





# JOURNAL OF EDUCATION.

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No. 3.

**SUMMARY.**—**EDUCATION:** The Colleges of Canada.—The University of Toronto, by Hon. Pierre Chauveau, (continued).—School Days of Eminent Men in Great Britain, by J. F. Timbs, (continued).—Suggestive hints on practical secular instruction, by the Rev. R. Dawes, A. M., 11th, Natural Philosophy, (continued).—The man who knows how to read and to write, translated from the French of Emile Souvestre, by H. G. M.—Thoughts for teachers.—The two candidates.—**OFFICIAL NOTICES.**—Appointments: School Inspectors.—School Commissioners.—Separation and creation of school municipalities.—Diplomas granted by Boards of Examiners.—Situations wanted.—Donations made to the library of the Department.—**EDITORIAL:** Education in Upper Canada.—Report of the Chief Superintendent of Public Instruction for Upper Canada, for 1858.—Tenth meeting of Teachers of the Jacques-Cartier Normal School Association.—Ninth meeting of Teachers of the Laval Normal School Association.—Annual Report of the Teachers' Association in connexion with the McGill Normal School.—Report of the Chief Superintendent of Public Instruction for Lower Canada, for 1858.—Extracts from the Reports of the Inspectors of schools.—**MONTHLY SUMMARY:** Educational intelligence.—Literary intelligence.—Scientific intelligence.—Statistical intelligence.—**ADVERTISEMENTS.**

During the recess Mr. Draper left the government and was replaced by Mr. Sherwood. The solicitor generalship thus vacated was given to Mr. Hillyard Cameron. Under the Administration thus modified, with an Attorney General who had resigned on Mr. Draper's bill, and with a Solicitor General who, like Mr. Draper himself, had urged at the bar of the house the rights of Queen's College, a third University bill was brought in. It is true that the new measure differed greatly from those previously introduced, but like the two others it was opposed by the council of the University and the Bishop of Toronto, on the ground that it interfered with vested rights. Having been made late in the session, and the House being prorogued on account of the weakness of the government, who had carried their address by a majority of two in the Lower House, and escaped a vote of want of confidence in the Upper House by the vote of the Speaker, this third attempt at legislation was again unsuccessful. A dissolution followed, and at the outset of the eventful session of 1848-49, a new administration was formed with MM. Lafontaine and Baldwin as leaders. Among the most prominent public measures to be dealt with by this Administration the University bill was of course included; but it was not until after the riot and burning of the parliament building that the great question so often mooted, and as often abandoned, was finally settled. Owing partly to the comparative insignificance of all other measures during the excitement created by the Rebellion Losses' bill, partly to the fact that the principle of interfering with the existing state of things had been admitted by all sides of the house, and perhaps more than anything else to the desire of seeing a final adjustment of a question which under its various shapes threatened to be an eternal obstacle in the way of every government and of every opposition; Mr. Baldwin's measure met with but a very faint resistance.

On the second reading of the bill a motion in amendment for delay to obtain certain returns, was supported

## EDUCATION.

### THE COLLEGES OF CANADA.

#### III.

#### The University of Toronto.

(Continued from our last.)

The announcement, of course, gave the clue to the vote. But although abandoned, Mr. Draper's bill had sealed the fate of the old University. In the event of Mr. Baldwin returning to power, the existing state of things could only be maintained by Mr. Lafontaine being deserted on that question through the fears or the scruples of some of his friends. But how could the members for Lower Canada refuse any longer to Mr. Baldwin that which had been proclaimed as necessary by a conservative Administration? How could they any longer oppose that which so clearly appeared to be the wish of the whole population of Upper Canada without exposing themselves to the reproach of tyrannising over that section of the country in the management of its local affairs, and without incurring on that ground alone, the risk of a warfare being opened on those institutions for the sake of which they had been so frequently told, that they ought to stand by the rights of King's College?

by the votes of the following members:—Messrs. Badgley, Boulton of Toronto, Chrysler, Macdonald of Kingston, Sir Allan MacNab, Papineau (Hon. L. J.), Robinson, Seymour, Sherwood of Brockville, Sherwood of Toronto, and Smith of Frontenac, in all 11; the nays were 50. The motion that the bill be read that day six months had only two votes, those of Mr. Boulton of Toronto, and of Mr. Robinson. On the 13th of May 1849 the bill was passed—yeas 42, nays 2.

By the 29th section of the Act it is provided "that no religious test or qualification whatever shall be required of or appointed for any person admitted or matriculated," &c. "Nor shall religious observances according to the forms of any religious denominations be imposed upon the members or officers of the said University or any of them." The Act came into force on the first of January, 1850, and on the 9th of April of the same year, an address to Her Majesty was signed by the Bishop, clergy, and laity of the Church of England in Upper Canada, praying for the granting of a charter for another University, to be entirely founded, supported, and conducted by and for the members of that Church. The British Society for the Propagation of the Gospel, undertook to pay £1200 annually for the support of the new institution; the Bishop left for England on the 10th of April, and returned on the 4th of November; a provisional Council was appointed, subscriptions to a large amount were raised, a contract for building to the amount of £8000 was entered into, the corner stone of an edifice to be called "Trinity College," was solemnly laid on the 30th of April, 1851, and the building itself completed and inaugurated on the 15th of January, 1852; the institution was first incorporated by Act of the Provincial Parliament, and subsequently obtained a Royal Charter. The energy and activity thus displayed by the venerable Bishop and his friends are undoubtedly beyond all that could be imagined.

Meanwhile the "University of Toronto" (which name was substituted for that of King's College,) was conducted under the new Provincial Act of 1849 until April 1853, when another statute was enacted by Parliament, under the Hincks-Morin government.

By this Act the Faculties of Law and Medicine were abolished, and the University was divided into two Institutions, one retaining the title of the "University of Toronto," and the other styled "University College, Toronto." The first of these institutions is a Board of Regents, formed on the model of the University of London, its functions being limited to prescribing subjects of examination for Degrees, Scholarships, Prizes, or Certificates of Honors, examining candidates therein, and conferring such Degrees or distinctions. It consists of a Board, called the University Senate, composed of a certain number of members appointed by the Crown, selected for their eminence in learning, or their known interest in education; such as the Hon. Adam Fergusson, M. L. C.; the Hon. J. C. Morrison, the Hon. David Christie, M. L. C.; John Langton, M. A., of Trinity College, Cambridge; Sir William Logan, F. R. S., &c. Next there are the *ex-officio* members, including the Chief Superintendent of Schools for Upper Canada, the Presidents

or Heads of University College, Toronto; Queen's College, Kingston; Victoria College, Cobourg; Trinity College, Toronto; Regiopolis College, Kingston; Knox's College, Toronto; Bytown College; the Medical Board of Upper Canada; the Toronto School of Medicine; the Treasurer of the Law Society, &c. Finally, by special commission, His Excellency has more recently added three of the Professors of University College, and a certain number of the senior graduates of the University.

In addition to prescribing the courses of study for degrees, appointing the annual Board of Examiners, and conferring degrees and other honors; the appointment to College chairs, masterhips, &c., is made with the advice of the Senate, and the control of the Grammar School of Upper Canada College is entrusted to a committee appointed by it annually from among its own number.

University College constitutes a distinct Corporation, of which the president and professors are the governing body, under the name of the College Council. On this body the teaching departments of the University devolve; and by the Act it is provided that there shall be taught in the College such sciences, arts, and branches of knowledge as the Council may, from time to time, determine, and as may be in accordance with the statutes of the University, respecting the prescribed subjects of examination.

(To be continued in our next.)

PIERRE J. O. CHAUVEAU.

