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BRITISH AND CONTINENTAL LIBRARIES.

The subject of School Libraries in Upper Canada will doubtless receive a good deal of attention during the ensuing year. As a preliminary step to the consideration of the best means of introducing Public Libraries into every part of the country, we have thought that it would prove interesting to the readers of the *Journal* to learn something of the present state of Public Libraries in other countries, and the extent to which they are rendered accessible to the public at large. We therefore present the following condensed article from the English *Eclectic Review*, giving a comprehensive and succinct view of the Library question in England and on the Continent of Europe, and also embodying a variety of valuable historical *miscellanea*, curious and striking. We may remark, however, that measures have recently passed the British Parliament, giving local Municipal bodies in England authority to establish public libraries and museums. It is understood that the great Exposition of 1851 will be rendered tributary to the accomplishment of this latter object:

During the last few months, startling statements, disclosing the dearth of public libraries in the United Kingdom, have appeared in most of our public journals. They do not, however, comprise a tithe of the curious and valuable information embedded in the bulky blue-book from which they were excerpted. This document is a rich mine of suggestive facts and data. It exhibits the most singular national anomalies, and develops phenomena at once humiliating and cheering. Its revelations are alternately streaked with lights and shadows, in strange and fitful contrast. Our object in the present article is to classify and condense, as far as possible, some of the information scattered through the work referred to; information that has been gleaned from the most varied sources—from clergymen, librarians, *literati*, members of Parliament, town-clerks, ex-ministers of Continental governments, popular lecturers, self-educated working men, and city missionaries.

Not many years ago, the attention of Parliament and the public was directed to the formation of free galleries, museums of art, and schools of design, as a means of popular enlightenment, and an incitement to intellectual pursuits. Many persons, at the time, displayed considerable opposition to this proposal, and contended that, however successfully such institutions might be established among foreign nations, they would not be appreciated, and might be abused by our own. The experiment, however, was tried. The British Museum, the magnificent gallery at Hampton Court, the National Gallery, with various other metropolitan and provincial institutions were thrown open gratuitously to the public. It is now universally admitted that no abuse has attended the concession, whilst it is impossible to calculate the large measure of rational enjoyment and healthy mental stimulus that has resulted. Another and a yet more beneficent improvement still remains to be effected. The extensive establishment of public libraries throughout the entire country, and particularly in the large centres of population, is one of the greatest desiderata of the age. Such libraries have long existed on the Continent, and have enjoyed the fosterage of the governments of the various States. It can scarcely be doubted that the influences emanating from such stores of accumulated lore have been fraught with incalculable advantages to the literature and general character of the people among whom they have been amassed. We find Gibbon complaining that, in his time, "the greatest city in the world was destitute of that useful institution, a public library;" and that "the writer who had undertaken to treat any large historical subject, was reduced to the necessity of purchasing for his private use, a numerous and expensive collection of books which must form the basis of his work." Even in a large town like Liverpool there was no public depository of books from which Roscoe could procure the ordinary Italian works requisite for composing his "Historical Biographies," so that he, like Gibbon, was under the costly necessity of purchasing his own materials of literary workmanship. Only within the quarter of a century, Graham, the learned historian of North America, left this land, and established himself at Gottingen, for the sole purpose of availing himself of the rich and freely-accessible collection of books in its university.

With a view of establishing the fact of the immense superiority of foreign libraries over our own—in respect to their numbers, the vastness of the literary wealth they enshrine, their entire accessibility to applicants from among every class of the community, and the extent to which they are allowed to circulate beyond the walls of the institution—we will, in the most compendious form possible, present some comparative statements of the principal Continental and British libraries. From the evidence laid before the Committee, which is said to embody the nearest approximation to truth that can be attained, it appears that France contains 186 public libraries, 109 of which comprehend 10,000 volumes, or upwards, each; Belgium, 14; the Prussian States, 53, or 44 possessing above 10,000 volumes; Austria, with Lombardy and Venice, 49, Saxony, 9; Bavaria, 18; Denmark, 5; Tuscany, 10; Hanover, 5; Naples and Sicily, 8; Papal States, 16; Portugal, 7; Spain, 27, or 17 comprising 10,000 volumes; Switzerland, 13; Russian Empire, 12; whilst Great Britain and Ireland possess only 34 such depositories of learning, the large majority of which, moreover, are accessible only to privileged individuals, or corporations.

Upon further inspection of the tabular statements it is discoverable, that out of a total of 458 libraries in the European states, there are 53 that are distinguished as LENDING libraries; but of this goodly number, thus standing out in bold and honourable relief, *not one is to be found in our own country.* In these 53 libraries alone, in the year 1848, there were more than seven millions of volumes, independent of manuscripts, which are thus rendered eminently serviceable to the inhabitants of the several towns, cities, and neighbourhoods in which they are deposited. In a statistical list, exhibiting 330 towns or cities, throughout Europe, that are enriched by the possession of town, university, cathedral, communal, gymnasium, or public libraries, the keenest scrutiny can detect no more than eleven places lying within the boundaries of these favoured isles of ours; whilst the chief of the literary stores belonging even to these are placed under the most exclusive regulations.

If from countries we descend to particular cities, we find the contrast between our own and foreign lands no less discouraging and humiliating. In the following table are represented the number of libraries in some of the principal capitals and other distinguished places in Europe—the aggregate volumes in each town or city—the population of the same—and the proportian of volumes to every 100 of its inhabitants.

Name of Town.	No. of Libraries.	Aggregate No. of Volumes.	Population of each City or Town.	No. of Vols. to every 100 persons.
Milan	2	250,000	171,268	146
Padua	3	177,000	45,000	393
Prague	3	198,000	107,358	184
Venice	4	137,000	97,156	141
Vienna	3	453,000	360,000	126
Heidelberg	1	200,000	13,430	1,500
Munich	2	800,000	106,537	751
Nuremberg	2	46,000	40,000	115
Brussels	2	143,500	134,000	107
Copenhagen	3	557,000	119,292	467
Montpellier	3	100,000	33,864	295
Paris	9	1,474,000	920,000	160
Hamburgh	6	200,367	128,000	156
Naples	4	290,000	350,000	82
Bologna	2	233,000	69,000	337
Rome	6	465,000	152,000	306
Berlin	2	460,000	290,797	158
Breslau	4	370,000	88,869	416
Petersburgh	3	505,990	469,720	107
Genoa	4	120,000	97,620	122
Dresden	4	340,500	69,500	490
Leipsic	2	192,000	47,514	404
Madrid	2	260,000	170,000	153
Stockholm	2	82,000	83,885	97
Upsal	1	150,000	4,500	3,333
Florence	6	299,000	97,548	306
BRITISH, &c.				
Aberdeen	2	46,000	64,779	78
Cambridge	5	261,724	25,000	1,046
Dublin	4	143,654	238,531	60
Edinburgh	3	288,854	138,182	209
Glasgow	3	80,096	300,000	26
London	4	490,500	2,200,000	22
Manchester	1	19,900	360,000	5½
Oxford	8	733,300	24,000	1,547

These figures but too faithfully represent the meagre supply of books for the free use of the people of this country compared with continental States. Even Oxford and Cambridge, which at first sight may strike us as being redeeming exceptions to the rule, yield up their solitary glory on the slightest examination. The books are solely appropriated to the use of the *literati*, and students connected with the universities. They repose from year to year upon their stately shelves, in solemn and unruffled quietude, unquestioned by the eager lips and eyes of the outside multitude. Speaking of the Cambridge libraries, the Rev. J. J. Smith, librarian at Caius College, remarked that they were confined to the respective bodies in the University. The same witness, referring to the Bodleian Library, Oxford, stated that their system is much more restricted. For example, no Master of Arts, even belonging to the University, either resident or non-resident, can take any book out. He must use them in the building, from which they are never suffered to be removed. No under-graduate is even suffered to read the books in the Bodleian collection.

The following list exhibits the principal libraries of the several European capitals, arranged in the order of their respective magnitudes. Those before which an asterisk appears, are *lending* libraries:—

		Vols.
Paris	*National Library	824,000
Munich	*Royal Library	600,000
Petersburgh	Imperial Library	446,000
London	British Museum Library	435,000
Copenhagen	*Royal Library	412,000
Berlin	*Royal Library	410,000
Vienna	*Imperial Library	313,000
Dresden	*Royal Library	300,000
Madrid	National Library	200,000
Wolfenbuttal	Ducal Library	200,000
Stuttgard	Royal Library	187,000
Paris	Arsenal Library	180,000
Milan	*Brera Library	170,000
Paris	*St. Genevieve Library	150,000
Darmstadt	*Grand Ducal Library	150,000
Florence	Magliabecchian Library	150,000
Naples	*Royal Library	150,000
Brussels	Royal Library	133,500
Rome	Casanati Library	120,000
Hague	Royal Library	100,000
Paris	*Mazarine Library	100,000
Rome	Vatican Library	100,000
Parma	*Ducal Library	100,000

It may be interesting to our readers, whilst treating upon these magnificent institutions, to put them in possession of a few curious particulars relative to their privileges, their antiquity, the causes that have contributed to their progressive increase, and the munificent funds that have been appropriated to their sustentation and enlargement.

The majority of the libraries specified above, are entitled, by law, to a copy of every book published within the States to which they respectively belong. This privilege is enjoyed by the national libraries of Paris and Madrid; the royal libraries of Munich, Berlin, Copenhagen, Vienna, Naples, Brussels, and the Hague, ; the Brera library, at Milan; the Magliabecchian, at Florence; the Ducal Library, at Parma; together with the library of the British Museum. Exclusive of England, the practice prevails nowhere to so great an extent as in Lombardy and Venice, and in Parma. In Belgium and France, three copies are exacted; in Austria, Denmark, Naples, and Geneva, two copies; in Prussia, Saxony, Bavaria, Holland, Tuscany, Sardinia, Portugal, Hungary, Bohemia, and the United States, only one copy. In several of the Swiss cantons, copies were formerly exacted; but when the censorship of the press was abolished, that exaction ceased.

In *France*, according to Monsieur Guizot, the bookseller is required to transmit three copies of every work published to the office appointed, upon failure to do which he becomes obnoxious to prosecution. This exaction extends to every successive edition of a work, and also includes those of a costly description. But the government frequently subscribes towards productions of a high and expensive character, in order to facilitate their publication.

In some parts of *Germany*, it is compulsory that every author shall give to the library under the special patronage of the State, one copy of his work; in others it is not compulsory, but it is always done, as a sort of traditional civility. It is not customary, however, to present a specimen of every reproduction, unless important alterations have been made. Mons. Libri, an Italian *literateur*, who has had great experience in the management of public libraries, esteems the usage a hardship and injustice to authors. It has been stated that at least 25,000 volumes are missing in the Depôt Legal of France, the establishment to which the editors are obliged to consign copies.

In *Belgium*, likewise, the law compels the producer of a book to send three copies of every edition to the municipal council of the town in which it is published, and which thus becomes a guarantee for his copyright. In that country there are very few works toward which the government does not subscribe for a number of copies, thus affording a stimulus to literary enterprise, and placing itself in a position to distribute some copies to the libraries in the provinces, thereby encouraging the establishment and extension of such depositories. All the libraries have become municipal since the time of the French republic; those of Liege and Ghent were ceded to the Universities, but with this restriction that they should always remain the property of the town; in consequence of which the government have sometimes, within a period of twenty years, spent some £12,000 on the enrichment of these noble institutions. Although the Chamber ordinarily only votes a grant of 65,000 or 70,000 francs for the Royal Public Library of Brussels, yet whenever there occurs a large sale of books, a special grant is made for the purpose. It recently happened that one of the most choice and curious public libraries had been announced for sale; a bulky catalogue, occupying six volumes, had been printed; the government immediately came forward, bought the entire collection for about £13,000, and added it to the royal library at the capital. They did the same thing also at Ghent. The library bought at Ghent consisted of about 20,000 vols., and that in Brussels of about 60,000.

In many of the Continental States, where the governments watch all the publications emanating from the press with great jealousy,

the books are required chiefly in order to ascertain whether they correspond with the manuscript after it had passed the ordeal of censorship.

The same regulation for the compulsory delivery of books by authors or publishers is imposed in *England*. The origin of this exaction was first of all a private agreement between Sir Thomas Bodley and the Stationers' Company, in 1610, which was afterward recognized by the Legislature. By subsequent Copyright Acts, the three copies originally levied were augmented to eleven. Under the Copyright Act, the following are the libraries that were entitled to receive copies of works gratuitously :—The British Museum ; Sion College, in London; the Bodleian library, at Oxford ; the University Library, at Cambridge; the libraries of Trinity College, in Dublin ; King's Inn, in Dublin ; the Faculty of Advocates, in Edinburgh ; together with those of the Universities of Edinburgh, Glasgow, Aberdeen, and St. Andrews ; making eleven in all.* The Copyright Amendment Act, passed in 1836, abolished the privilege in respect to six of the number, and substituted a money grant from the Treasury, varying in amount—the highest being that granted to Glasgow, of £707 ; to St. Andrews, £630 ; to Edinburgh, £575 ; to the King's Inn Library, Dublin, £433 ; to Sion College, London, £363 ; and to the University of Aberdeen, £320 ; so that much inequality now exists. The total amount received by those libraries is £3,028. The Act was not extended to Oxford and Cambridge University libraries, in consequence of their refusal to accept compensation, and the strong indisposition they evinced to submit to any change in the ancient arrangements.

An idea may be formed of the large number of works thus annually exacted, from the fact that, during the last ten years, there have been published in the United Kingdom 31,395 books ; the estimated value of one copy of each of which, taken at publication price, is £13,420. This calculation embraces new works, and new editions and reprints of old books, but it excludes pamphlets and periodical publications. In Germany the total number of separate works, inclusive of pamphlets, published in 1846, was 11,600 ; in 1847, about 11,400 ; and in 1848, about 10,500. In France there appeared, in 1842, 6,445 separate works, pamphlets included: and in 1847, 5,530.

