEORGE HODGINS,
Education Office, Toronto.

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