### School days of Eminent Men in Great-Britain.

By JOHN TIMBS, F. S. A.

(Continued from our last.)

XCVI.

#### BOYHOOD AND EDUCATION OF OLIVER CROMWELL.

Cromwell, the son of Robert Cromwell, and his wife Elizabeth, was born at Huntingdon, in 1599. It is traditionally related that when an infant, his life was endangered by a great monkey at his grandfather's house taking him out of the cradle, and carrying him upon the leads of the house, to the dreadful alarm of the family, (who made beds and blankets ready, in the forlorn hope of catching him,) but at last brought him safely down. It is better established, that Oliver was saved from drowning in his youth by Mr. Johnson, the curate of Cunnington.

Cromwell was educated at the Free Grammar-school of Huntingdon, by Dr. Beard, whose severity towards him is said to have been more than what was usual even in that age of barbarous school discipline. He was a resolute, active boy, fond of engaging in hazardous exploits, and more capable of hard study than inclined to it. His ambition was of a different kind, which discovered itself even in his youth. He is said to have displayed a more than common emotion in playing the part of Tactus, who finds a royal robe and a crown, in the old comedy of *Lingua*, performed at the Free-school of Huntingdon. He is said often, in the height of his fortune, to have mentioned a gigantic figure which, when he was a boy, opened the curtains of his bed, and told him he should be the greatest person in the kingdom. It is also related that Cromwell, (being at his uncle's house at Hinchinbrook,) when the royal family rested there on their way from Scotland, in 1604, was brought to play with Prince Charles, then Duke of York, quarrelled with him, beat him, and made his nose bleed profusely,—which was remembered as a bad omen for the King when Cromwell began to distinguish himself in the Civil Wars.

Before Oliver had completed his seventeenth year, he was removed from the school at Huntingdon to Sydney Sussex College, Cambridge. Though his passion for athletic exercises still continued, so much so that he is said to have acquired the name of a roysterer in the university, it appears certain that he did not mispend his time there, but that he made a respectable proficiency in his studies. Within a year of this, his father died, and his mother, to whose care he appears to have been left, removed him from college. It has been affirmed that he was placed at Lincoln's Inn, but that instead of attending to the law, he wasted his time "in a dissolute course of life, and good fellowship and gaming." But Cromwell's name is not to be found in the registers of Lincoln's Inn, though his son Richard's is. It is, however, probable that Oliver was entered at some other of the inns of court. Returning thence to reside upon his paternal property, he is said to have led a low and boisterous life. However this may have been, he offended at this time by his irregularities both his paternal uncle and his maternal one. But, whatever may have been the follies and vices of Cromwell's youth, it is equally certain that he had strength and resolution enough to shake them off.

In after life Cromwell was not insensible to literary merit. Archbishop Usher received a pension from him; Andrew Marvell and Milton were in his service; and the latter always affirmed of him, that he was not so illiterate as was commonly supposed. He gave 100*l*. yearly to the Professor of Divinity at Oxford; and it is said that he intended to have erected at Durham a college for the northern counties of England.

## XCVII.

## CHARLES THE SECOND—HIS PATRONAGE OF LETTERS.

Of the childhood and education of Charles II. we find scanty record. He was the eldest son of Charles I. and Henrietta Maria of France, and was born at St. James's in 1630. He was chiefly brought up by his mother until he was twelve years of age. In his ninth year he was created Prince of Wales: when the Civil War broke out, he accompanied his father to the battle of Edgehill; and in 1645, he served with the royal troops in the west with the title of general. Next year, on the ruin of the royal cause, he joined the Queen, his mother, at Paris, and he afterwards took up his residence at the Hague. This must have been almost the earliest opportunity that the Prince could have had for study, which must have been of a practical turn. Evelyn describes Charles as "a lover of the sea, and skilful in shipping; not affecting other studies; yet he had a laboratory, and knew of many empirical medicines, and the easier mechanical mathematics; he loved planting and building, and brought in a politer way of living, which passed to luxury, and intolerable expense." But this is the language of a courtier.

Charles's love of the sea led him early in his reign to entertain the suggestions of certain governors of Christ's Hospital for the institution and endowment of the Royal Mathematical School. With Sir Robert Clayton, it is believed, originated this school; and his project being backed by Sir Jonas Moore, then Surveyor-General of the Ordnance, and by Sir Christopher Wren and Samuel Pepys; and having in its favour the mediation of the Duke of York, then Lord High Admiral of England,—a royal charter was granted, and the school was opened for 40 boys, under the auspices of the King, in the year 1673. Beyond the grant of the charter, however, little was done by Charles towards the maintenance of his new foundation. His endowment did not extend beyond an annuity of 1000*l*., terminating at the expiration of seven years. The King reserved as many of the boys as might be required for his own services; and a grant was obtained from the Government by Pepys to be given as premiums to merchant-masters for taking the other boys. The revenue was also increased by a gift, which it was thought the King would not approve of, but, on being consulted, he replied, that "so far was he from disliking, that he would be glad to see any gentleman graft upon his stock." The school flourished: for several years Pepys constantly attended the examination of the boys; and Sir Jonas Moore, one of the first practical mathematicians of the day, commenced for the master's use a system of mathematics, which was completed by Halley and Flamsteed.

Another service which Charles rendered to the higher class of studies was his incorporation of the Royal Society, by royal charter, in 1663, when the King signed himself in the charter-book as the founder; and his brother, the Duke of York, signed as Fellow. Charles also presented the Society with a mace.

Another advantage conferred on science in this reign was Charles's foundation, in 1676, of the Royal Observatory at Green-

wich, for the benefit of astronomy and navigation; and the appointment of Flamsteed as the first Astronomer Royal.

After the Restoration, the first steam-engine is commonly believed to have been constructed by the Marquis of Worcester, which he, in his *Century of Inventions*, describes as "an admirable and most forcible way to drive up water by fire." He used a cannon for his boiler, and he describes the water as running "like a constant fountain-stream, 40 feet high; one vessel of water rarified by fire, driveth up 40 of cold water." This engine was seen at work in 1663, at Vauxhall, by Sorbiero, who foretold that the invention would be of greater use than the machine above Somerset House, to supply London with water.

## XCVIII.

## BOYHOOD OF JAMES II.

The early life of this prince was clouded by the political troubles of the time, which, as they greatly tended to his personal discomfiture, must have materially interfered with his instruction. James was the second surviving son of Charles I., by his queen Henrietta Maria, and was born at St. James's in 1633. He was immediately declared Duke of York, but not formally created to that dignity till 1643. After the surrender of Oxford to Fairfax, in 1646, the duke, with his younger brother, Henry, afterwards created Duke of Gloucester, and his sister Elizabeth, was committed by the Parliament to the care of the Earl of Northumberland, and he continued in the custody of that nobleman till the 21st of April, 1648, when he made his escape from St. James's Palace, disguised in female attire, and took refuge with his sister Mary, Princess of Orange. Here he joined a part of the English fleet, which had revolted from the Parliament, and was then lying at Helvoetsluis; but although at first received on board as an admiral, he soon after resigned that post to his brother, the Prince of Wales, on the arrival of the latter from Paris, and returned to the Hague. When Charles, now styled King by his adherents, came to Jersey, in September, 1649, he was accompanied by the duke, who remained with him during his stay of three or four months. He then returned to the Continent, and resided some time with his mother at Paris.