An investigation into the date of the foundation of some of the European libraries, and into the causes of their comparative progressive augmentation, is suggestive of many important considerations that may be turned to practical account by those who are labouring to build up the intellectual greatness of our country. The most ancient of the great libraries of printed books is thought to be that at Vienna, which dates from 1440, and is said to have been opened to the public as early as 1575. The Town Library at Ratisbon dates from 1430 ; St. Mark's Library, at Venice, from 1468; the Town Library of Frankfort, from 1484; that of Hamburgh, from 1529 ; of Strasburg, from 1531 ; of Augsburg, from 1537 ; those of Berne and Geneva, from 1550 ; that of Basel, from 1564. The Royal Library of Copenhagen was founded about 1550. In 1671 it possessed 10,000 vols.; in 1748, about 65,000 ; in 1778, 100,000 ; in 1820, 300,000 ; and it is now supposed to contain 412,000 vols. The National Library in Paris was founded in 1595, but was not made public until 1737. In 1640 it contained about 17,000 vols; in 1684, 50,000 ; in 1775, 150,000 ; in 1790, 200,000 ; and it now possesses at least 824,000 vols. The library of the British Museum was established in 1753, and opened to the public in 1757, with about 40,000 vols. In 1800 it contained about 65,000 vols. ; in 1823, 125,000 ; in 1836, nearly 420,000 ; and it now comprehends 435,000 vols.

The steady growth of the Copenhagen Library has been mainly owing to judicious purchases at favourable opportunities. The rapid increase of the noble National Library at Paris, since 1790, is in a great measure to be ascribed to the Revolution ; the suppression of the monasteries and convents, and the confiscation of the property of rebels and emigrants, having placed many fine libraries at the disposal of the ruling powers of the day. The increase of the British Museum, on the other hand, is mainly indebted to donations. Of its 435,000 books, at least 200,000 have been presented or bequeathed.

Many of the chief libraries of Continental cities are sustained by their respective governments in a spirit of great liberality. The average annual sum allotted to the support of the National Library at Paris is £16,575 ; to that of the Royal Library, at Brussels, £2,700 ; to that of Munich, about £2,000 ; to that of Vienna, £1,900 ; to that of Berlin, £3745 ; to that of Copenhagen, £1,250; to that of Dresden, £500 ; and to that of the Grand Ducal Library of Darmstadt, £2,000.

The average annual sum expended in the purchase of printed books for the library of the *British Museum*, previous to 1836, was only £1,135 From 1837 to 1845 inclusive, the sums devoted to this purpose averaged £3,433 a-year. In 1846 and 1847, in consequence of urgent representations having been made to the Treasury of the great deficiencies existing in the collection of printed books, a special increase of the Parliamentary grant was made, amounting to £10,000. In 1848, however, this sum was reduced to £8,500 ; whilst, in 1849, it was still further frittered down to £5,000. The entire amount of this latter year allotted to the sustentation of the library, in all its departments, is £23,261. The aggregate of the sums expended in the purchase of printed books, including maps and musical works, from its foundation in 1753 to Christmas 1847, is £102,447 ; and that expended in the purchase of manuscripts, £42,940 ; together, £145,387. The sums expended during the same period, in prints and drawings, amount to £29,318 ; in antiquities, coins, and medals, to £125,257 ; and in specimens of natural history, to £43,599.

A comparison between the funds appropriated by the French and British legislatures, for the general formation and maintenance of public depositories of books, places the latter in a still more unfavourable light.

Confining our attention to those libraries alone which constitute independent establishments, and where the exact amount of funds can, therefore, be ascertained, it appears that, since 1823, the French government has voted the sum of £426,571 for four public libraries in Paris, exclusive of another sum of £107,426 for buildings and their maintenance. The accounts of the expenditure of the French Institute show that £16,848 have been appropriated to its Library during the same period, from the public treasury ; to that of the University of Paris, £13,011: making a total of £456,430 devoted to the public libraries of Paris ; exclusive of those of the Museum of Natural History, the School of the Fine Arts, the Observatory, and the fine public library of the Conservatory of Music (which is said to contain 17,000 vols.). If the proportion of the public grants to these institutions expended on their books be calculated approximately at £65,000, the aggregate total so expended by votes of the French Legislature will be £521,430 ; or, on the average, £20,055 a-year.

During these same twenty-six years, the sum devoted by the British House of Commons to public libraries in London is, at the utmost, £282,486 ; or, on an average, £10,864 a-year.

The bird's-eye view we have thus endeavoured to present of the great libraries of Europe would be incomplete, without a hasty glance at those connected with the Universities. Those specially entitled to notice may be ranked in the following order.

Gottingen	*University Library	360,000
Breslau	University Library	250,000
Oxford	Bodleian Library	220,000
Tubingen	University Library	200,000
Munich	University Library	200,000
Heidelberg	University Library	200,000
Cambridge	Public Library	166,724
Bologna	University Library	150,000
Prague	*University Library	130,000
Vienna	University Library	115,000
Leipsic	University Library	112,000
Copenhagen	University Library	110,000
Turin	*University Library	110,000
Louvain	University	105,000
Dublin	Trinity College Library	104,230
Upsal	*University Library	100,000
Erlangen	University Library	100,000
Edinburgh	University Library	90,854
Glasgow	University Library	58,006

The foundation of the University of Turin dates from 1436 ; that of Cambridge, from 1484 ; that of Leipsic, from 1544 ; that

* A recent Canadian statute makes similar provision in regard to the University of Toronto.

of Edinburgh, from 1582; and the Bodleian, from 1597. The small library of the University of Salamanca is said to have been founded in 1215.

The Gottingen, Prague, Turin, and Upsal, are *lending* libraries. Those of Gottingen, Prague, Turin, Oxford, Cambridge, and Dublin, are legally entitled to copies of all works published within the States to which they respectively belong. The number of volumes accruing to the Bodleian from the operation of the Copyright Act, since 1825, computing them from the number supplied to the British Museum, would be about 38,000.

The annual expenditure of the Tubingen Library is about £760; of the Gottingen Library, £730: of the Breslau, about £409. That of the Bodleian, at Oxford, is now about £4,000—of which sum £1,375 is defrayed by proceeds of various benefactions, about £650 by matriculation fees, and about £1,500 by 'library dues.'

In reference to the degree of accessibility to all the foreign libraries that have paased in review, it may be generally affirmed that admission is granted unrestrictedly—to the poor as well as to the rich—to the foreigner as well as to the native. "The libraries of France," says M. Guizot, "are accessible in every way: for the purpose of reading, *and also for borrowing books. Any workman* whatever his social condition, who can obtain a certificate from his employer as to his respectability and honesty, may have books lent to him." We have also the assurance of his Excellency, M. Van de Weyer, that the fourteen libraries of Belgium "are all accessible to the public; any person, without any letter of authorization, may go into them, and be supplied with a book, if he asks for it." The same privilege is shown to exist in the libraries of Italy. M. Libri states that, *in almost every town in Italy*, there are public libraries freely accessible to the public—a concession limited only by the necessity of applying for permission to read forbidden books. For instance, the Florentine "History of Machiavelli" is prohibited, and there are many others to which the same restriction extends. Generally speaking, the books are not lent out to individuals to read at home; but the libraries attached to all the universities of Italy lend books to professors; whilst the privilege of reading, instead of being monopolized by the students, is shared by the public at large. The access in Italy is more unrestricted than that enjoyed at the British Museum. Respecting the libraries of Germany, C. Meyer, Esq., German Secretary to Prince Albert, says:—"They are, with few exceptions, freely accessible; they are, moreover, *lending* libraries. Every citizen has free access to the town library, and every member of the University has free admission to the University library; and each of these two classes of readers can mutually introduce the other to the respective libraries they are privileged to attend. Thus the system in the German towns is somewhat analogous to that adopted at the British Museum, with this important distinction, however—that the latter is not a lending library, whereas the introduction to a German library confers the right of taking away books."

Now it appears that we have only one library in Great Britain that affords the same measure of advantages and facilities with the glorious array of foreign collections at which we have glanced; and that is the library founded by Humphrey Chetham, in Manchester. There are ten or eleven libraries to which admission may be secured by the production of some sort of recommendation; and there are about twenty in addition that are accessible as a matter of grace and favour.

In our *metropolis* there are a few old and scanty libraries, but which, however resuscitated and improved, would never be commensurate with the mighty wants of an extending population. The more ancient part of London is the spot best supplied. Almost every collection of books in London or the provinces that can aspire to the character of a public library, owes its origin to a somewhat remote date; showing that our ancestors, with all their imputed inferiority, paid more attention to the formation of such institutions than ourselves. We will give a few particulars respecting some of them.

Dr. Williams's Library, situated in Red Cross-street, in the city, was opened in 1729. It originally constituted the private collection of Dr. Williams, an eminent Presbyterian divine, to which he subsequently added the library of Dr. Bates. It is vested in trustees, who, early in the trust, placed it under the administration of the Court of Chancery, for the purpose of transferring all responsibility from themselves. Many valuable donations and bequests have been, in past years, made to the foundation; and the number of volumes now contained in the library is about 20,000. The specific object of the founder in establishing it is not defined in the will. The trustees have recently extended its advantages to every person of respectability, free of all expense and trouble. The works are principally on theology, ecclesiatical history, and biography, with a few in all the more important departments of learning. There is accommodation for fifty or sixty readers.

Not far from Dr. Williams's Library, in London Wall, is situated the library of *Sion College*, founded by Dr. White, rector of St. Dunstan's in the West, in the year 1636. The conditions of admission are somewhat similar to those of the British Museum. A note from any Fellow of the College—that is to say, any incumbent in London—will introduce a reader for twelve months; while a discretionary power is given to the librarian to allow persons to consult the library whom he may consider qualified. The primary object of the library was to afford literary facilities to the Established Clergy of the city of London. The number of volumes ranges between 3,5000 and 40,000; they are on general subjects, with, however, a larger proportion than usual of theological works; many of the books are exceedingly rare, or altogether unique. The collection is rich on general history, particularly concerning the times of Charles I., and of the same period on the Continent. The number of persons who frequent the library is not more than 300 or 400 a-year; and the number of volumes in circulation during the same period does not exceed 6,000. The Rev. Mr. Christmas, the librarian, suggests that, by an arrangement enabling more persons to take out books on certain terms of subscription, this library might be opened to the public, and 200 readers accommodated, where at present there are not more than six or seven. It is, however, unlikely that this, or any other library in a large town, will be extensively used, unless it be open in the evening.

In the city of Westminster there still slumbers the library founded by Archbishop Tennison, in the year 1685. In the "orders and constitutions" of the founder, it is declared that "the books of the said library" are to be "for public use, but especially for the use of the vicar and lecturer of the said parish," and other clergymen within the precincts. The "public" intended to be benefited by this collection consists of the inhabitants residing within the boundaries of the ancient parish of St. Martin. The trustees are appointed for life by a Master in Chancery. The books are mainly upon theological subjects, of great variety, curiosity, and value; but do not exceed 4,000 in number. They are stated by the librarian to be in as dilapidated a condition as books can well be. They are kept under the careful custody of lock and key, and are never taken down to be cleaned, whilst the bindings are rapidly going to decay from neglect. The restoration of the library is now under the consideration of the trustees; and it certainly might form the nucleus of a good local library for Westminster.

These, with the British Museum and the Lambeth Palace library, constitute the entire public provision for the intellectual nurture and delectation of more than two millions of souls! How far they are adapted for that purpose, we leave our readers to determine.

Connected with the deaneries and chapters of our cathedrals, there is an ancient set of libraries commonly called cathedral libraries. Of these there are thirty-four in England and six in Ireland. Their basis is theological; to some of them additions are annually made; and attention is being given to their restoration and improvement. In several, a moderate freedom of access is conceded to the public. The number of volumes in each ranges from 4,000 to 11,000. These, if the sanction of those who preside over them could be obtained, would form excellent nuclei of provincial libraries for the ancient cities of our land.

Parochial libraries once prevailed to a considerable extent throughout this country. Evidence has been collected of the existence of 163 such libraries in England and Wales, and 16 in Scotland. They were generally designed for the use of the clergy. Their foundation was in the first instance, due to individual benevolence; bnt subsequently and principally, to the efforts of Dr. Bray and his 'associates,' at the beginning and in the middle of the last century. They have, in most cases, been suffered to go to dilapidation.

A TOUCHING INCIDENT.

A few weeks since, in coming down the North River, I was seated in the cabin of the magnificent steamer, Isaac Newton, in conversation with some friends. It was becoming late in the evening, and one after another seeking repose from the cares and toils of the day, made preparations to retire to their berths. Some, pulling off their boots and coats, laid themselves down to sleep; others, in the attempt to make it seem as much as possible like home, threw off more of their clothing—each one as his comfort or apprehension of danger dictated.

I had noticed on deck a fine looking little boy, of about six years old, following around a man, evidently his father, whose appearance indicated him to be a foreigner, probably a German—a man of medium height and respectable dress. The child was unusually fair and fine looking, handsomely featured, with an intelligent and affectionate expression of countenance; and from under his little German cap fell his chestnut hair, in thick, clustering, beautiful curls.

After walking about the cabin for a time, the father and son stopped within a few feet of where we were seated, and began preparation for going to bed. I watched them. The father adjusted and arranged the bed the child was to occupy, which was an upper berth, while the little fellow was undressing himself. Having finished this, his father tied a handkerchief around his head to protect his curls, which looked as if the sunlight from his happy heart always rested there. This done, I looked for him to seek his resting place; but instead of this he quietly kneeled down on the floor, put up his little hands together, so beautifully childlike and simple, and resting his arms on the lower berth against which he knelt, he began his vesper prayers.