A singular circumstance now occurred, which well bespeaks the character of James. Shortly before his meeting with Clarendon, it had been reported that Charles was dead; upon which the duke, looking upon himself as already King, made several journeys to take counsel with his friends; and, upon the falsehood of the intelligence respecting Charles being discovered, James was so childish that he was rather delighted with the journeys he had made, than sensible that he had not entered upon them with reason enough; observing that "they had fortified him with a firm resolution never to acknowledge that he had committed any error." In the end he was obliged to return to his mother at Paris, where he chiefly resided until he had attained his twentieth year. He served with reputation in both the French and Spanish armies; but his great aptitude was for sea affairs, and after his return to England in 1660, he for some time acted as Lord High Admiral. His exertions, assisted by the indefatigable Pepys, the Secretary of the Navy, raised the fleet which afterwards won the battle of La Hogue; as his camp at Hounslow was the nursery for the victorious army of Marlborough. James employed part of the leisure of his retirement in writing an account of his own life, the original manuscript of which extends to nine folio volumes. The manuscript was burnt by the person to whom it had been confided; but a digest of the royal autobiography had been long before drawn up by an unknown hand, apparently under the direction either of James or his son; and this digest being preserved among the papers belonging to the Stuart family, which were obtained by George IV., when Regent, has been printed.

## XCIX.

## RISE OF FREE-SCHOOLS, OR CHARITY-SCHOOLS.

We have already shown that the endowed grammar-schools were the natural successors of the schools and charities of the Church before the Reformation. They contemplated none but the most liberal education. Children were to be brought up as scholars, or to be taught nothing. The grammar-schools were the nurseries of the learned professions, and they opened the way for the highest honours of those professions to the humblest in the land.

About the time of the Revolution, the commercial classes, who had grown into wealth and consequent importance, began naturally to think that schools in which nothing was taught but Latin

and Groek were not altogether fitted for those who were destined to a moroantile life. Uneducated men who had pushed their way to fortune and honour generously resolved to do something for their own class; and thus we come to see in every town not a free grammar-school, but a free-school, over whose gates was generally set up the effigy of a boy in blue or green, with an inscription betokening that by the last will of Alderman A. B. this school had been founded for 20 poor boys, to be clothed, and taught reading, writing, and arithmetic.

With a comparatively small population, these free-schools were admirable beginnings of the education of the poorer classes. While the grammar-schools were making divines, lawyers, and physicians, out of the sons of the professional classes and the wealthier tradesmen, the free-schools were making clever handicraftsmen and thriving burgesses out of the sons of the mechanics and labourers; and many a man who had been a charity boy in his native town, when he had risen to competence, pointed with honour and pride to the institution which had made him what he was, and he often loosened his purses to perpetuate for others the benefits which he had himself enjoyed.

Thus we see that what the grammar-schools had done for the higher and middle classes, the free-schools did for the lower, in a different measure. They were the prizes for the poor boy, who had no ambition, perhaps no talent, for the struggles of the scholar; they taught him what, amongst the wholly untaught, would give him a distinction and a preference in his humble career,—and he was unenvied by the less fortunate, because they knew that there was no absolute bar to their children and their kindred running the same course.

In a few cases, we owe public-schools to some providential deliverance of the founders; as in the instance of Dame Alice Owen, who, in 1613, founded and endowed in St. John-street-road, London, a school for 30 poor scholars, in memory of her having escaped "braining" by a stray arrow upon the site, then called Hermitage Fields; the arrow having passed through Dame Owen's high-crowned hat.

The originator of this charity-school movement is by some stated to have been William Blake, a woollen-draper, "at the sign of the Golden Boy," Maiden-lane, Covent-garden, who founded the Hospital at Highgate, (1) called the Ladies' Charity School, before 1685, and who purchased Dorchester House for that purpose, expending 5000*l.* in his benevolent project. Blake had for his coadjutor Alderman Cornish, who, in 1685, was tried and executed as having been concerned in the Rye-house plot. It is generally stated that Charity Schools were first erected in the parish of Aldgate, and St. Margaret, Westminster; and a slab in front of the Aldgate school house, adjoining the Royal Mint, bears an inscription to the purport that it was the first Protestant Charity School, and was erected by voluntary contributions in 1693.

Westminster has, to this day, four of these schools, distinguished by the colour of the clothes worn by the scholars. First is St. Margaret's Hospital, established and endowed in 1633; the master's house bears a bust of Charles I. and the royal arms, richly carved, coloured and gilt; adjoining the school-house is a quaint old flower-garden; the boys wear a long green skirt, and a red leather girdle; hence St. Margaret's is known as the *Green Coat Hospital*; the grace used here, attributed to Bishop Compton, is the same as that said in Christ's Hospital. Then there is the Westminster *Blue Coat School*, instituted 1688; and next *Grey Coat Hospital*, founded in 1698, and reconstructed in 1706, when the school-house was built: the centre bears the royal arms of Queen Anne, with the motto *Semper Eadem*, flanked by a male and female figure in the olden costume of the children—dark grey dresses, the girl's bodice open in front, and corded. In 1686, Sarah, Duchess of Somerset, bequeathed 100*l.* to support six fatherless boys in the school, to be distinguished by wearing *yellow caps*. The fourth and last is Palmer's School, the boys of which wear *black coats*.

A school was commenced about this period at Kensington, by a bequest in 1645, to establish "a free school for poor men's children to be taught reading and arithmetic;" which was extended to

(1) There was already at Highgate a Grammar School, founded by Sir Roger Chomeley in the reign of Elizabeth; the first statute ordering that the schoolmaster should "teach young children their A B C, and other English books, and to write, and also in their grammar as they should grow up thereto;" but the foundation dwindling to a mere charity school, by the neglect of the governors, the school was restored, and is now in active operation as a Grammar-school under a scheme of the Court of Chancery. The income is about 777*l.*, and the School is free to 40 boys, nominated by Governors from the neighbourhood.

clothing and instructing boys and girls "in all needfull learning and work, and the principles of the Church, and to dispose them to useful trades." Queen Anne and Prince George of Denmark contributed to the fund, and in 1713 a new school-house was built, west of Kensington Church, by Sir John Vanburgh: this is a fine specimen of brick work; in the front are costumed statuettes of a charity boy with a pen and scroll, inscribed, "I was naked and ye clothed me;" and a charity girl presenting a prayer-book; in the old school-room is a vellum list of subscribers to the school from 1701 to 1750.

Among the oldest Charity Schools in the metropolis are those of St. Clement Danes, Strand, established in 1700, on the principles then first propagated by the Society for Promoting Christian Knowledge. The School-house is in the neighbourhood of Clare Market, formerly Clement's Inn Fields, where theatres and taverns, and other low haunts of dissipation, held out their baits, and for neglect of Christian education lured many a soul to early ruin.

Another of these early institutions is the Ladies' Charity School, which was established in 1702, at King-street, Snow-hill, London, and was there kept 145 years, when it was removed to John-street, Bedford-row. Mrs. Thrale and Dr. Johnson were subscribers to this school; and Johnson drew from it his story of Betty Broom, in the *Jdler*. In the school minutes, 1763, the ladies of the committee censure the schoolmistress for listening to the story of the Cock-lane Ghost, and desire her to "keep her belief in the article to herself." The 150th anniversary of this School was celebrated with a public dinner at Stationers' Hall, in 1852.

(To be continued.)

### Suggestive Hints towards Improved Secular Instruction.

BY THE REV. RICHARD DAWES, A. M.

XI.

NATURAL PHILOSOPHY.

(Continued from our last.)

*Air as a vehicle of sound.*

A bell under the receiver of an air-pump when exhausted, is not heard.

Bodies which produce the sensation of sound on the ear are in a state of vibration, as in a bell—the running a wet finger along the rim of a common drinking-glass, etc.

Here having to do with the instruction of children engaged in country occupations, I have called their attention in this, as in other subjects, to things coming under their observation, in a way something like the following:

Did you ever observe a woodman cutting down a tree at a distance; you could see the hatchet fall, and some time after that the sound of the blow came to your ear. Do you know the reason?

*Teacher.* Light travels so fast that the time it is in coming from the hatchet to you is so small that it cannot be reckoned; so that when you see the hatchet fall, that is the instant the blow is given; but sound, coming at a very slow pace (1,142 feet in a second), takes as many seconds to get to your ear as when multiplied by 1,142, would give the number of feet between you and the man cutting down the tree.

For instance, if it were 2", his distance would be 1142 ft.  $\times$  2, if 3", 1142  $\times$  3, and so on.

Did you ever see a man firing a gun at a distance, and, after seeing the flash, wonder why you did not hear the sound, or that you were kept considering how long it would be before the sound came? Do you know the reason—can you explain it? Because sound lags behind, and the flash takes up no time in coming to the eye.

Supposing you were 5" before you heard the sound after seeing the flash, how far would you be off?—5  $\times$  1142; 6", how far?—6  $\times$  1142, and so on.

When we hear the Portsmouth guns here, if you could have seen the flash, do you think you could find out the distance betwixt this and Portsmouth?

Supposing a man was standing where you could see him a mile off, and you saw the flash of his gun, how long would it be before you heard the sound? A mile in feet divided by 1,142 would give the number of seconds before I could hear the sound.

*Teacher.* How do you think the sound gets to your ear? The air in the gunpowder suddenly expands and disturbs the air immediately about it, or the hatchet causes a vibration or tremu-

lous motion in the wood, which sets the air in motion all round about; and this makes a sort of circular wave, beginning from a point which gradually enlarges, one circle of the air of the atmosphere striking against another, until it reaches the ear, unless it meets with some hinderance in the way; just as when you throw a stone into a smooth pond, a wave, beginning from the stone, spreads in every direction, until it reaches the bank. The air is as necessary to continue the sound up to your ear as the water is to make the wave come up to the bank.

Sound goes much quicker in water—nearly four times as quick as in air, and in solids from ten to twenty times quicker; so that if you splash in the water at one end of a pond, the fish would hear you much sooner than a boy standing at the opposite side would do.

Now, in order that you may understand how well solids convey sounds, the next time you see a solid log of deal, or timber not very knotty and broken in the grain, at the carpenter's shop, set one of the boys to scratch at one end of it, and the rest of you go and listen at the other. Try the same on a block of stone, marble, etc.

But perhaps this will amuse you more: when you see the kettle on the fire, and you cannot tell whether it boils or not, place one end of the poker on the lid, the other to your ear, and it will tell you. If you strike with a hammer on a solid wall at one end, and some of you go and fix your ears against the other, you will most likely hear the sound of the blow twice—the first going along the wall you may call the wall-wave (coming more quietly), the second, a little after, through the air, coming with the air-wave, we have talked of before. Try if you can hear two reports of the same knock by tapping with a hammer at the end of a log of wood—one along the wood, the other along the air.

You have heard of the wild natives of America—when they think their enemies are near, they lie down on the ground, and, by applying their ears to it, they can judge of the distance, and hear sooner than through the air.

Did you ever hear what is called an echo?

Supposing you were to clap your hands violently together, that creates a wave in the air which carries the sound along with it; now, if this wave happens to meet with a wall or a rock, or any obstacle in its way, it is checked and beaten back, and so brings the sound with it a second time to your ear; and again, after passing you, if it met with the same sort of obstacle on the other side, it would be sent back again, and so strike your ear in passing and re-passing, losing a little every time until it entirely died away. This would be called an echo; people living in a flat country have not so many opportunities of observing it as those who inhabit a craggy and mountainous one.

**Water**—a fluid at the common temperature of the atmosphere. Have you ever seen it solid? In winter—in frost—it is then ice.

—How high does the thermometer stand when water begins to freeze? 32°.—Look at the thermometer in the room, how high is it? 52°.—How many degrees above the freezing point?—Does it increase in volume when it becomes ice? Water from the temperature of about 29°, expands as it grows colder, and at 32°, when it becomes ice, expands so as to crack water-bottles, water-pipes; a piece of ice floats in water, part of it being above the surface; if it were of equal weight with the same volume of water, it would just sink so as to have no part above.—You should never let water stand in leaden pipes, or in vessels likely to be broken by its freezing in severe frosts. This expansion of water in becoming ice, how serviceable to the farmer, in some soils, in pulverizing and making them fit for vegetation—good for gardens, etc.

“That water contracts in reducing the temperature to about 40°, and below that again expands, is easily shown, by taking two equal thermometers, the one filled with water and the other with spirit; placing them in melting ice, the spirit one will gradually fall to the freezing point, but the other will fall to about 40°, and then begin to rise. By Act of Parliament, the temperature at which the specific gravity of spirits is determined by the excise, and at which the standard weights and measures are adjusted, is 62° of Fahrenheit.”—DANIEL'S *Chemical Philosophy*.

Quicksilver, unlike water in this respect, contracts and becomes denser in becoming solid. It has been ascertained, by leaving it exposed to the cold in high latitudes, where it has assumed a solid form, and observing the temperature at which it begins to thaw, that the freezing point is about 40° below zero of Fahrenheit.

Attention may be called to the way in which the roads are raised up in winter by the freezing of the moisture within them—how after a thaw a loaded cart or waggon sinks in, causing deep ruts—how rocks and stone, which have absorbed much moisture, split after frost—parts of buildings peel off, etc.

Can water be made into a vapour—something you cannot see?

By heat it becomes steam, thermometer 212° at the average pressure of the atmosphere; one inch of water makes about a cubic foot, 1728 inches, if further heated it exerts a greater pressure in trying to escape, pressing on the surface of the vessel in which it is. This is the property which makes it so serviceable to us in grinding our corn, moving the machinery for spinning and weaving, of steam-boats, etc., and as a motive power on our railroads, carrying us forty or fifty miles in an hour. If cooled below 212° it immediately falls back, shrinks up into one inch, and becomes visible water again, giving out a great deal of heat;—instance steam raising the kettle-lid.

Why does the tea kettle, just before boiling, very often force out a quantity of water from the spout? Because the air, driven from the water by heat, and the steam which is forming from the water, rise to the top, and the lid happening to be air-tight, it cannot escape, and being lighter than water it cannot descend, so the vapour or steam under the lid increases and expands, and, pressing upon the surface of the water, forces it out at the pipe.—Did you ever see on a frosty day, when you were going with a team, what you call the breath of the horses, or your own breath?—Yes, Sir.

**Teacher.** The warm air from the horses' mouths, or from your own mouth, containing vapour which you cannot see when the air has a certain degree of warmth in it, as soon as it comes in contact with the colder air gets cooled, and the steam or vapour becomes water (is what they call condensed), or perhaps watery vapour, which you can see, instead of a vapour which you could not see.

Did you ever see sugar or salt melted in water? No, Sir; but we have seen sugar in tea.—Then the teacher takes a small phial containing water, and puts in a certain quantity of salt, when entirely melted they see the fluid perfectly clear; increase the quantity beyond what the water will take up, this remains undissolved. If the temperature of the water were increased, it would take up more; in the same way the air will take up a greater quantity of vapour the warmer it is, and coming from the mouth warm, it holds more vapour than it is able to do, when it comes in contact with the cold air, and throws some of it down, so that you can see it; thus water on the inside of the window in frosty weather—dew on the outer surface of a bottle of cold water in hot weather, etc.—the quantity of watery vapour in the air in hot climates greater than in cold, hence torrents of rain when it is suddenly cooled, etc.