The father sat down by his side, and waited the conclusion. It was, for a child, a long prayer, but well understood. I heard the murmuring of his sweet voice, but could not distinguish the words he spoke. But what a scene! There were men around him—Christian men—retiring to rest without prayer; or, if praying at all, a kind of mental desire for protection, without sufficient courage or piety to kneel down in a steamboat's cabin, and, before strangers, acknowledge the goodness of God, or ask his protecting love.

This was the training of some pious mother. Where was she now? How many times had her kind hands been laid on those sunny locks, as she had taught him to lisp his prayers!

A beautiful sight it was, that child at prayer in the midst of the busy, thoughtless throng.—He alone of the worldly multitude draws nigh to heaven. I thank the parental love which taught him to lisp his evening prayer, whether Catholic or Protestant, whether dead or living, whether far off or nigh. It did me good; it made me better. I could scarcely refrain from weeping then, nor can I now, as I see again that sweet child in the crowded tumult of a steamboat's cabin, bending in devotion before his Maker.

When the little boy had finished his evening devotion he arose, and kissed his father most affectionately, who put him into his berth, to rest for the night. I felt a strong desire to speak to them, but deferred it till morning.—When morning came, the confusion of landing prevented me from seeing them again. But, if ever I meet that boy in his happy youth, in his anxious manhood, in his declining years, I'll thank him for the influence and example of that night's devotion, and bless the name of his mother that taught him to pray.

Scarcely any passing incident in my life ever made a deeper impression on my mind. I went to my room, and thanked God that I had witnessed it, and for its influence on my heart. Who prays on a steamboat? Who train their children to pray, even at home?

HINTS ON MORAL INSTRUCTION IN COMMON SCHOOLS.

It is much to be lamented that more attention is not given to moral instruction in all our schools. Committees and school-officers, in employing teachers, should consider it of paramount importance that they be possessed of the right principles, spirit, tact, and manner for interesting and judiciously feeding the delicate, plastic mind with wholesome moral instruction. A teacher may discourse fluently upon the many ologies, osophies, &c., and at the same time lack capacity and tact for faithfully instructing in theoretical and practical ethics. How to read, write, play, sing, and so forth, our children are continually being taught; but why not occasionally, yes, regularly, teach them the *object* for which these and numerous other accomplishments are bestowed, viz., how to live good and useful lives.

Teachers, yours is the duty and sacred responsibility—

> "To pour the fresh instruction o'er the mind,
> To breathe the enlivening spirit, and to fix
> The generous purpose and the noble thought."

Every earnest, faithful, enthusiastic teacher can find sufficient time in his school-room to appropriate daily for general exercises in the first principles of ethics, and the simple, familiar, practical parts of natural theology. If he has not the acquired ability and aptness to attain such daily exercises, he can, by a little fore-thinking, reading and preparation on the previous evenings, acquire sufficient to successfully interest and benefit his pupils, at the same time materially improving himself. He can adapt the instruction to their several capacities for comprehending such solitary and sober lessons.

To be sure it implies no very low standard in a teacher to effectually and happily succeed in this two-fold office of instructor of heavenly minds, germs of immortality; but a qualified professional teacher is nothing short of what we need, and must have in this nineteenth century, to properly educate our youth. We are wholly opposed to this system of school-keeping quackery, so long practised and palmed off on us. Had we the prerogative, we should feel that we were doing a great service to the rising generation and humanity, by snatching from the spoiling tuition of the many untrained, and unqualified quacks who creep into the peculiarly responsible business of giving instruction in schools, every child who is under their baneful influence, and turn these miscalled teachers themselves out of the profession, to prosecute other callings, more congenial to their tastes and talents.

EDUCATION IN THE BRITISH ARMY.

To the Editor of the Journal of Education.

Sir,—Not finding among the many interesting articles on Education which have from time to time been inserted in your valuable columns, any one referring to the highly improved means now in action for the dissemination of that great blessing among the soldiers of the British Army, I take the liberty of forwarding to you herewith a copy of the latest *War Office Regulations* on that head, in the full expectation that it will, on many accounts, prove highly interesting to yourself personally, as well as very acceptable to a considerable portion of your readers.

As you may probably recognize in the anonymous signature attached to this communication, that of one who has before now humbly, yet heartily, "done battle" in favour of the good cause in which you are engaged, and who may not perhaps have fought altogether in vain, I have ventured without any apology, to add a few notes, and to italicize such portions of those Regulations as I deem particularly worthy of attention, and to superadd here a few lines more than I originally intended, with relation to instances in which the qualifications, rank, and remuneration of Regimental School Masters have been greatly advanced since my days, and which I think well deserving of being borne in mind in the further improvement of our own Common School System. For instance:—

1st. It is worthy of remark, that in by-gone times the Regimental School Master was taken from among the common soldiers, and was required to possess no further qualifications than his immediate Commanding Officer might think requisite; and on assuming the office, he held only the nominal rank of Serjeant, and as such, was styled School-master-sergeant, but was liable to be reduced to the ranks by the same authority that appointed him; whereas now, all School Masters are appointed under the authority of the Secretary at War, and must have previously undergone a period of training at the Royal Military Asylum, and obtained a certificate of qualification therefrom.

2nd. In addition to special enlistment and attestation, he is subject to be transferred from one regiment to another, and ranks next to the Serjeant-Major—the highest non-commissioned officer in a regiment—and is simply designated "School Master," with the pay of 2s. 6d. a-day and the prospect of a future increase of 6d. a-day more; besides, should no particular quarters be attached to the Regimental School,—being entitled to the same quarters, fuel, and lights, &c., as a Serjeant-Major; and on his being placed on the pension list he is entitled to 6d. a-day more than a Sergeant.

3rd. In addition to his duty of instructing adult soldiers and soldiers' children, he may undertake the education of the children of officers—receiving from the parents of the latter such compensation as may be mutually agreed upon. And

4th. In addition to the Regimental "School Master," there is also a regularly trained "Assistant," ranking and entitled to the same pay and pension as a Serjeant, and liable to be promoted to the station of School Master, with all its increased rank, emoluments, and other advantages.

Leaving your readers to refer to the Regulations themselves for the various interesting details, I am content to have pointed to the striking contrast between former and present times, and to add thereto the expression of a sanguine hope that, as "the School Master is now indeed abroad" in the British army, clothed with a moral power and influence which, united with other improvements, must ere long inevitably raise the standard of its gallant soldiers far above every other nation, so I trust things will continue "to progress" until even higher qualifications shall be expected in the Regimental School Master, and he shall be placed by a special commission, similar to that of the quarter master, on a par with the officers of the Regiment, and be invested with the office of chaplain, as far as the reading of prayers and the funeral service is concerned, where no regular clergyman can be obtained.

There is only one thing which I regret to see altogether overlooked, as worthy of being incorporated with those excellent Regulations, namely, the authorized establishment of Regimental Libraries (apart from what are termed Garrison or Barrack Libraries) which, though prevalent in many, do not imperatively exist in all regiments, and of which it appears to me the School Master would be the natural Superintendent; for I still look back with heartfelt pride and satisfaction to the striking good effects produced in one particular Regiment in which I happened to be, about 22 years ago, the humble instrument of founding such an Institution as that to which I allude. But I fear that in the warmth of my feelings, I have been garrulously trespassing too much on your circumscribed space, and shall therefore conclude, remaining,

Your and Education's sincere well wisher,

Montreal, November, 1850. "L."

REGULATIONS FOR THE GUIDANCE OF REGIMENTS TO WHICH A TRAINED SCHOOL-MASTER IS APPOINTED BY THE SECRETARY-AT-WAR.

SCHOOLMASTERS.

SCHOOLMASTER'S QUALIFICATION.—1. *All Schoolmasters appointed under the authority of the Secretary-at-War must previously have undergone a period of training at the Royal Military Asylum* and have obtained *a* CERTIFICATE OF QUALIFICATION *therefrom.**(1.)

ATTESTATION.—2. On the appointment of a trained Schoolmaster to a Regiment by the Secretary-at-War, a certified copy of his attestation will be transmitted to the Officer commanding, and his service in the Regiment should be recorded on the third page thereof, dispensing with the usual Regimental number.

ATTESTATION ON TRANSFER.—3. On the transfer of the Schoolmaster to another Regiment, the copy of his attestation, completed to the date of transfer, should be transmitted to the officer commanding the Regiment to which he is transferred.

RANK.—4. *The Schoolmaster so appointed is to rank next to the Serjeant-Major, and his designation to be that of "Schoolmaster."*

PAY.—5. *His pay will be* 2*s.* 6*d. a-day and beer money, with an addition of* 6*d. a-day after such period*, in each case, *as the Secretary-at-War may decide.*†(2.)

CLOTHING.—6. He will be entitled to receive clothing in every respect similar to that of the Serjeant-Major, except the Serjeant-Major's stripes.

SCHOOLMASTER'S POSITION ON PARADE, &c.—7. *When the Regiment parades for inspection, muster, or to attend Divine service, he will take his place at the head of the children, wherever they may be stationed.*

MESSING.—8. So long as he is single he may be a member of the Serjeant's mess, the usual stoppage being then made for his messing; but when married, he will mess in his own quarters.

QUARTERS.—9. Should no special quarters attached to the school be provided for him, *he will be entitled to quarters as a Serjeant-Major.*

FUEL AND LIGHT, AND FURNITURE.—10. *He will also be entitled to the same allowance of fuel and light, and furniture, for his quarters, as a Serjeant-Major.*

MARRIAGE.—11. The application from the Schoolmaster for permission to marry should be forwarded for the consideration of the Secretary-at-War by the Commanding Officer, accompanied by his opinion of the character and respectability of the person whom the Schoolmaster is desirous of marrying.

FURLOUGH.—12. All applications from the Schoolmaster for leave of absence should be forwarded by the Commanding Officer to the Adjutant-General, if the Regiment is serving at home, or to the General Officer commanding on the Station if the Regiment is abroad.

EXPENSES.—13. Applications from the Schoolmaster for *reimbursement of expenses actually and necessarily incurred by him on joining the Regiment*, or for carriage of books and stationary for the use of the School, should be forwarded quarterly by the Paymaster to the Secretary-at-War, for a special authority to charge the same in the Pay List, accompanied by the proper receipts and vouchers.

MONTHLY REPORT.—14. The Schoolmaster will transmit on the 1st of each month, through the Commanding Officer, *a Report to the Inspector-General of Schools*, on War-Office Form No. 367, of the number of adults and children attending the Schools during the previous month, and of their progress, filling up the column of remarks with such observations as he may consider necessary. *This Report to be countersigned by the Officer Commanding*, with any remarks he may consider it desirable to make.

MISCONDUCT.—15. The following is an extract from instructions issued by the direction of his Grace the Commander-in-Chief:—

"The Schoolmaster, when attested and enlisted under the provisions of the Mutiny Act, is amenable to trial for all offences against its provisions; but, *considering the circumstances attending the education and position of the Schoolmaster, the Commander-in-Chief desires that, in case of any misconduct of the Schoolmaster occasioning his being placed in arrest with a view to his trial by Court-martial, the facts and circumstances of the case may be reported to the Commander-in-Chief for such directions as he shall think fit to give.*"‡(3.)

PENSION.—16. The Pension to which the trained Schoolmaster will be entitled, when placed on the Pension List under the Pension Regulation, will be 6d. *a-day in addition to that of Serjeant.*‖(4.)

SCHOOL FEES RATES.—17. On the appointment of a trained Schoolmaster to a Regiment, the rates prescribed by Her Majesty's Regulations to be paid by Non-commissioned Officers and soldiers, viz.: Serjeants, 8d. a month; Corporals, 6d.; Drummers and Privates, 4d.; instead of being paid to the Schoolmaster, are to be credited to the public.

SCHOOL FEES, HOW TO BE CHARGED.—18. The amount of Soldiers' subscriptions at these rates is to be charged to the men monthly from the dates on which they commence to receive instruction from the Schoolmaster, and is to be paid to the Paymaster, who is to give credit for the same in his current Pay List.

MONTHLY RETURN OF, TO BE RENDERED TO PAYMASTER.—19. The Schoolmaster is to furnish to the Paymaster a monthly list of the Non-commissioned Officers and men who have received instruc-

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NOTES.—* 1. The approximation of some of these Regulations to Rules adopted in the U. C. Common School system will be found equally remarkable and gratifying.

† 2. Contrast this with the paltry pittance paid throughout Canada to the Common School Teacher, and we may well blush! Even the 2s 6d a-day gives the Regimental Schoolmaster a permanent minimum annuity of near £46 sterling, and the extra 6d a-day about £10 more; besides receiving gratuitous lodging, fuel, lights, and medical aid; and he has the satisfaction of looking forward to a comfortable pension in the evening of well-spent life; whereas the average yearly *uncertain* income of the Canada Common School Teacher, however well qualified, does not average more than £50 or £60 cur'y; and out of that he has not only to defray house-rent, fuel, &c., but also to provide for the cheerless winter of a life devoted to a profession, the nature of which tends to incapacitate him for great bodily exertion at any time, and far less in his declining years.

‡ 3. This delicately respectful consideration for the peculiar position of the Regimental "Schoolmaster," though ranking as a Non-commissioned Officer only, forms an admirable feature in these excellent Regulations, and speaks volumes for the illustrious Chief at the head of the British Army.

‖ 4. The retired Pension of a Serjeant is 2s. sterling per diem.

tion from him, containing the names according to rank, and the dates from and to which they have attended the School. This Return will enable the Paymaster to charge the Officers paying Troops and Companies with the amount due from the men.

QUARTERLY RETURN OF, TO BE RENDERED TO WAR OFFICE —20. The Schoolmaster is to render to the War Office, immediately after the expiration of each quarter, to 31st March, 30th June, 30th Sept., and 31st December, a separate Quarterly Return on War Office Form, No. 369, showing the amount that has been received during the period and credited to the public, upon which an authority will be furnished to pay him three-fourths thereof for his own use.