About London, latitude 51° 30', the average fall of rain in the year is about 23 inches; while in Rome, latitude 41° 54', it is 38 inches; at Calcutta, latitude 22° 34', it is 81 inches; and in climates like the West Indies upwards of 100 inches; but though the quantity of rain falling in hot countries is greater than in the temperate ones, the number of wet days is greater in the latter than in the former; there is more moisture in the air in our climate in summer than in winter; but from the greater temperature it is held up, and is not so sensible to us. By inches of rain is meant the depth at which it would stand on every square inch of surface on which it falls, supposing none to be absorbed by the soil or to evaporate.

Two fluids in the same vessel, one lighter than the other, which would get to the bottom? The heavier one.—Give instances. Milk and cream, water and oil, quicksilver and water, water and air.

The teacher, holding up a glass; What is this glass full of? Atmospheric air.—If I pour in water, what does that do? Drives out the air, because it is the heavier fluid?—If I pour quicksilver into a glass of water, what would take place? The quicksilver would drive out the water for the same reason.—If water upon mercury, or oil upon water? The water or oil being the lighter fluids, would rest on the top, and the same thing would take place if carbonic acid or any gas heavier than air were poured in.—Another instance: fill a small phial with water, leaving room for a bubble of air, then cork it; holding it in a horizontal position the bubble rests in the middle, elevate one end, the bubble rises to the top; show how this may be used as a spirit-level.

Look at that cubical vessel on the table, divided into two equal parts by a division in the middle. Suppose one division full of mercury, the other of water, and the partition suddenly withdrawn, what happens? The mercury immediately covers the bottom of both parts, and the water rises to the top.

Take a bottle of water from a cool spring or from the pump; place it in the sun or in a room—for instance, as you see it sometimes in a bedroom. You will observe air-bubbles form themselves on the surface of the glass—at the bottom and the sides—this is air contained in the water. As it takes the temperature of the room these air-bubbles form themselves, expand as they rise, come suddenly to the top, the water being of equal temperature through-



out. Why does the bubble expand as it rises? The pressure upon its surface varies as the depth; and therefore the nearer the surface the less the pressure.

How is it then, if you place water in an open saucepan on the fire to heat, we see at first bubbles form themselves at the bottom, like pieces of glass, rise up a little way, and are then lost before coming to the surface.

The air in that part of the water in contact with the bottom of the saucepan, immediately it begins to feel additional warmth, forms a bubble, rises up a little way, and although the pressure is diminished, it becomes again compressed, in consequence of coming in contact with cooler water as it rises. This it is, I believe, which causes what is called the hissing of the kettle.

If you were to boil a quart of water until it has all, as you call it, boiled away, what has become of it?—All turned into steam.—If water with chalk or salt in it?—The water would go into vapour, and the chalk or salt be left behind at the bottom of the kettle.

Did you ever see a white crust at the bottom of your tea-kettle? Yes, Sir; but we don't know what it is?—Don't you know we live upon what is called a chalk soil here, and the rain that falls makes its way through the chalk and comes out underneath it, having taken up some of the chalk in its way through. If our hills had been of iron ore, lead, or salt, the water would have taken up some of these substances in passing through them, as it always takes up some of the earth through which it filters—as it is a fluid in which many things are soluble; thus, we get water with chalk in it—when you boil it, the pure water goes off in vapour, and leaves the chalk behind, which falls to the bottom of the kettle: besides this, although hot water will hold up or melt more sugar or salt than cold, yet it will not hold more chalk, on the contrary, less, as the heating drives off a particular gas or air (called carbonic acid gas), which has a great liking for the chalk, and holds it up in the water, so that what falls to the bottom partly belongs to the water which is driven off, and partly to that which is left in the kettle. These are two reasons, therefore, why your kettle has a white mass of chalk at the bottom.

Taking off the lid of a kettle when the water is boiling, turning it up, what do you observe? Drops of water. These are formed by the steam coming against the lid, cooling it down so that it becomes water—the lid being in contact with the atmosphere conducts off the heat from the steam—this is distilled water or pure water, containing no lime, salt, etc.

Two fluids mixed together, which become vapours at different temperatures, may be easily separated—thus a mixture of spirit and water; heat the mixture up to the temperature at which spirit becomes vapour, it goes off and may be collected, the water remaining behind.

That the boiling point of water or any other fluid varies with the atmospheric pressure—how this may be applied to find the altitude of mountains—that water at the top of Mont Blanc, for instance, boils at a temperature of about 187°—that a difference of 1° in the boiling-point corresponds to about 530 feet of ascent, and this difference in boiling will denote a fall of about 0.589 inch of barometric pressure—that, under the receiver of an air-pump, water may be made to boil at a very much lower temperature than in the air. This and other things of a similar kind I find, from experience, may be made most instructive and useful to them, and more particularly if a school is provided with philosophical apparatus with which the experiments can be shown. A table of the temperatures at which different fluids boil and freeze, should be suspended on the wall.

Heat water to boiling in a Florence flask, cork it well when boiling, and turn the flask upside down, having removed it from the lamp it now ceases to boil; sprinkle water on the surface of the bottle, the steam within is condensed, and it again begins to boil; when it again ceases to boil, from the elasticity of the steam within, repeat the sprinkling and it commences boiling again. Thus the application of cold makes the water boil.

Archdeacon Wollaston invented an apparatus of such delicacy for ascertaining this, that the difference of the height of a common table from the ground would produce a difference in the boiling-point, which was clearly shown by the instrument.

The different ways in which water and metals are heated—hot current ascending, the cold water descending, and metals from particle to particle; point out also the difference in the process, in attempting to heat water by placing the fire above and not under the vessel containing it. The conducting power of fluids is very small, and it has been found that water may be made to boil in the upper part of a tube, without imparting much heat to the water below it, and that it may be brought to the boiling-point within one fourth of an inch of ice without the latter immediately melting; and that ice is

melted eighty times slower when it is fixed at the bottom of a cylindrical vessel with water above it, than when it floats upon the surface of warm water.

Salt is got from sea water by exposing it to the air in large pans; the water goes off in vapour and leaves the salt behind: the greater the surface exposed to the air the more rapidly the water goes off. Shallow pans better than deep, and why? Do you not observe the water lessens very much in summer in your sheep-ponds, even when you do not take cattle to drink at them? It is taken up by the air; in the same way a good brisk wind rapidly dries the hay, corn, and clothes after washing; and if you want anything that has been washed to dry fast, you unfold it as much as you can in order to expose all its surface to the air. For the same reason you spread out the grass and leave the corn in the field, in order that the fluid matter contained in them may be taken off.

Salt also is found as a mineral in Cheshire, Poland, etc.; and salt-springs are very often found in the coal-mines in some districts, particularly in Durham and Newcastle, where a great part of the salt used by the miners for their own domestic purposes is supplied by the salt springs in the mines.

The following is an easy instructive experiment: Take a small quantity of rock-salt and also of saltpetre, the crystals of which differ very much, dissolve them together in water, they form a clear limpid fluid. Pour this solution of the two into a small dish and let it evaporate; crystals of pure salt and saltpetre will be the result, the beautiful long crystals of saltpetre being totally devoid of salt. This shews clearly that the atoms of salt have an attraction for, and seek for, their own atoms—the same of the saltpetre, and that if there is any attraction of the one for the other, it is less than that among themselves.

(To be continued.)

### The Man that knows how to Read and to Write. (1)

(Translated from the French of Mr. Emile Souvestre.)

When the children of men wanderers on the face of the earth, had to seek for their flocks the richest pasture lands, one of the sons of Japhet wearied, had fallen in the midst of the vast solitude and near his bleating sheep into a gentle slumber.