INSTRUCTIONS ON FORM OF QUARTERLY RETURN.—21. On Form No. 369, the Schoolmaster will be careful to state the number of separate individuals (Non-commissioned Officers and men) who have attended the School at any one time during the quarter, and will also strictly comply with the instructions thereon for filling it up.

SCHOOL BOOKS AND MATERIALS, FIRST SUPPLY OF.—22. On the appointment of a trained Schoolmaster to a Regiment, a set of books and materials will be furnished for the use of the School, and the allowance granted by Article 32 of the Regulations of the 1st July, 1848, for the Regimental School, will cease.

FURTHER SUPPLIES, AND APPLICATION OF.—23. Such further supplies as may be actually required will likewise be furnished on the transmission to this office of a requisition in duplicate, on War Office Form, No. 372. These supplies will include books, &c., for the general use of the School, copy-books for the use of the Recruits, and small quantities of stationary for the use of the Schoolmaster; but all Non-commissioned Officers and Soldiers who voluntarily attend the School are required to defray the expense of the copy-books that may be necessary for them, of the same description as those supplied for Recruits.

SCHOOL-BOOKS AND MATERIALS, DAMAGE TO.—24. To secure the preservation of the books and Materials supplied by the public for the use of the School, Non-commissioned Officers and Soldiers attending the same, who may commit any damage to the School property, either willfully or through carelessness, will be required to pay the amount thereof as fixed by the Schoolmaster, subject to the approval of the Commanding Officer in regard to such amount, and the sums so levied should be reported by the Schoolmaster to the Paymaster, who will recover the same, and credit the amount in his accounts.

REPAIRS.—25. Quarterly Returns on War Office Form, No. 403 should be transmitted to this Office in duplicate by the Paymmaster, showing the estimated cost of any repairs required to the School property, and also the amount which has been recovered from Soldiers and credited to the public for wilful damages.

CARRIAGE—26. Any expense incurred for the conveyance of School property, after its supply to the Regiment, from one station to another, is to be defrayed out of the commuted rates granted by Article 36, page 21, of the War Office Regulations of 1st July, 1848.

SCHOOL ACCOMMODATION.—27. On the appointment of a trained Schoolmaster to a Regiment, should means not exist in the Schoolroom allotted to it, for effectually establishing the new system of instruction, the Commanding Officer should represent the same to the Secretary-at-War, with full particulars of the dimensions of the School, the defect thereof, and the manner in which they may be remedied.

FUEL AND LIGHT FOR THE SCHOOL.—28. If, in consequence of the number of men attending the School, the supply of fuel and light by the Ordnance Department for the use thereof be insufficient, a representation to this effect should be made by the Commanding Officer to the Secretary-at-War, stating the quantity of coals and candles supplied, the number of lights the latter affords, the dimensions of the School, the number of men attending the same, and the increased quantity which is deemed absolutely necessary. It should also be stated whether means exist of supplying the School with gas.

ASSISTANT SCHOOLMASTERS.

ASSISTANT SCHOOLMASTER'S APPOINTMENT.—29. *The Assistant Schoolmaster is attached temporarily to such Garrisons or Regiments only as have a trained Schoolmaster appointed by the Secretary-at-War, for the purpose of assisting the Schoolmaster in his duties when such assistance may be required, and will be liable therefore to be removed to other Stations by the Secretary-at-War as he may think proper.*

PAY, QUARTERS, FUEL, AND LIGHT—30. *The Assistant Schoolmaster*, when appointed by the Secretary-at-War, will be *entitled to the pay and beer money of a Serjeant*, and *also to Quarters*, and *Fuel and Light*, as such, if he cannot be accomodated in the Schoolmaster's Quarters, which he should always be when practicable.

MESSING.—31. He will be a Member of the Serjeant's Mess, and be subject to the usual stoppage from his Pay for his Messing, unless specially permitted by the Commanding Officer to provide his own Mess.

ASSISTANT SCHOOLMASTER.—CLOTHING.—32. He will wear the same dress as that previously provided for him at the Royal Military Asylum, viz.:—one frock coat, one pair of cloth trousers, one pair of boots, to be renewed annually; one cap with oilskin cover, one worsted girdle, biennially. Requisitions for fresh supplies of clothing, when due, may be made to this office, on War Office Form No. 76.

NECESSARIES.—33. In regard to necessaries (shirts, socks, &c.,) as each Assistant Schoolmaster, at the time of his quitting the Military Asylum on appointment, is in possession of a certain supply, he will be required to complete himself in whatever he may further require out of his Bounty, and keep these articles up afterwards out of his Pay.

UNDER WHOSE SUPERINTENDENCE.—34. *The Assistant Schoolmaster will be under the immediate superintendence and control of the trained Schoolmaster of the Garrison or Regiment* to which he may, for the time being, be attached by the Secretary-at-War, and will be liable to obey all directions he may receive from such Schoolmaster in regard to his duties in the School, and in preparing Returns, &c., connected therewith, subject, of course, to such orders as may be issued by the Officer commanding the Garrison or Regiment.

SCHOOLMASTER TO REPORT UPON CONDUCT OF.—35. The Schoolmaster of the Garrison or Regiment to which an Assistant Schoolmaster may be attached, will consider it his duty to advise the latter as to his general conduct, and he will include, in his monthly report to the Inspector-General of Schools, a report as to that conduct and the manner in which generally he has performed his duties as Assistant Schoolmaster during the previous month. The Secretary-at-War relies with confidence upon his setting a proper example to the Assistant Schoolmaster under his care, and training him, as far as he can, for a useful prospective career.

ASSISTANT SCHOOLMASTER.—ACCESS TO BOOKS.—36. The Assistant Schoolmaster is to have access to the Books furnished for the use of the School, after school hours, for the purposes of study, and the Schoolmaster will afford him any assistance in his power to advance him in his studies.

QUALIFICATION FOR, ON PROMOTION TO RANK OF SCHOOLMASTER.—37. *In the event of the Assistant Schoolmaster being selected by the Secretary-at-War for promotion to the higher rank of Schoolmaster, on account of zeal and intelligence in the performance of his duties, and exemplary conduct as Assistant Schoolmaster, he must, for the purpose of qualifying himself for the higher appointment, undergo a further course of instruction in the Military Asylum*, and during such period he will neither be allowed pay nor to reckon service towards pay or pension.

SERVICE AS ASSISTANT WHEN PROMOTED.—38. Should he be so selected, and receive the appointment of Garrison or Regimental Schoolmaster, the service performed by him as Assistant Schoolmaster, after the age of 18, will reckon only as half towards the completion of the service required in the rank of Schoolmaster, or to obtain the Pension attached to the same under the Regulations.

PENSION.—39. *The Assistant Schoolmaster will have the same claim to Pension as a Serjeant.*

CHILDREN'S SCHOOLS.

RULES.—40. The relative duties of the Schoolmaster and Schoolmistress, in regard to the instruction of the children, and the allowances granted to them for such duties, in Garrison or Regimental Schools, to which a trained Schoolmaster has been appointed, are prescribed by the Warrant and Regulations dated 30th March, 1850.

INSTRUCTION OF OFFICERS' CHILDREN.—41. The children of Garrison or Regimental Officers may receive instruction from the trained Schoolmaster, but payment must be made by the parents of the same, at such rates as may be agreed upon between them and the Schoolmaster. (Signed) F. MAULE.

War Office, 19th April, 1850.

JOURNAL OF EDUCATION.

TORONTO, NOVEMBER, 1850.

EDITORIAL CORRESPONDENCE OF THE REV. DR. RYERSON.

SCHOOL REGISTERS—SCHOOL REGULATIONS FOR CITIES AND TOWNS—GRAMMAR SCHOOLS—VISITS TO AMERICAN UNIVERSITIES, AND REMARKS ON UNIVERSITY REFORM AND EDUCATION.

To the Assistant Editor of the Journal of Education.

LIVERPOOL, October 28th, 1850.

MY DEAR SIR,

After a passage of eleven days from Boston, (nine from Halifax,) I arrived in Liverpool yesterday afternoon(Sunday); and I improve the first leisure hour in doing what I had not time to do before embarking, and what I could not do at sea,—communicate to you such remarks on circumstances and topics connected with my tour as may accord with the objects of the *Journal of Education*, and may be of some interest and use to many of its readers.

At New York, I got a form of *School Registers* stereotyped, which I hope you will be able to get printed, and furnish for the use of Schools at a very moderate price. Much inconvenience has been experienced by Trustees and Teachers of Schools, in preparing Registers according to the form which has been prescribed according to law. The School Registers have in many instances, been found too defective in form and filling up, to be of any practical use. Yet the experience of all countries where a system of popular education exists, regards the correct and perfect keeping of School Registers as absolutely essential to success, and even to the equitable administration of the law. Of so grave importance is it viewed in the most advanced New England States, that the neglect of it is followed by the withholding of the School Fund from any School in which it occurs. As the present School Law in Upper Canada contemplates the distribution of the School Fund to the several schools in each Township according to the *average* attendance of pupils during both winter and summer in each school, the faithful keeping of the School Register by each Teacher is of still greater importance than heretofore. And as the *average* attendance of the pupils is one of the matters which the local Superintendent is to *note* in his *quarterly* school visits, he will have the means of detecting any unfair returns at the end of the year, and subjecting such dishonourable delinquencies to the penalties of the law. And printing, as I hope you will be able now to do before the end of the current year, Registers for all the schools, with the proper directions for keeping them, no shadow of excuse can hereafter be presented by any delinquent party for not having a proper School Register, and that duly kept.

From New York, I proceeded to Providence, (Rhode Island)—a small city, in which there is, perhaps, the most perfect and efficient system of schools of any city or town in the United States. This was my own impression; and this I found also to be the opinion of the Secretary of the Massachusetts Board of Education, who has, for many years, been familiar with the character and condition of the schools in the several cities and towns of that best educated State in America. This fact is owing not merely to the school law under which the schools in the city of Providence are established, but to three other circumstances—the election of judicious Trustees, their appointment of a proper Superintendent of Schools for the city, and their keeping him in office from the first establishment of the system until the present time. Mr. N. BISHOP was selected for this work—a work which his varied and rare qualifications so admirably fitted him to undertake, and which he has had the happiness to mature and advance to its present state of unrivalled efficiency—thus erecting a monument of wisdom, benevolence, and patriotism more noble than any which has perpetuated the name of an ALEXANDER or a CÆSAR. Mr. BISHOP very readily and cordially furnished me with *fifty* copies of the By-laws and Regulations under which the schools in Providence are established and managed. But in addition to these, I desired his report for 1846, which contained the plans of all the school-houses which have been erected in Providence, together with an account of the manner in which the school authorities and people had proceeded in their erection; for I desire that the school corporation of each city and town in Upper Canada may be not only furnished with a copy of the best regulations for the management of their schools, but also an example of the manner in which others have proceeded with complete success in like circumstances. Mr. BISHOP had only two copies of the report in question in his office; but he went to every book-store in the city, and succeeded at length in procuring seventeen copies. These, together with fifty copies of the By-laws and Regulations above referred to, and fifty copies of the Regulations of public schools in the city of Boston, (which were most obligingly given to me by the Secretary of the Board of Trustees,) I caused to be forwarded to you by THOMPSON'S Express from Boston; and I trust, ere this, copies of them are in the hands of the school authorities of all the cities and towns in Upper Canada.

Boston is a very large and wealthy city, and its schools are the growth of ages. Some of the school-houses are splendid buildings, and the course of instruction is comprehensive and varied—embracing not only every branch of a thorough English education, but the French and German, Latin, Greek, and Mathematics sufficient to prepare students for the Univeristy. Nevertheless, the regulations for the management of the public schools in Boston, contain many things worthy of the special attention of the school authorities in our cities and towns. But there is nothing in the course of instruction in the public schools in the city of Providence which may or ought not to be provided for and accomplished in the schools of every city and town in Upper Canada. If our city and town schools are not made as efficient as those of our American neighbours, the difference will not be in the system, but in the people.

It must, however, be confessed that we require further legislation to render our system of schools in cities and towns as complete as it is in the cities and towns of the neighbouring States. Our *Grammar* Schools should correspond, in their relations to other schools and to the University, with the Grammar and High Schools in the American cities and towns. At present, with some exceptions, our Grammar Schools can bear no such comparison—are half common and half grammar schools, and consequently very poor in both respects—are under no general regulations, no supervision, and, therefore under very little responsibility. But in the American cities and towns, their Grammar and High Schools receive public aid upon the same conditions and are under equally popular and effective responsibility, regulations, and control, with all other public schools, and are equally accessible to all children in humble life, who are qualified and disposed to enter them. Their schools of this class are usually taught by graduates of Universities, and many of them respectable authors of classical and scientific works, and contributors to the general literature of the country, and from whom most of their Professors in Colleges are selected. The salaries of the Masters of their Grammar and High Schools are very little less than those of Professors in Colleges; in Boston they are quite equal to those of the Professors in Harvard College, and larger than the salaries of the Professors in Yale College.

I dare say there are Masters of Grammar Schools in Canada who would do honour to a professorship in any university; but where

there is no general system, there is no common standard of comparison, no defined objects to be attained, and therefore no well considered adaptation of means for the attainment of those objects. An university and common school system in a country, and yet no grammar school system, is like a line of telegraph or railroad completed at both ends, but unconnected and unfinished in the middle—an economical absurdity and loss to all parties concerned. Besides, all the parts of a system of public instruction should form one connected whole by a chain of mutual dependence and relation—the common school leading to the grammar school, and that again to the university, and the university preparing for the professions and for public life, and providing teachers for the higher schools, and becoming the fountain and radiating centre of a country's literature and patriotism. One part of the system should not be antagonistic to another part—should not be so viewed by any portion of the community. The whole people should view the University and Grammar Schools as much theirs, as the Common Schools; but this can only be the case when there is an obvious national adaptation in the efficiency, character and spirit of the higher seminaries of learning. If the attainments of the liberally educated men in a country are associated with a sense of greater personal indebtedness to their country—a warmer affection for it—a feeling of deeper obligation to advance its civilization and promote its interests—a spirit of identity with their country and of sympathetic regard for the well-being of all classes of their fellow-countrymen as such; then will the *alma mater* that bears such fruits of virtuous patriotism, in connexion with solid learning, be viewed by every lover of his country with the warmest interest and affection, and be regarded as a chief element of its advancement and greatness. But if, on the other hand, there is neither breadth nor depth in the system of university education in a country—nothing beyond what is merely verbal in language and purely rudimental in science, nor sufficient to excite the love and continued pursuit of either the one or the other—enough to create conceit, but not enough to teach humility—enough to pamper a shrivelled exclusiveness, but not enough to expand into broad catholicity; if the graduated representatives of such a system exhibit, in general, no mental superiority in the professions over those who have entered them from a private or grammar school—no greater capacity for the higher departments of practical life—no more love of science or literature, or more elevated and broader views of human relations and human affairs—no more expansive patriotism, or more ardent and generous effort to diffuse far and wide the pleasures and blessings of knowledge,—then must there be something so defective in the structure and animating spirit of such a system as to deprive it of the respect and sympathies of the country at large, and ultimately to endanger its very existence. As no public man can be written down, or put down except by himself or by his own acts, so no public institution can otherwise than deepen and widen the foundations of its strength in the esteem and affections of a country as long as it pays back to such country, for value received, a fair equivalent in literature, science, virtue, and patriotism.

I have been, more deeply than ever, impressed with the importance of these views by what I saw and heard in Rhode Island and Massachusetts, as well as by what I have since read and heard respecting the Queen's Colleges in Ireland. When at Providence, I called upon the Rev. Dr. WAYLAND, the President of Brown University, and author of two of the most valuable and widely adopted text-books used in the American Colleges and Academies—the one on *Moral Science* and the other on *Political Economy*—a man who has, during a quarter of a century, occupied the first rank among American scholars. As he had happened to have previously heard of my name, he received me as a friend rather than as a stranger—invited me to dine with him—and entered into the whole question of public education with the most lively interest during a conversation of some hours. Having learned the particulars in which our system of Common School Education agreed with and differed from the New England system, and what was the extent of the public provision made in Upper Canada for University, as well as for Grammar and Common School Education, and likewise the nature of our system of government, he expressed his admiration and delight—saying that Canadians had no reason to desire annexation to the United States, that the developments of our school system, and the proper management of our University Funds, would confer upon us advantages surpassing those of any State in the Union, and especially as our system of responsible government was adapted to all the wants of civilization and humanity. He remarked, with great force, upon the principle that each country should have its own system of education, from the primary school up to the university, which though common with the well considered systems of education in other countries, in fundamental principles, should have its own peculiar developments, modifications, and applications. Look, said he, to your own country in every part of your educational system—identify it with the wants and circumstances of your people, and they will not fail to support it. In illustration, he adverted to the great success of the measures which he had adopted in regard to a "Reform of the System of Collegiate Education" in Brown University—measures which had already resulted in voluntary subscriptions to the amount of *one hundred thousand dollars* for the endowment of that institution, in that little State of Rhode Island, and notwithstanding the existence of so many colleges within less than twelve hours' travel.

As I have sent you copies of Dr. WAYLAND's elaborate Report on this subject, for the information of the principal public men in U. C., I need not attempt to explain it; nor will my limits permit me. I will merely observe, that his proposed reform is based upon the fact, that four years is too short a time for students to become classical scholars, and study the other branches of science and knowledge which the wants of the age and country demand—that the classical course ought to be made more comprehensive and thorough for those who pursue it, instead of being infringed upon by other studies; but that a college ought to teach something else than the languages and literature of Greece and Rome—that the larger portion of persons intending to pursue business, and even the professions, desire and require a knowledge of several branches of practical science, which every college supported by the public ought to supply, and from which students ought not to be excluded by the condition of two or three years' study of the classics—that each college ought to provide by the establishment of professorships and lectureships for the various scientific wants of this age of manufactures, mechanism, navigation, and improved agriculture. This scheme of Dr. WAYLAND'S has found great favour with the American public; and it is likely to produce quite a revolution in their collegiate system, to the advantage of both classical learning and practical science. It must also tend to promote very essentially the material interests of the nation.

At Boston I became acquainted with the Rev. Dr. SEARS, Secretary of the Massachusetts Board of Education—a man who spent three years in the German Universities after he had completed his collegiate course in the United States; who was formerly President of the Baptist Theological College near Boston; and who, from his high character, his large and liberal views, his practical talents, and patriotic devotion, seems to be pre-eminently qualified to take up the Massachusetts system of public education where the Hon. HORACE MANN, on being elected to Congress, left it, and mature and carry it into practical effect in all its details—a task which is not adapted to Mr. MANN's theoretical and imaginative turn of mind. Dr. SEARS is very ably assisted in his office by the Rev. Dr. JACKSON, a Congregational Minister, educated to the law, and once a successful practitioner at the bar. He still continues the pastoral charge of his congregation. His salary as assistant in the Office of the Board of Education is $1,200 per annum. Dr. SEARS' salary is $2,100, besides his travelling expenses, which, he told me, amounted to about $400 a-year. He is also allowed $2,000 a-year to employ assistants in conducting the Teachers' Institutes (12 in number) in the several counties of the State. Dr. SEARS makes the regulations for conducting these Institutes—appoints the times and places of holding them—generally presides over the exercises of them, but does not teach, though he remarks upon the various topics taught in them and the manner of teaching, and lectures during two or three evenings of each week's Institute. He greatly admires our Canadian school system as established under the new law; he thinks that with such legal provisions and the means provided to give them effect, Upper Canada must soon excel any of their States in the march of general and sound education, and said he would rejoice if they could, in turn, appeal to the successful example of Canada for the incorporation of some provisions of our school law into theirs for the more complete organization of their school system.

Dr. SEARS kindly accompanied me to Cambridge, in order to call upon the Hon. EDWARD EVERETT, and visit Harvard College. We were peculiarly fortunate in the day of our visit, as it was the day of

the semi-annual exhibition at the College, where we found a large audience assembled, and the students in the midst of their performances. Mr. EVERETT was also present. He is a most amiable man, and is loved with the strongest affection by young and old. The students who took part in the performances wore gowns; and they, in general, recited their dialogues and orations with great spirit and much natural grace of manner. The concluding oration was on the "CHARACTER OF SIR ROBERT PEEL"—written and delivered by a young man of Pittsfield, New Hampshire. It evinced, upon the whole, a very correct appreciation of the character and principal public acts of the great English Statesman, and (what is very rare, even among educated Americans,) a clear perception of the genius and working of free constitutional government in England—a system which only requires to be understood to be honoured and admired by all enlightened men—a system which comprehends all the elements of responsibility and freedom in republican government without those which are irresponsible and despotic.

The performances ended, Dr. SEARS introduced me to the Professors present; and as this was one of the two days in the year on which they are accustomed to dine together, they invited us to dine with them. The dinner was served at the hotel; it was sumptuous and prepared in the best style, but there was no wine nor intoxicating drink on the table. The conversation was varied, social, and intellectual—such as became personal friends, and the most learned body of men in America. The larger proportion of the Professors are Unitarians; but some of them are Episcopalians and Congregationalists. Dr. WALKER (presiding in the absence of President SPARKS), the Professor of Intellectual and Moral Philosophy, is said to be a man of great talent and learning, and second only to Dr. SPARKS for the office of President of the University. He is a most agreeable and entertaining man in conversation. I found that in one branch of his department, he adopts STEWART, (accompanied with references to REID, BROWN, &c.,*) as the basis of his course of instruction; and in the other branch, the *Elements of Morality*, by Professor WHEWELL, of Cambridge, England. FRANCIS BOWEN, A.M., Professor of Modern History and Political Economy, (and Editor of the *North American Review*) is a most pleasing man in conversation. He adopts as the basis of his course of instruction in Modern History, the Historical Lectures of the late Dr. SMYTH, Professor of Modern History in the English University of Cambridge; and in Political Economy, the massive volumes of JOHN STUART MILLS—the modernizer and practical expounder of ADAM SMITH'S *Wealth of Nations*. The Classical Professor FELTON, looks not only a "Grecian, but a veritable Greek," as his classical works evince. But I must desist from further personal allusions of this kind, although there were several other Professors and Scholars present, whose works and fame are widely known on both sides of the Atlantic, and whose appearance and conversation made a deep impression upon my mind.

After visiting the noble library of the University, in a new and most magnificent building, we were conducted by Mr. E. N. HORSFORD, the Rumford Professor, through the various parts of the Lawrence Scientific School, a building erected for his Lectures, on "the application of the Sciences to the Useful Arts," and the experimental manipulations of his students. The arrangements, laboratories, furnaces, the various apparatus, and all the furniture of this building are on the most extensive scale. The Scientific School has been recently founded by Mr. LAWRENCE, by an appropriation as an endowment of $50,000; and the building has been erected and furnished at his sole expense, at a cost of about $30,000. Would that we had some such Lawrences in Canada!

The hour being late when we called at the residence of Ex-President EVERETT, we regretted to learn that he had gone into town.

There are two or three things connected with this most ancient and wealthy American University, on which I desire to make a remark or two. The first is, that a higher standard of qualifications is required for the matriculation of students than in any similar institution in Canada; that the Collegiate course extends over a period of *four* years, under the instruction of a large number of able and industrious Professors, and with less than three months' vacations in each year. Can young men in Canada, with only a three years' course of Collegiate instruction (and more than one-third of that time consumed in vacations) and under the instruction of only some *four* Professors in the undergraduate course, attain the solid and extended University education to which their sacrifices and enterprize entitle them, and which is required by the interests of sound learning and of the country at large? I suggest the question as one worthy of careful consideration by the Commission of the Toronto University.

A second remark is, that the Faculties of Theology, Law, and Medicine, which, with the Faculty of Harvard College (the College proper), compose the Cambridge University, are each established and sustained by separate endowments, and derive no part of their support from the funds by which HARVARD COLLEGE was established, and from which, together with the fees of tuition, the salaries of its officers are now paid, and its other current expenses defrayed. It is a maxim in the New England States, that the Professions should educate themselves—pursued as they primarily are by individuals for their own advantage, or for the benefit of sections of the community. The Collegiate course of instruction is considered common to all professions, and to all the intellectual and many of the material interests of the whole country. Therefore the State provides for it; but the subsequent or distinct course of instruction peculiar to each profession ought not to be sustained by the diversion of funds designed for liberal education generally, without regard to particular professions. To what extent this principle should be acted upon in husbanding the remaining funds of the Toronto University, is a matter worthy of grave deliberation by the authorities concerned.

Another remark is, that the examinations in Harvard and all other American Colleges, as far as I know, are *public*, and are conducted, not by the Professors, but by Committees in each department or subject, and for each class, consisting of educated men, and appointed a year in advance. *Each* of these Committees of Examiners makes a written report of the result of their examination in each subject, and the reports thus made to the corporate authorities of the College are generally published. Thus there is the test and evidence of a public examination, and then that of a formal report by special Examiners, as to the efficiency of the instruction and the progress of the students in each department and subject—which is more satisfactory, if not more beneficial, than the entire exclusion of the public from witnessing any examination, and the annual naked testimony of each professor as to the efficiency and results of his own labours. It would be very unsatisfactory for a Master of a Common or Grammar School to exclude every individual of the community from witnessing any of the school exercises or the periodical examinations of the pupils, and then to come forward on the occasion of a public exhibition, and announce to the listening audience the great progress and vast attainments of his boys. The importance of public examinations, and of their facilities for ascertaining the nature and modes of daily instruction, appears to me to increase with the elevation and public character of the institution concerned.

My last remark is, the conviction expressed by Professors of four American Colleges, and of three religious denominations, as to the injury to sound learning and literature, which the establishment of a great number of feeble Colleges, instead of one or two well endowed and efficient ones, has occasioned. This was their unanimous and strongly expressed opinion in reply to my inquiries. It was their conviction that no endowment less than that which a State alone can afford, is sufficient to place an University College upon an efficient footing; that there should be such a College established and conducted on broad Christian principles in each large State, in connexion with which individuals or religious denominations might advantageously endow professorships for particular purposes.

In conclusion, I beg to state, that what I have written is not to be regarded as official, but merely as my individual observations and suggestions on subjects in which, as a Canadian, I feel a deep interest in common with my fellow-countrymen. The latter part of the foregoing remarks I had intended to make the subject of another communication; but fearing that I might hereafter be otherwise occupied, and that fresh materials might accumulate in my hands, I have thought it best to compress and transmit, without further delay, the whole of my American observations on educational men and measures.

E. R.

* Dr. W. has edited an American edition of Reid's *Intellectual Powers*.

THOUGHTS ON THE CAUSES AND RESULTS OF INDIVIDUAL AND NATIONAL ENLIGHTENMENT.

(By a Correspondent.)

Among the questions connected directly or indirectly with the general advance of knowledge in the world since the earliest period, a very cursory examination will discover numerous details worthy of note; among such subjects, the nature and effects of the intellectual and moral progress of every country afford matter deserving of grave consideration.