But a dream came over him, and the following vision passed before his eyes:

He imagined that he was borne aloft to a high mountain, from whence he could see extending in the distance the white tents of his own tribe, and the friendly habitations of many kindly clans. Beholding them his heart leaped with joy, and stretching forth his arms he raised his voice and called on his parents and his kinsmen; but the distance was great, neither could he be heard, nor could the welcome tones of their voices reach him. In vain he prays the passing clouds to take him up in their folds and carry him to his brethren, in vain he asks the birds of the air to lend him their wings, in vain he solicits the wind to carry his message; the clouds throw their shadows over him, the birds sing a mournful note, and the wind sighing passes on, unheeded is his request, and a gloom spreads over his countenance.

The eyes of the shepherd fill with tears; he cries aloud to the God of his fathers:

—Almighty being! free me from space and from time! so dispose that in my solitude, I may be enabled to speak to other men and make known to them my thoughts and they make known to me theirs!

Then an angel descended from heaven, placed into his hands a tablet, and said: "Learn first to recognise these characters, then to imitate them, and your wish shall be fulfilled."

It was the Alphabet that God was giving to the human race, and with it, the arts which are most useful for its progress and most conducive to its happiness, the art of reading and the art of writing.

With these, what is solitude, what is distance?

The man who knows how to read converses with the absent; he becomes the confidant of their joys and of their sorrows, he hears their assurances of esteem and of affection, and the soft breathing of their sympathies melts his heart: he is acquainted with what they do, with what they think, with what they desire, and with what they suffer. The scrip, which he receives covered with the

(1) For the original, see our *Journal de l'Instruction Publique*, for February last.

signs they had traced, similar to the talisman of eastern tale, brings before him, the familiar faces of the absent, with whom he may converse, laugh or shed a tear; shows them to him in the midst of endearing associations, transports him to the home of his youth and to the bosom of his family. Without the power of reading the absent would be like to the dead; indeed they would live in the memory, but we should no longer know where they are, how they are occupied, we could have no certainty that they still hold us dear and at times think of us and treasure our remembrance. Take away those written conversations, which enkindle such gentle feelings and knit in close bonds the ties of friendship, then distance will soon sever the links of the most sacred connections.

The man that knows how to read, holds communication not only with his friends but with the whole universe! The earth extends for him far beyond the horizon; he participates in the universal life; to him no man is a stranger, for he has passed through every country; to him there are no unknown lands, for he has seen the world in books as in a mirror.

The man who knows how to read converses even with the dead. Bending over the writings to which they have confided their thoughts, they speak to him eloquently from the mute page, their thoughts leap into his soul. His teachers, the companions of his solitude, the friends of his lonely hours, are those great geniuses scattered in the path of time as are scattered the stars in the path of our planet. He profits by their experience, to their reflections, he adds his own reflections; he becomes the universal inheritor to that heir-loom of wisdom amassed during the course of ages.

The man that knows how to read may learn every thing. Instruction arrives directly to him without the intermediary of a master; books are to him ever open schools, whose portals no power can close.

The man that knows how to read is never lonesome; he has at his command every thing that can awaken his curiosity, interest his mind, or excite his imagination. Does he wish to travel to distant shores, or to hear an account of the disasters or triumphs of his country, or to listen to the inspired verse of the poet, or to assist at the wonderful discoveries made by men of science, or to follow the romantic adventures of imaginary heroes, reading, an ever obliging fairy, transports him whither he wills. Sovereign all powerful, the greatest intelligences are his courtiers, the obsequious slaves to his pleasure, ready to speak, or to remain silent as he may fancy.

In fine the man that knows how to read seems to multiply his faculties and to dignify his nature. There are a thousand offices which may be confided to him, and to him alone. He possesses one sense more than the ignorant; in reality he belongs to a higher order of beings.

But reading is only the half of the indispensable science; it prepares man for the fulfillment of his social duties, writing perfects him in it. The man that cannot write rots the thoughts of others, but his own can never travel miles, and even dies before they find an echo; he listens, but he cannot reply; he hears, but he cannot speak; his conversation with the absent is an eternal monologue, of which he is the only auditor; he cannot commune with a distant friend, nor ask him a simple question, nor tell him a simple want.

The man that knows not how to write mistrusts his memory: he has no invariable mark whereby to fix an actual event; time obliterates all recollection of the past, with the dates, the names, and the circumstances, for he has not had the power to connect them with precise signs. His brain resembles the slate on which we write a phrase or a cipher, which must be effaced for the work of the morrow.

The man that knows not how to write cannot explain to an absent acquaintance an affair on which may depend his fortune or his happiness. He is oppressed, but cannot apprise those that govern him of his wrongs. Obligated to borrow the aid of another man's hand he seems doomed to a kind of eternal infancy; he is a minor whose acts are of no avail without the consent of the tutor.

The man that knows not how to write, is ignorant of the art of putting his thoughts into order, and of expressing them with conciseness. Accustomed to the diffuseness of extempore discourse, he has never been able to construct his sentences, to discuss his expressions, to arrange his arguments, to study in fine that science of language which teaches us how to express our thoughts in the best form, and in the fewest words.

But the man that knows how to read and to write is like the fledgeling; he feels his newly acquired powers; winging his flight he may travel through space and penetrate into eternity! He has obtained over space and over time the victory which the shepherd prayed for in his dream.

Now all depends upon the use that he will make of those powerful instruments! The tree of life, and the tree of death, draw their nourishment from the same soil, and spread their branches in the same garden! The man who knows how to read and to write may fall, but at least it shall not be without knowing it; his faults will be the results not of ignorance but of choice, and he shall be held legitimately responsible before men as he is before God.

H. G. M.

### Thoughts for Teachers.

Applicants for certificates of qualifications to teach common schools occasionally complain, those rejected especially, that the examinations are too severe, and the requirements demanded of candidates unnecessarily difficult and numerous; while our best teachers recommend the elevation of the standard of qualifications still higher, and thus exclude unqualified teachers from our school houses. Our most successful teachers are desirous to have candidates subjected, each year, to more rigorous and complete examinations, whereby their profession may be more respected, and their remuneration thereby increased. Especially is it the manifest interest of the public, that there be a diminished number of certificates issued by Boards of Examiners; for the opposite course necessarily increases the multitude of teachers, causing greater competition for situations to teach, and thereby reducing their well-earned wages, and by inadequate compensation, discouraging and driving competent teachers into other more lucrative employments, who thus abandon our school houses to be afterward occupied by fourth-rate teachers, and those utterly unqualified by nature and education, and wholly unfit to have charge of our youth.

There are many persons who have taught school, term after term and year after year, merely as a matter of pecuniary convenience, without increasing one iota their original stock of knowledge. We find teachers who think themselves insulted if advised to study after they have made their debut as instructors. They forget that there is in society a constant progress; that those who are competent to instruct to-day will not be to-morrow, unless they make corresponding additions to their stock of knowledge and mental discipline. These loitering teachers fall behind the time, and will be set aside for those who have been wide awake to this exigency, and have prepared for it. A poor teacher is a great nuisance, which should be abated, for he stands in the way of, and prevents the employment of, a competent teacher.