In contemplating the ancient empires, that successively ruled the world, the Assyrian, Babylonian, Persian, Macedonian, and Roman, one element at least is exhibited of a nature producing a course of action peculiar to such states, and of which, comparatively few traces can be now discerned. In those early periods of the world's history, the existing power, that ruled mankind, might be said to be without competition; the balance of power was unknown; political economy, as applied either to a single state, or to the intercourse of a number of states, was unthought of; popular opinion was unfelt, or where it had a sensible existence, it lacked the aid of the press, that mighty engine, that has since rendered it the master of free nations, and the ruler even of despots. Thus the world's tyrants of the olden days possessed, in deed and in truth, the reality of absolute power. They, if any, acted by their own will, untrammelled by law, unvexed by popular agitation, and affected only by some traditionary custom hallowed in their own or their people's eyes by the superstition of a venerable antiquity. Thus the Persian despot spread his effeminate hordes over the fields of Grecian freedom: thus the tyrant delighted Rome with the groans and screams of Christian captives, careless of a world's curses, and fearless of a neighbour's wrath. Now complete absolutism is dead. The mighty Czar, that wields a fierce dominion over his fifty millions of serfs, knows a limit to his power; he dares not call forth to its utmost extent the embittered hostility of outraged humanity, or force a contest with a world's civilization. The butcher, that thinks it glory to score with stripes the flesh of defenceless women, writhing under the scourges of an untutored mob and branded with the hatred and contempt of a dozen nations, no longer finds a shield in the tyrant edicts of a weak despot, but is forced to flee from the scorn of civilized freedom, one among a thousand proofs, that a power has sprung up in the world, since the existence of the hoary monarchies of ancient times, that curbs with a giant hand, the menaces alike of imperial barbarism and the wild licentiousness of unlettered fury.

The jealousy of power, the clash of nations, the very competition of commercial interests, have forced on all a regard for the wrongs and rights of men and states, in some instances trifling enough, but in its spirit almost unknown to antiquity.

It is true that this course of action is still branded with the curse of selfishness, and degraded by cringing meanness, and that those who pursue it are oftener operated on by fear of power, than by love of justice. Still it has its bases on solid grounds, and advances "*passibus æquis*" with the lengthened strides of modern civilization. The general advancement of intellectuality, the comparative freedom from mental thraldom, the superior enlightenment on all points affecting social polity, have admitted of, and even urged on, enthusiastic efforts after originality and improvement in all branches of science and art, that have cleared away many of the ancient myths and fables by which our social philosophy has been so long overshadowed. This has called forth that spirit of competition, which causes one nation to watch with a jealous eye the outstretched grasp of every other; this has caused all to be more jealous of their rights, to examine with eagerness aught affecting the general interests of man, to discuss with keenness the regulations guiding commercial intercourse, and finally, has wrought it sablest achievements by that first and mightiest product of general enlightenment, popular opinion.

A very slight examination is sufficient to show, that these results, many of them altogether unknown to the ancient world, spring from that greater general spread of intelligence, by which all become more intimately acquainted with their rights, personal, social, political, and national. And this intelligence must be generally spread to produce any valuable effect; a very superficial inquiry into the history of former ages will show, that the restriction of such intelligence to a class or grade produces invariably two consequences: namely, on the one hand a total ignorance, of their true position and rights; and on the part of the favoured body a most overweaning estimate of the privileges to which they consider themselves entitled. And this is not the less true, because countries may be pointed out, wherein popular opinion on this subject is reasonably enlightened, though a large proportion of the people are utterly untaught; in such instances it will be found, that a large and influential middle class, eminent for wealth and steady energy of character, have also become eminent for ingenuity and enlightenment. Such a body is sufficiently part and parcel of the people to carry with it in its upward course, the great mass of unintelligent ignorance, exercising, in favour of all, that jealous supervision over law and government so necessary for the preservation of true liberty.

The species of intelligence thus forming the popular mind of a nation or a portion thereof is the result of various causes; the practical acquaintance with life acquired by experience and intercourse with other individuals and nations, a circumstance which must materially affect the condition and character of a highly commercial people, by which opportunity is afforded of noticing the results of various courses of action in other states; the unavoidable operation of the character and policy of different nations on those in contact with them;—these and other circumstances independently of direct instruction necessarily produce a powerful effect on the formation of principles and opinions.

Thus there are two great principles or modes by which general intelligence is imparted and character formed; namely, the operation of the external circumstances among which we live, and direct instruction, received through the medium of the pulpit, the school, or other regulated means.

These two mighty agents produce what may be termed education in its widest sense. From the former of them no individual, no nation, can possibly be free; this education of fate and nature all must undergo; no isolation of position can relieve us from its effects; this very isolation is one of its most powerful instruments, and the hermit, who, in the early ages of Christianity, to escape from persecution or avoid the pollution of sin, hid himself in the African desert, submitted to its action, as completely as he, who trod the crowded paths of ambition, or sacrificed himself in the pursuit of fame, or the absorbing thirst of wealth. The Hindoo widow throws herself on her husband's pyre, the worshipper of Juggernaut flings himself beneath the wheels of his idol's triumphant car, the wretched fakir endures through years of misery the unceasing torture of unstirring anguish, the red Indian at the stake smiles with defiant eye and unawed brow at the futile efforts of his foe, and the child of civilization sacrifices his mental and physical powers in the race of vain ambition, or his health in the pursuit of miscalled pleasure;—all and each trained and educated by external circumstances, from which there is no escape, exhibit the corresponding tendencies, and pursue the course to which they guide him. These are the more powerful, in that they operate at every period of our lives; the untutored mind of infancy, the plastic spirit of youth, the matured intellect of the ripe man are alike swayed and moulded by their power. This is emphatically the education of habit and circumstance equally unceasing and unavoidable in its action.

The various considerations connected with this mode or means of social progress, if philosophically viewed, would lead to a disquisition, highly interesting, no doubt, in its nature, but unsuited to our present views. How, for instance, are these external circumstances modified by natural dispositions? Are these dispositions innate, or are they the immediate product? And to what extent, of the external agencies alluded to, can these agencies be resisted, or does any power whatever exist, by which that warping of the mental vision, that overruling of the judgment, so often the result of a long subjection to such external influences, can be altogether obviated? These and many other inquiries of a similar character, are most important to the educator; nor can that man presume to organize a mighty system of national instruction, who does not weigh them with the deepest care.

I am the more willing to dwell on this branch of the subject, because, notwithstanding its extreme importance, it is too generally altogether overlooked both in private and public education. The

child encounters a teacher not merely in his regularly appointed instructors, but in his parents and in his companions; in the examples offered to his imitation, the books he studies, and even in the familiar operations of nature and the external objects he habitually contemplates, particularly if of a marked and startling character. To what an extent are the tone and character of the youthful mind warped and strained by peculiar local circumstances of an engrossing nature! These may or may not operate through physical agencies; no matter—they mould character, they produce a sensible result. Witness the warm, passionate, excitable, but usually nerveless and unsteady inhabitant of the tropics, and the active, bold, and energetic nature of the native of a more temperate clime. Nay, in the same country and with the same amount of actual instruction, but in contact with natural phenomena of a more impressive character, how much more superstitious is the inhabitant of the mountains than of the plains; he who "visits the sea in ships" than he who spends his life in comparative calm on land. The human mind naturally seeks an explanation of aught strange or wonderful, and when unlettered ignorance fails to afford a clue, we need not be surprised that it should attribute an unexplained wonder to some portentous and mysterious agency of unrevealed power.

In individual instances, in extreme cases at least, we unhesitatingly seek for counteracting remedies against mischievous external agencies, or at all events we usually endeavour to avoid the application of mental treatment likely to aggravate a prominent existing evil of personal character. The judicious parent who otherwise would retain at home a favourite son, of contemplative, studious habits, observes a decay of active childlike vivacity and an undue precocity of mental power, and he forthwith places him in circumstances to repress the too early expansion of intellect and call forth the active energies of physical existence. The child is saved, the body strengthened, and the intellect expanding afterwards at the natural period, produces the expected fruit. What is the result of the opposite course? With decaying health and dwarfed and stunted growth, the wretched victim dies, an intellectual prodigy;—or worse still; should the physical powers survive the wear and tear of mental precocity, he lingers on with weakened intellect sometimes even totally obscured, and at best a melancholy contrast to the vaunted efforts of his childish powers. Why is this? The one parent knew what education is, the other did not. To the merely imaginative mind with weak or immature judgment, we offer not food of an exciting and disturbing character: and on the merely logical enquirer, incapable almost of even the slightest tinge of poetic feeling, we force a mental diet of a totally opposite tendency: and where opportunity exists, the nature and effect of external circumstances operating on the feelings are carefully considered.

Thus in the management of individuals, as I have said, the unavoidable education imparted by nature is sometimes acknowledged, though rarely called by its right name. In the instruction of the masses, however, it is too frequently altogether overlooked, both by the framers of systems, and the operators in the work.

Among the most prominent and unceasing engines in the education of a nation, is example, the more powerful in proportion to the influence of the person affording it; a melancholy fact, from which it often happens, that superior abilities and information only afford increased opportunity of mischief. We never deny the power of example, nay, we readily quote proverbs on the subject; and it might thence be supposed, that we could be trusted to watch its working, at least in important cases. But can we? Do we actually apply the principle in the great work of national enlightenment, not merely with regard to the public school teacher but to others, the minister, the physician, the lawyer, whose professions are all more or less of a teaching character; some pre-eminently so, and the others to the extent of being appealed to for advice and guidance in difficult cases? Ignorant often of the real meaning and scope of education, and confounding it with instruction, which is only a means, we forget that all such persons, but more particularly parents and school teachers, are actually educating, not only during the daily period of time specially devoted to the duties of instruction, but during every waking hour of their lives: nay, so completely and undoubtedly is this the case, that, as instruction is commonly imparted, a far more decided effect is usually produced on the character of youth by the unconscious teaching of the school teacher's example in after hours than by the regulated efforts of his professional labours.

I have no intention at the present moment of considering any of the numerous deductions regarding national progress which may legitimately result from this view alone. I am only seeking to discuss in a very general way some of the means and consequences of popular education and enlightenment as evidenced in the character, conduct, and opinions of different nations at different periods; comparing, as it were in the rough, one or two of the most marked features of popular character in periods of barbarism and despotism, with those brought to light in these times of comparative knowledge and freedom. No great course of action can be selected from history, no great manifestation of national feeling or opinion can be brought under view, without detecting an immediate and intimate connexion between such subjects and the intellectual condition of the people to which they refer, whence the transaction is easy to the causes of that condition, the means then or afterwards adopted to alter it, and the due adaptation of similar efforts to our own case.

In the foregoing remarks, I have alluded to that source of the formation of character, which, depending on the unceasing action of external circumstances we must all undergo; should your space permit I trust to be able to avail myself of some other opportunity of discussing the other great department of education so powerful in its operation on national character, namely, a regulated system of popular instruction. These departments should never be separated; unhappily, however, the latter is so frequently mistaken for education, that it is rendered a means of actual injury by a vicious neglect of the proper modes of applying it. "X."

POPULAR SCIENCE.

By H. Y. Hind, Esq., *Mathematical Master, &c. Provincial Normal School.*

The design of the present and succeeding chapters on Popular Science, will be to inform the general reader of the most important and striking effects produced upon animate and inanimate matter, by the great agents, Heat, Electricity, Light, and the Chemical Forces; as well as to offer some familiar and practical illustrations of the dependence of animal and vegetable life, upon that universal harmony of action which is found to distinguish the complicated and ever changing influences these agents exercise over the forms which people the world we live in.

HEAT.

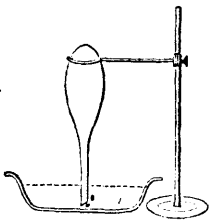
1. The lifeless appearance of a Canadian forest during the Winter months, presents a striking contrast to its beauty when arrayed in the gay colours of summer attire, and enlivened by numberless insect tribes. To what powerful agent may we attribute this wonderful change,—a change which seems to awaken all vegetable and insect forms from a lifeless repose, to the excitement and enjoyment of vigorous life? We cannot hesitate a moment in attributing this transformation to the genial influence of Heat.

2. In the forests of tropical countries where the heat is very uniform and intense, the most luxuriant vegetation presents a brilliant diversity of appearance from the commencement to the close of the year, and affords nourishment and shelter to multitudes of quadrupeds, birds, insects and reptiles. Intemperate climate, such as that of Canada, the trees loose their leaves and cease to grow during the winter season, birds migrate to warmer countries, insects bury themselves in the earth, or in decayed trunks of fallen trees, and bears, squirrels, snakes, frogs, lizards, mice, and bats, are plunged into a cold, senseless, motionless torpor. In the Arctic regions, a scanty growth of mosses and microscopic plants, a few animals and birds, especially adapted to resist the effects of intense cold, represent the living kingdoms of nature in those dreary wastes. Without the invigorating influence of the great agent heat, continents would become uninhabited, oceans solid masses of ice, and the whole world a scene of desolation and solitude.

3. Respecting the true nature of heat little or nothing satisfactory is known. We can judge of it, as yet only by the effects it produces. Bodies acquire and loose heat without any change in weight. Not so however, with reference to their appearance and properties. When iron, tin, lead, receive a certain amount of heat, they melt; that is, assume the fluid state. When water acquires heat it assumes the form of steam, which, when confined,

is capable of exerting a most astonishing force, sufficient to break the strongest vessels. The transmission of heat through space—from the sun to the earth, from burning bodies to those in their neighborhood—seems to imply the capability of its being endued with the power of rapid motion. It is thus that heat is considered as a fluid, destitute of weight, of an exceedingly subtle and elastic nature, whose particles mutally repel each other, and are attracted by particles of matter.

4. The general effect produced upon bodies by the acquisition of heat, is expansion. There are some singular exceptions to this law, of much interest and importance, which will be mentioned in the sequel.



4. Take a common Florence flask, and support it in a basin of water, as represented in the cut: pour boiling water upon it. The heat will expand the air and drive it out of the flask. When cool, the water will rise by the pressure of the atmosphere to supply the place of the air driven off by the heat.