One great object and duty of a teacher is to communicate knowledge, and unless he employs his own mind in diligent study, in acquiring new facts and fresh principles, he is unworthy of his profession, and fails in his duty to the patrons of his school. We find occasionally persons who have been teaching five and ten years, and have during that time made scarcely any really manifest improvement, or increased their *small* fund of general information. Their acquirements might have been considered respectable a few years ago, but they have neglected to advance with the educational progress of the times, and now their scholarship and ability to teach can no longer be regarded as worthy of employment or respect. The true interests of the teacher's profession, the manifest welfare of the common schools, demand that the Board of Examiners should unhesitatingly tumble such stationary teachers overboard. Other teachers, although not exactly or positively stationary, who make but snail-like progress on account of inherent dullness, should make way for others, who are already fully equipped with the amount of mental activity and ripe scholarship demanded by the teacher's charge. A successful teacher is always an earnest and diligent student of books, and of the world around him. A true teacher, growing mentally rich by active industry, is one of nature's noblemen. That office, which confers the power of moulding the minds and morals of the men and women of the next generation, is as honorable as it is responsible; and common schools are assuming an increased importance in the opinion of the public, by whom they have been too much neglected and undervalued, and their interests committed to unskilful hands.

The assertion is sometimes made that 'any one is competent to teach a common school, and especially one of small children.' Ignorant persons, unable otherwise to earn a living, are pronounced fit and qualified to gather around them the freshest, youngest spirits, and to inscribe the most impressible page of human existence. It is sometimes urged that as particular branches will not be taught in certain districts, that these should be omitted in the examination. The law designates what branches are required of every candidate, and to omit any one of these branches in an examination, is a



direct violation of the law. A person, to be qualified to take charge of the intellectual culture of youth, although backward and young the children may be, ought to have the intellectual discipline acquired by the mastering of these elementary branches upon which the law requires an examination. A person not qualified to teach all of the required branches, is not qualified to teach any grade of school. No person should be intrusted with any common school, however small in number or obscure in locality, who is not qualified to instruct in those branches required by law. Those humble attainments are the substratum of all correct education, and they are too much neglected. The pupils of every school ought to have a teacher thoroughly competent to impart these elementary studies, and one who, in the intervals of leisure, will be active in acquiring higher branches of knowledge; thus be a *self-educating* teacher, and a living example to his pupils, of the unrelenting progression which is required of ambitious pupils. May the number of *self-educating* teachers increase, and receive as their just reward the favor and increased *material* patronage of the public, to whom their faithful labors are so invaluable.—*Ohio Journal of Education.*

### The two Candidates

The citizens of B. had become pretty well convinced that if they would be sure of having a good school, they must first make sure of a good teacher; and that to secure a good teacher they must offer good inducements,—to retain him they must treat him kindly and generously. They had tried cheap teachers long enough, and from such their schools had greatly suffered. The old motto, "a cheap teacher and a long term," had lost its power, and a new one had taken its place, which was, "The best teacher is not too good for us; a good one we will have or none." With such feelings as these facts indicate, the people were ready for right action. Though they believed in *words*, they believed more in *deeds*. Consequently when the meeting was held for choice of district committee, all felt it a duty to go, believing that the first step was quite as important as any. And they did go. The school-house was well filled. The state of the district affairs was freely discussed, and a feeling of harmony prevailed. Mr. Nason was unanimously elected as district committee. He had several children to be educated, and he had long felt a deep interest in the prosperity of the school. The only instructions the district gave to Mr. Nason were, "to hire a good teacher and pay him liberally," and those who knew Mr. N. deemed it superfluous even to do thus much, for he not only possessed zeal in school matters, but a knowledge-tempered zeal.

Two prominent candidates soon applied for the school. Though the duty of examining rested with the school visitors, Mr. Nason resolved to exercise the privilege of making a private examination as preparatory to the more decisive one by the board. Accordingly he invited the two candidates to call upon him,—each at an hour designated.—though not both at the same hour.

The first was Jotham Standstill. He calls at Mr. Nason's, enters, and seating himself, with hat upon his head, and quid of tobacco in his mouth, when the following conversation takes place:

*Jotham S.* They tell me you are the new committee man, and I have called to let you know that I would like to keep your school this term.

*Mr. N.* Well, we wish to employ a good teacher. Have you taught before?

*J. S.* O yes, I've taught school three terms, and I understand the business. I can whip any boy, no matter how big he is.

*Mr. N.* Yes, but we want a teacher more than a whipper. Have you ever attended a Normal school?

*J. S.* No, I don't believe in such schools. I never saw one and hope I never shall. I think natural teachers are the best, and I am one of that class.

*Mr. N.* Have you ever attended a Teachers' Institute or Teachers' meeting?

*J. S.* No, and I never intend to. If I can't keep school without their aid, I'll give up and return to my old business of sawing wood. They may do well enough for beginners, but they won't answer for me.

*Mr. N.* Then you don't believe in the old maxim, "never too old to learn."

*J. S.* Not quite. When a man knows a thing he knows it, and that's enough. I know how to keep school, and I don't want to hear of any of the new fangled notions.

*Mr. N.* Do you take or read any of the School Journals?

*J. S.* Not I. I have no dollar to throw away in such trash. When I can get plenty of stories about murder, love, and ship-

wreck. I don't want to see any of your teachers' journals. I never read a page in one in my life, and what is more I don't mean to.

*Mr. N.* Do you own or read any works on education?

*J. S.* No, I have no inclination to read such works. What's the use when one knows it all? If you want me to teach your school I am ready to do the work as cheap as any other man.

*Mr. N.* I am not prepared to employ you now. If I should decide to need your valuable services I will inform you.

*J. S.* Well, I shall expect to hear from you. (Exit.)

*Mr. N., (alone.)* Long enough have we suffered from such teachers, and I am truly thankful that it is within my power to preserve the children from another specimen of the same class. (Enter Henry Progress.) Good evening, Mr. Progress, I am happy to see you; please be seated.

*Mr. P.* Thank you, sir. If you are at leisure I would like to converse with you in relation to your school, as I learn you are in want of a teacher.

*Mr. N.* Perfectly at leisure and glad to see you. We do wish to employ a teacher if we can find one of the right stamp. You have had some experience, I think.

*H. P.* Yes, sir, I have taught three winters.

*Mr. N.* Are you pleased with the work? do you love to teach?

*H. P.* I have been much pleased with it and think I may say I love the work.

*Mr. N.* Do you feel that you know all about it and that you have no occasion for learning more?

*H. P.* O, no, sir; I feel that I am but poorly qualified,—but I am daily endeavoring to increase my knowledge.

*Mr. N.* What do you consider some of the sources of improvement?

*H. P.* The means of improvement are numerous. They who will can learn daily from many sources. Good Normal Schools, Teachers' Meetings, Institutes, &c., afford very valuable aids to teachers.

*Mr. N.* But don't you think some are natural teachers, and find such helps as you have named unnecessary?

*H. P.* I believe that some naturally possess better qualities than others,—but I also feel that none are so good or so perfect that they cannot receive benefit from the sources I have named. I feel greatly indebted to such aids, and I am free to admit it.

*Mr. N.* What do you think of teachers' journals and works on education? Are they of any service to teachers?

*H. P.* I think highly of them. They have been of great benefit to me, and I should hardly know what to do without them. My belief is that I can get some good from all educational works and writings.

*Mr. N.* What importance do you attach to the teacher's influence out of school? What should be his habits and example?

*H. P.* I believe that the teacher may and should labor to secure right moral feelings in the hearts of his pupils, and that he should ever strive to lead them to do right from high and honorable motives. I think the teacher may do much outside of the school-room. But his influence will not amount to much unless his own actions correspond with the tone of his instruction and advice. He cannot, with any hope of success, denounce a habit indulged by his pupils, if he is himself guilty of the same. The teacher must aim to be what he would have his pupils become.

*Mr. N.* I am pleased with your views, Mr. P., and believe they are sound. Would you like to take our school this season?

*H. P.* I should, sir, and should be willing to pledge my best endeavors to keep a good school.