5. The Blacksmith makes the tire smaller than the circumference of the wooden part of the wheel: before putting it on he expands it by heat; when suddenly cooled, the parts of the wheel are bound together with great force by its contraction. The walls of buildings which are liable to be thrust outwards by the weight of the roof, may be drawn into their perpendicular position and preserved in that situation, by bars of iron passed through the side walls of the building, and provided with screws and nuts at their extremities. The bars are lengthened by means of the heat of lamps, and when thus expanded the nuts are screwed tight up to the wall; when the bars cool, they contract with irresistible force and draw the walls together. The iron plates employed in the construction of large boilers, are riveted together by means of red hot rivets. As the rivets cool they draw the seams of the plates still closer together.

6. Early in the Spring the fresh shoots of trees and smaller vegetables are often "nipped by the frost." The death of the shoot is frequently due to the sudden expansion of gasses contained in the sap, by the warm rays of the sun falling upon them, tearing open the minute vessels in which the sap is enclosed. If the sky is clouded early in the morning, the shoot is not destroyed, because the gasses contained in the sap, expanding slowly, are enabled to escape gradually through the pores of the bark or leaves.

7. When different bodies receive accessions of heat, they do not increase in bulk in the same ratio. Three hundred and fifty cubic inches of lead, at the temperature of melting ice, become three hundred and fifty-one cubic inches at the temperature of boiling water. 800 cubic inches of iron, and 1000 cubic inches of glass, become respectively 801 and 1001 cubic inches, under similar circumstances. The same change in temperature cause

1000	parts of water	to become	1046
1000	" alcohol	"	1110
1000	" air (and all gasses)		1373

8. When a bar of iron is increased in length by heat to the extent of one inch, it exerts a force of expansion against any obstacle opposing it, equal to the mechanical power required to draw it out the same length—which is, as can be easily imagined, enormous. Engineers, therefore, in constructing bridges or buildings of iron, never attempt to control this force, but always give it free play. The tubular bridges over the Straits of Menai increase about three inches in length during a hot summer's day: allowance is made for this expansion in the masonry upon which their extremities rest. During the changeable weather in spring and autumn, they may be said to be continually in motion, constantly expanding and contracting with every change of temperature.

9. The most remarkable exception to the almost universal law of the expansion of bodies by heat, and their contraction by cold, occurs in water. Water not only expands with irresistible force when changed into ice, but it increases in volume during the act of cooling, long before its temperature is reduced so low as that of the freezing point. (See modes of measuring heat.) Water is most dense, and consequently heaviest at 40°; it then begins to expand until it assumes the solid state of ice. Hence ice floats, and water at 40° descends to the bottom of rivers, lakes and oceans, being then heavier than at any other temperature. In this singular exception of water to the law of expansion by heat, we discover a sublime provision for the preservatien of the world as the abode of happy and intelligent beings. If ice did not float, it would fall to the bottom as soon as formed, and there find shelter from the heat of the sun; thus layer after layer of ice subsiding to the bottom, would soon convert streams, seas and lakes into solid and immoveable masses, changing the climate and rendering uninhabitable the most fertile and delightful regions of the globe.

On the Mode of Measuring Degrees of Heat.

10. The expansion and contraction of bodies, when submitted to a change of temperature, offer a simple means of measuring the quantity or degree of that change. Such an instrument is called a Thermometer or measurer of heat. It consists of a long and very narrow perforated tube of glass, terminating in a small bulb. (See Fig. 2.) The bulb and a part of the tube are filled with quicksilver or alcohol. The instrument is then plunged into water containing melting ice, and a mark made upon the wooden support of the glass tube, indicating the height of the quicksilver. The temperature of melting ice is called the freezing point. The instrument is then plunged into boiling water, and the height of the quicksilver again recorded on the wooden support; this is called the boiling point. The space between the freezing and boiling points is divided into 180 parts. It was at one time supposed that the greatest degree of cold was produced by the mixture of snow and salt. Into this mixture. Fahrenheit, the inventor of this scale, plunged his thermometer and marked the position of the quicksilver by 0, or zero, and found it to be 32 parts below the freezing point of water. It is now known that a much greater degree of cold than that represented by 0, or zero, is experienced in various countries. It is usual to express low temperatures in the following manner:—10°,—12°,—50°, &c., which are read 10 degrees; 12° degrees, 50° degrees below zero, and signify that the temperature is 42°, 52°, 82°, &c. below the freezing point of water.

Fig. 2.

The following table points out the effect of heat upon various substances, according to the scales of Fahrenheit's thermometer, the one universally used in England and America:

Water boils at 212 degrees.	Ice melts at 32°.
Alcohol boils, 174°.	Milk freezes at 30°.
Bees' Wax melts, 142°.	Vinegar freezes about 28°
Ether boils, 98°.	Mixture of weak oil of vitriol and Snow,—78°.
Heat of the human blood, 98°.	Temp. of frozen Carb. Acid,—151°.
Medium temp're of the globe, 50°.	

11. Quicksilver boils at a temperature of 660 degrees; It cannot therefore be used for measuring very high degrees of temperature. Various instruments have been proposed for estimating the temperature of bodies hotter than boiling quicksilver. Such instruments are called Pyrometers, or measurers of fire. The Register Pyrometer, invented by Daniell, is probably the most accurate. It depends upon the expansion of bars of metal, connected with an index. The melting point of cast iron is thus ascertained to be 2786°; the highest temperature of a good furnace 3300°.

To be continued.

Educational Intelligence.

CANADA

Educational Items from Various Sources.—Mr. Johnston of Port Hope has been selected as Master of the Port Dover Grammar School. Ten candidates competed but the real contest was between Messrs Johnston, R. Robinson, and Bogue——The Rt. Rev. Dr. Strachan has returned from England, having realized £16,000 in aid of the new Church University. It is stated that he has purchased 20 acres near Toronto as the site of Trinity College. The buildings will likely be ready next October. Two or more Professors from England have been engaged. The Medical Department of the College was opened on on the 7th inst.——The first B. C. L. degree ever granted in Lower Canada has been conferred by McGill College on Mr.

C. C. Abbott——Drs. Arnoldi and Sewell have been appointed to fill the chairs vacated in McGill College by Drs. Badgely and McDonnell who have removed to Toronto——The chair of Practical Anatomy in the University of Toronto, vacant by the death of Dr. Sullivan, has been filled by the appointment of J. H. Richardson, M. B.——The Professorship of Agriculture is also about being filled and land procured for experiments, &c.——The following is a list of the successful competitors, for exhibitions in the University of Toronto: Brown, Jas., University Classical Scholar: Bayley, Richard, University Mathematical Scholar: Blake, D. E., U. C. College Scholar: Freeland, Wm., U. C. College Scholar: Marling, S. A. Home District Scholar——The School riots at St. Michel d'Yamaska, L. C., have been quelled, and a better spirit seems to manifest itself——The Rev. Dr. Cramp, late President of the Baptist College, Montreal, is about to assume the Presidency of Acadia College, Nova Scotia. £2,000 towards paying off the debt of the College have been realized——Examination of the following Common Schools in U. C. have been reported in local papers, viz.: Junction School, Township of Westminster, Mr. D. Watson, Teacher; S. Section, No. 17, Township of London, Jas. Wood, Teacher; Union Central School, Town of London; S. Section, No. 2, Simcoe, Mr. D. Haskins, Teacher——The Teachers' Institute of the County of Renfrew has issued an address to the Teachers of U. C. It is a well written document——The examination of the Prescott Grammar School on the 24th ult., is highly eulogized by the leading persons of that Town in a written address——The other day, after dinner, an artisan in town put sixteen dollars into his pocket to pay his deposit in one of the Building Societies, but, unfortunately, on his way to Yonge street, he dropped the money. Thinking that he might have dropped it before leaving the house, a messenger was immediately sent to inquire, but it was gone. However, towards evening, while with rueful countenance he was describing to a friend, in passing near to his own dwelling, the loss he had sustained, a lady observed him from her window and coming out inquired if he had lost anything. The matter was soon explained. Her little boy in going to school had picked up the money; and when the overjoyed artisan pulled out some silver to reward the little fellow, it was politely refused. It is pleasing to record such instances of true nobility in youth. We trust that the practical lesson of integrity which he thus received from an affectionate parent will rivet on his memory through life the important aphorism "honesty is the best policy"——The Toronto St. Andrew's Society have it in contemplation to endow Scholarships in the Toronto University——The University Convocation held on the 28th instant, in the Hall of the Legislative Assembly proved highly interesting——A strong effort is being made by the new Boards of School Trustees in Hamilton and Brockville to erect a better description of School Houses in these towns——The Teachers' Association in Whitby is stated to be in vigorous operation——Various important changes in the internal discipline of the U. C. College are reported.

Education in the County of Leeds and Grenville—Extract from the Warden's recent Address:—As there is not, in my judgment, any subject, which should more constantly occupy the public mind, and especially the attention of Municipal Councillors, than the state and progress of Education, so I shall place it first upon the list of topics, upon which I mean to address you. It has been said, and said truly, that "Knowledge is Power:" but I would say, that it is not only power, but it is pleasure also; for the ignorant man is not only a weak man, and easily imposed upon, but when brought into contact with books which he cannot read, with systems which he cannot comprehend, or even into conversation with an educated fellow-being, he then feels his own inferiority, and forms some estimate of the loss, which neither wealth nor patronage can supply. Whatever else you may neglect, neglect not the education of the rising generation—it is the best fortune you can bestow upon your children—it is the greatest blessing you can diffuse through the country—and it is the noblest gift you can bequeath to posterity. I have looked attentively at the statistics connected with this important subject, and I find with pleasure that, comparing the returns of 1847 with those of 1849, our High Schools have advanced from one to six, and our Common Schools from 183 to 196; being an increase in the two years, in the former of five, and in the latter of eight. Would that I could add, that this was but a tythe of the increase! I trust that as I am now speaking to gentlemen, with whom I have so often had opportunities of conversing upon this all-important subject, it will be deemed unnecessary, that I should dwell at greater length upon it; as you must be all convinced of the primary importance of contributing, by every means within your power, to its promotion and encouragement. The new School Act, (which taken as a whole, I esteem as a good one,) will I hope, be allowed to remain, (even though it may be found to contain some defects,) until the system shall be brought into full and vigorous operation, and its working well tried by the test of experience. The constant changing of the laws, to which of late years we have been subjected, has given a character of great instability and uncertainty to all we do; and such changes are often found to work greater evils, than the defects they were intended to remedy. I observe, that by the 28th Section of the new Act, provision is made for the division of the County, into what are called "School Circuits," with the power of appointing a Local Superintendent to each Circuit. It is further provided in the same Section, that such divisions shall be made to correspond, with the number of County Grammar Schools in the County. In order to assist your investigations upon this subject, I have to inform you, that our County Grammar Schools, are four in number; namely, Brockville and Gananoque in the County of Leeds, and Prescott and Kemptville in the County of Grenville; and that of course, your circuits will have to correspond in number with the Grammar Schools.

Literary and Scientific Intelligence.

Literary and Scientific Items from Various Sources.—"Canada, Past, Present, and Future" is the title of an elaborate work by W. H. Smith, author of the "Canadian Gazetteer," just published in Toronto by Mr. Maclear——"Rig Veda Sanhita, or Sacred Hymns of the Brahman's," is the title of a magnificent work lately issued from the University Press, Oxford, England, towards the publication of which the Hon. East India Company contributed $40,000. The hymns are more than 1,500 years old, and are the most ancient and most important of the literary monuments of the old Hindoos. The work is edited by Dr. Max Muller, a son of the celebrated German Poet, Wilhelm Muller——Sir F. B. Head is publishing a work in England on the Defenceless State of Great Britain ——James, the Novelist, declines becoming an American citizen. He is now writing a serial for a New-York Magazine——The eloquent Bishop Bascom of the M. E. Church, South, died lately at Louisville, Ky.—— Poems by Alfred the Great, tuned in English metre, have been lately published in England by M. F. Tupper, the Poet——M. Guizot has just published a work of 2 Vols. on the synonyms of the French language. It is distinguished by great precision of thought and lucidity of arrangement. M. Guizot is said to be again the Editor of the *Journal Des Debats*, and Lamartine of *Le Siecle*——Lamartine has returned from England to France, and is now publishing a series of papers under the title of "England in 1850." He discusses the Pauper question at some length——There are forty-seven different religious churches and sects in the United States——The French Academy of Sciences has under consideration the feasibility of constructing a Suspension Bridge between France and England. Strong abutments are to be constructed on either side of the Straits to which to attach the platforms. At the distance of every hundred yards four barges heavily laden would be sunk, and to which chains of peculiar construction would be attached. An apparatus of balloons, of an elliptical form, firmly secured, would support in the air the extremities of these chains, which would be fastened to the abutments on the shore by other chains. The chains supported in the air at regular distances would support the fairy bridge, along which an atmospheric railway would be propelled. The bridge, &c., would cost $10,500,000——The famous library of Hebrew works, known as the "Michael Collection," numbering 5,000 vols. has been added to the British Museum. A novel classification by which to distinguish the departments of literature has been introduced. It consists of various colored bindings, with a label of a special color to mark the subdivision of subjects ——Carlyle is about to issue another "Latter Day Pamphlet" intituled, *Jenny Lind Lunacy*——The Neapolitan Government has granted a sum of 20,000 ducats for continuing the excavation of Pompeii——An "Addisonian Literary Society" is about being formed at Montreal, with a view of affording young men an opportunity of cultivating Polite Literature—Some faint traces of Sir John Franklin have been discovered. The remains of an encampment have been discovered at Cape Reilly and Beechey Island by the Capt. of the *Prince Albert*, but it is thought that the *debris* discovered belong to an earlier period than 1849, probably 1846——Two pigeons from Sir J. Ross' Expedition have returned after travelling 2,000 miles. They brought no news. ——A new theory in Medical Science has been started by the Rev. J. Harrington, Poughkeepsie, N. Y. He states that disease can be detected and cured by mere manipulation. The theory is, that every organ in the human body is magnetically connected with the spinal marrow, where each has its pole. A properly sensitive person, by passing the hand over the vertebræ, can in this way tell whether there is any irregular motion in any organ, and by other passes of the hand, rectify the disturbance——Various beautiful meteoric phenomena have been lately witnessed in various parts of Upper Canada——Mr. Wyld, M.P., is about to construct for the Great Exhibition of 1851 a globe 50 feet in diameter, upon the inner surface of which will be depicted an accurate map of the world——The Montreal Industrial Exhibition has been highly successful. The specimens of industry exhibited seemed to have excited feelings of pleasing surprise at the very promising and satisfactory character of Canadian ingenuity and art, even in their infancy. Several of the prize articles have been selected for the London Exhibition——The allotment of space in the Hyde Park Crystal

Palace is as follows:—The United Statee, 85,000 feet; India, 60,000, other British Colonies, 47,050; France has applied for 100,000 feet, the City of Hamburgh for 26,800. Commissions have been formed in Austria, Spain, and Turkey. It is proposed to send to the Exhibition, bound together, a specimen copy of each of the Canadian newspapers published about the first of January next: also specimens of the leaves of some of the most beautiful American trees and plants. Specimens of the mineral products of England will be exhibited——The wires of the submarine telegraph between France and England having been found too weak, they will hereafter be encased in a ten-inch cable, composed of what is called "whipped plait," with wire rope, all of it chemically prepared and galvinized so as to protect it from rot——A new great seal of Ireland has been constructed of Gutta Percha——Two new Colleges will be opened in Scotland this month; a Free Church one in Edinburgh, and one designed for the Commercial classes in Glasgow——The Pope has concurred in the Memorial from the Synod of Thurles, and refuses his sanction to the Queen's University Colleges in Ireland. Meanwhile the attendance of Roman Catholic, and other students is highly satisfactory——Statues of Newton, Shakspeare, Milton, and Bacon are about being erected in front of the British Museum, which is to be enclosed by an iron railing. A portion of the pediment, representing the progress of man, from the time when "wild in the woods the naked savage ran," up to the highest state of civilization, is completed——Statues of the great statesman, Sir Robert Peel, are about being erected in various parts of England——The plan of auction sales of pictures in Paris, which originated just after the last Revolution as a *dernier resort* of artists, has proved eminently successful. They will be the rule instead of the exception hereafter——Beautiful engravings can be produced on black marble by scratching the polished surface with a steel or diamond point, producing a white mark of different degrees of intensity according to the depth of the graving——An inquiry has been instituted at Rome to ascertain the nature and extent of the damage done to works of art during the late political troubles. The loss is estimated at 440,000 francs——Gervinus, the recent historian of German literature, has just published a work on Shakspeare, which has produced a great sensation in Germany——M. Guizot has been elected Director of the French Academy for the year——The total cost of the Britannia Suspension Bridge is £601,865 sterling. The weight of the two iron roadways is 12,000 tons, supported by a mass of masonary of 1,500,000 cubic feet, erected at the rate of three feet a minute——Lines of electric telegraph are extending rapidly over Central Europe. Within four months 1,000 miles have been spread in Austria, making 2,000 miles in that empire. Another 1,000 miles will be ready next year. The telegraph now works between Cracow and Trieste, 700 miles——The Senate of the University of Padua is about to issue, from MSS. in its library, editions in Hebrew of Dante's 'Divina Commedia' and Ovid's 'Metamorphoses'——The 1st vol. of Harper's New Monthly Magazine has been completed. It has reached an edition of 50,000 copies!——Newspapers in England absorb so much of the literary talent of the country that articles in the Reviews have dwindled down in importance and interest; so much so that the two chief English Quarterlies scarcely pay their expenses. An article on the French in the current No. of the Edinburgh (attributed to Lord Brougham) has attracted a good deal of attention——Two new works by Guizot are announced: one on the fall of the Republic in England in 1660, under Gen. Monk; and the other, the rise of the Republic in America, under Gen. Washington——An aerial voyage is proposed to be made from Madrid to England, and over Europe, by a Spaniard, named Montemaynor——The English engineer, Stephenson, is in Egypt, surveying the canal route between the Mediterranean and Red Seas——Asphaltum and iron have been found in abundance in New Brunswick by the Provincial Geologist, Dr. Gesner——The number of periodicals at present published in Russia amounts to 164; 64 of which are published at Petersburg, 13 in Moscow, 5 in Odessa, 22 in Courland and the adjoining provinces, and 50 in the remaining parts of the empire; 108 of these are published in the Russian language, twenty-nine in German, 8 in French, 8 in Italian, 5 in Polish, and 3 in Latin——It is in contemplation to erect a monument in Brantford to the celebrated Canadian Indian warrior, Theyandanegea, Joseph Brant——A subscription has been started at Madrid to erect a Colossal statue of Columbus in that city, 20 feet high, of Florentine bronze, at an estimated cost of £20,000.——The Prospectus of a literary and industrial paper, entitled, the *Canadian Journal* has been issued in Toronto, under the auspices of the Mechanics' Institute. Price 12s 6d. per annum.——A statue in honour of the hero Wallace is about being erected in Edinburgh——A great Chess match, to be played by amateurs of all nations during the Exhibition of 1851, is being arranged.——A mummy brought from Thebes by Sir J. E. Tennant, has been unrolled at the Belfast Museum.——A monthly Magazine has been announced in England as the organ of the advanced section of the Non-conformists.——A monument in honour of Stephenson, "the father of Railroads," is about being erected at Newcastle-upon-Tyne.——The Koh-i-noor diamond, will likely be exhibited among the minerals at the great Exhibition.——Volcanic eruptions continue to take place from Mounts St. Helen and Baker, in Oregon.——An admirable address delivered by the Hon. Justice Day, before the Provincial Industrial Exhibition, appears in the Montreal *Pilot in extenso.*

Geological Survey of Canada.—Mr. Logan, the provincial geologist, and his assistants, are slowly but scientifically continuing their survey of the Canadas. Messrs. Logan and Murray have passed several months upon the shores of Lake Huron, and are examining the physical structure of the Green Mountains of Vermont in their prolongation into Canada. Their report shows that Lake Superior is nearly 27½ feet higher than Lake Huron, of which rise 18½ feet is at the Sault St. Marie. Tobermany, near Cape Hurd, is described as an excellent harbour, but with the exception of Goderich harbour, at the mouth of the Hartland, and the basin at the exit of the Riviere au Sable (south) there is not a single place of security for any kind of vessel on Lake Huron between the River Sangume and the St. Clair. Gypsum and hydraulic lime are stated to be plenty, but no coal has been discovered in any part of Canada. The surveying party ascended the Spanish River to the distance of 60 miles from Lake Huron, and found it navigable for 30 miles for vessels drawing 5 feet, with 5 cascades of 127 feet rise, in the next 30 miles. Mr. Logan remarks that the extent and value of the pine forests in this region, the facility afforded by the river for water communication, the water power to be found on the main stream and all its tributaries, and the capabilities of the soil for raising most of the necessaries of life, all tend to indicate a probability that this district is destined to become of great commercial importance.

A Canadian Microscope.—We copy the following, with great pleasure, from the Kingston *British Whig* of the 12th inst.: "Mr. Smith, watchmaker, has, at the expense of much labor and money, completed a very powerful oxy-hydrogen microscope, the first ever made in Canada; which magnifies the object upwards of ten million times. At a private exhibition at the Lambton House, a variety of insects and other minute objects were submitted to the powers of the microscope, and the result was truly surprising and wonderful. A fly's wing was rendered so enormous, that only a very small portion of it could be contained on the large screen, and its minute and delicate structure was beautifully developed.

Scientific Wonders.—The general faith in science as a wonder worker, is at present unlimited; and with it there is cherished the conviction that every discovery or invention admits of a practical application to the welfare of man. Is a new vegetable product brought to this country from abroad, or a new chemical compound discovered, or an anatomical or physical phenomenon recorded, the question is immediately asked, *cui bono?* What is it good for? Is food or drink to be got out of it? Will it make hats, shoes, or cover umbrellas? Will it kill, or heal? Will it drive a steam engine, or make a mill go? And this truly *cui bono* question has of late been so satisfactorily answered, that we cannot wonder that the public should persist in putting it somewhat eagerly to every discoverer and inventor, and should believe that if a substance has one valuable application, it will prove, on further investigation, to have a thousand. Gutta percha has not been known in this country ten years, and already it would be more difficult to say what purposes it has not been applied to than to enumerate those to which it has been applied. Gun cotton had not proved in the saddest way its power to kill, before certain ingenious Americans showed that it has a remarkable power of healing, and forms the best sticking plaster for wounds. Surgeons have not applied ether or chloroforms as an anæsthetic for three years; and already an ether steam engine is at work in Lyons, and a chloroform engine in London. Of other sciences we need scarcely speak. Chemistry has long come down from her atomic altitudes and elective affinities, and scours, and dyes, bakes, cooks, and compounds drugs, with contented composure. Electricity leaves her thunderbolt in the sky, and like Mercury dismissed from Olympus, acts as letter carrier, and message boy. Even the mysterious magnetism, which once seemed, a living principle, to quiver in the compass needle, is unclothed in mystery, and set to drive turning lathes. The public perceives all this, and has unlimited faith in man's power to conquer nature. The credulity which formerly fed upon unicorns, phœnixes, mermaids, vampires, krakens, pestilential comets, fairies, ghosts, witches, spectres, charms, curses, universal remedies, pactions with Satan, and the like, now tampers with chemistry, electricity, and magnetism, as it once did with the invisible world. Shoes of Swiftness, seven leagued boots, and Fortunatus wishing caps, are banished even from the nursery, but an electro-magnetic steam fire balloon, which will cleave the air like a thunderbolt, and go as straight to its destination as the crow flies, is an invention which many hope to see realized, before railways are quite worn to pieces. A snuff-box full of new manure, about to be patented, will fertilize a field; and the same amount of the new explosive will dismantle the fortifications of Paris. By means of a fish-tail propellor, to be shortly laid before the Admiralty, the Atlantic will be crossed in three days.—[Edinburgh Review.

Editorial Notices, &c.

SECOND TRIUMPH OF THE FREE SCHOOL QUESTION IN THE STATE OF NEW-YORK.

Our readers are aware that owing to some slight dissatisfaction expressed by a section of the people of the State of New-York against the system of Free Schools, the Legislature decided upon again submitting the question to the people at the autumn elections. The result of that step is announced in the following paragraph from a New-York paper. We congratulate our neighbours on the result of this second deliberate vote, and on the decisive success of so important a national movement. We ardently hope that Canada will also, ere long, boldly and patriotically assent to the universal diffusion of education among all classes of her people, upon the same terms as have a second time been agreed upon by the great mass of the people in the State of New-York.

"We announce with no common satisfaction, the signal triumph of Free Schools at the recent election. Our returns are as yet very imperfect and scattered, but they induce us to believe that the State canvass will show a majority *against* the Repeal of the Free School Law' of 50,000 to 100,000. We hear of majorities for Repeal in very few localities, while majorities *against* Repeal are numerous and abundant. We think this city has given at least thirty thousand majority against Repeal: had a full vote been polled, it would have been forty thousand. Many votes were lost through inattention, some for want of ballots. However, 'enough is as good as a feast,' and we feel confident that Education Free to All has been re-affirmed as a cardinal principle of our political system by a large majority. Now let the new Legislature silence all constitutional cavils by re-enacting the law, with whatever modifications and improvements experience may have suggested. and New York will have set her sister States South and West of her a noble example. Free Schools for all and for ever!

Theory and Practice of Teaching:

Or the Motives and Methods of Good School Keeping: By D. P. Page, Esq., A.M., late Principal of the State Normal School, Albany. 12th edition, New York. A. S. Barnes & Co. 8vo., pp. 349.

In a practical educating age like this, few professional books on the subject of education seem to be so admirably adapted to the purposes for which it is designed, as the volume before us. There are 15 chapters in the book devoted to various important subjects connected with "Good School Keeping." The work would prove a valuable book of reference for local Superintendents in their preparation for the delivery of lectures in the various School Sections under their charge. As a manual for Teachers it is unequalled among the many rival books on the subject—as it contains the result of many years of practical teaching by the gifted and lamented Master of the New York Institution, designed for the especial training of Common School Teachers. The book may be obtained at this Office. Price 5s.

Two Lectures on Agricultural Chemistry:

By H. Y. Hind, Esq., Mathematical Master, etc., Normal School, Toronto. H. Scobie, 12mo., pp. 84.

This admirable *brochure* contains a very concise summary of facts and principles illustrative of the Science of Agriculture. The style of the author is remarkably clear and elegant. His propositions are distinctly and popularly elucidated, and even to the general reader they will rarely be found obscured by the use of a purely technical phraseology. The *Lectures* were originally delivered by Mr. Hind while on a tour last summer for the purpose, in conjunction with the Head Master of the Normal School, of holding preliminary Teachers' Institutes in the several Counties of U. C. They are interspersed with interesting and striking statistics collected from various Canadian and other sources. Indeed, the general adaptation of these *Lectures* to the wants of the Canadian Agriculturist has impressed us very favourably. We cordially recommend the Lectures to this class of our readers, as well as to Teachers and local Superintendents generally. No Teacher should be without a copy: the work may be procured at this Office, price 1s. 3d., and can be transmitted by post.

Notice to County Clerks and Local Superintendents.—Boxes containing copies of the last Annual Report of the Chief Superintendent, for the several Municipal Councils and School Corporations, Trustees, Local Superintendents, and Boards of School Trustees, in Upper Canada,—Blank Forms of School Reports for 1850,—Copies of the work on "School Architecture," designed for the several Municipal Corporations, and also of the School Act, Forms, Circulars, &c., have been sent by Steamboat and Express to the Clerks of the several Counties in Upper Canada.

CONTENTS OF THIS NUMBER.

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