*Mr. N.* I think we shall be glad to employ you,—but as the law requires that you be duly examined by the School Visitors, we will postpone a final decision until you have seen those gentlemen. If you obtain a certificate, as you doubtless will, please call again.

*H. P.* Thank you, sir; good evening.

*Mr. N.* Good evening. (Alone.) That is the man we want, "ever learning and yet never coming to feel that he is wisdom itself." I shall feel safe in committing to his guardianship the youth of our district.—*North Carolina Jour. of Educ.*

## OFFICIAL NOTICES.

### APPOINTMENTS.

#### SCHOOL INSPECTORS.

Mr. Louis Grondin, a Teacher provided with a Model School diploma, was, on the 7th instant, in the room and stead of Mr. Lanctot, whose resignation has been accepted, appointed Inspector of Schools for the

counties of Beauharnais, Laprairie, and Obatauguay, with the exception thereof of the Protestant Schools in Ormstown and the two municipalities of St. Jean Chrysostôme, in the county of Obatauguay, these schools remaining under the supervision of M. Inspector Bruce.

Mr. Michel Caron teacher, also provided with a Model School diploma, was, the 7th instant, appointed School Inspector for the counties of Napierville, St. John's, and Iberville.

Heretofore the county of Iberville was partly under the supervision of Mr. Parmelee, and partly under that of Mr. Leroux.

A part of the county of St. John's was under the supervision of Mr. Lanctot, and a part under that of M. Archambault. The latter had, moreover, under his charge, part of the county of St. Hyacinthe. On the 7th instant, the parishes within this county, which had been, up to this date, under his supervision, were annexed to the district assigned to Mr. Leroux, the whole county of St. Hyacinthe being thus placed under his inspection.

The limits of the Districts of Inspection affected by these changes, now stand as follows:—

Mr. Caron's new District. counties of Napierville, St. John's, and Iberville.

Mr. Grondin's District: counties of Beauharnais, Laprairie, and Obatauguay, with the exception of the Protestant Schools of Ormstown and St. Jean Chrysostôme.

Mr. Parmelee's District: counties of Missisquoi, Brome, and Shefford.

Mr. Leroux's District: counties of Bagot, Rouville, and St. Hyacinthe.

Mr. Archambault's District. counties of Richelieu, Verchères, and Chambly.

#### SCHOOL COMMISSIONERS.

His Excellency the Governor General in Council was pleased, on the 7th instant, to make the following appointments of School Commissioners:—

County of Gaspé: Ile Bonaventure—Messrs. Philippe Mauger, François Journeau, John Ody, John Lamb, and George Aubert.—Jean Harman, Secretary Treasurer.

Same County: Ste. Anne des Monts—Messrs. Augustin Levasseur, Joseph Lafontaine, Hilaire Emond, Rigobert Miville, and Jean Baptiste Valée.—John Perry, Secretary Treasurer.

Same County: Cap Chat—Messrs. Joseph Roy, senior, François Pelletier, Jean Gagnon, Vincent Gagné, and Joseph Rincieu.—Louis Roy, Secretary Treasurer.

His Excellency the Governor General in Council was pleased, on the 1st ultimo, to make the following appointments of School Commissioners:—

County of Chicoutimi: Outatchouan—Messrs. Thomas Jamme, Edouard Lalancette, George Bouchard, Protas Guay, and Ambroise Jamme.

Same County: Harvey—Messrs. Louis Savard, Felix Simard, Pierre Simard, Dominique Gagnon, and Ignace Tremblay.

County of Drummond: Wick—Mr. Michel Leonard, former incumbent deceased.

#### SEPARATION AND ERECTION OF SCHOOL MUNICIPALITIES.

His Excellency the Governor General in Council was pleased, the 7th instant, to separate the localities known under the names of Ste. Anne des Monts, and Cap Chat, in the county of Gaspé, and to erect the same into separate School Municipalities—the Municipality of Ste. Anne des Monts to comprise the whole of that territory which extends from the place called "La Tourelle," on the North-east, to the stream called "Ruisseau Sasseville," on the South-west, forming a tract of three leagues and a half in extent; and the Municipality of Cape Chat, all the territory which extends from the Ruisseau Sasseville, on the North-east, to the Capucins, on the South-west, forming a tract of four leagues in extent.

His Excellency the Governor General in Council was pleased, on the 12th February last, to annex to the School Municipality of Ste. Cecile de Milton, in the County of Shefford, the first five numbers of the first six ranges in the School Municipality of Roxton.

#### BOARD OF EXAMINERS FOR THE DISTRICT OF OTTAWA.

Misses Margaret Griffin, Margaret Grant, Mary White, and Messrs. Richard Corbett, James Gray, Hilaire Joachim Jovent, David C. Leahy, William Schofield, and Edward Smith, have obtained diplomas for teaching in elementary schools.

JOHN R. WOODS,  
Secretary.

#### CATHOLIC BOARD OF EXAMINERS FOR THE DISTRICT OF QUEBEC.

Mr. Elisée Noël has obtained a diploma for teaching in model schools. Misses Délima Charron, Osithe Néron, Avila Pelletier, Marcelline Rousseau, and Mr. Edmond Marcotte, have obtained diplomas for teaching in elementary schools.

N. LACASSE,  
Secretary.

#### SITUATIONS WANTED.

Miss Henrietta Tarr, provided with a diploma, would accept of a situation as English Teacher or Assistant Teacher in an Elementary School. She is also prepared to teach the elements of Music and Drawing Apply at the Education Office.

teacher who offers to give satisfactory testimonials as to his capacity and good morals, is desirous of employment in a Model School or an Academy. He is the holder of a Normal School diploma, and would undertake to teach Latin and Greek, as well as English, and mathematics. He is married, and a Protestant. Applications to be made at the Education Office.

#### DONATIONS TO THE LIBRARY OF THE DEPARTMENT.

The Superintendent acknowledges with thanks the following donations:

From Mr. Alexandre Moreau de Jonnes, of the Institute of France. Paris: Histoire Physique des Antilles Françaises, by himself, 1 vol. in-8; Statistique de l'Agriculture de la France, by himself, 1 vol. in-8; Aventures de Guerre, by himself, 2 vols. in-8; Statistique de l'Industrie de la France, 1 vol. in-12; La France avant ses premiers habitants, by himself, 1 vol. in-12.

From Mr. P. A. Olouzet, the elder, Editor of the *Journal d'Education*, Bordeaux, France: Grammaire des Commencants, by himself, 1 pamphlet in-18; Grammaire Française, by himself, 1 pamphlet in-18; le Livre des Mères de Famille, by himself, 1 pamphlet in-18; Aide Mémoire d'Orthographe, 1 pamphlet in-32; Petit Traité pratique des Particules, 1 pamphlet in-32; *Journal d'Education*, from 1849 to 1856, 7 vols. in-12.

From Mr. William J. Rhees, of Philadelphia: Manual of American Libraries, Societies and Institutions, 1 vol. in-8.

## JOURNAL OF EDUCATION.

MONTREAL, (LOWER CANADA) MARCH, 1860.

### State and Progress of Education in Upper Canada.

The following statement on the condition of the Normal, Model, Grammar, and Common Schools in Upper Canada, is abridged from the last Report of the Chief Superintendent of Public Instruction for that section of the province,—the Report for 1858—printed by order of the Legislative Assembly, and forming, with the tabular statistics and appendices by which it is accompanied, a volume of 200 pages.—From the press of Mr. John Lovell, Toronto, 1859.

We have, we think, entered at sufficient length into details to enable our readers to form a pretty correct idea of the working of the educational machinery, and of the results attained. We are, however, in justice bound to state that we do not give a complete review. This would carry us beyond our limits, and the Report itself can at any time be obtained by those who may desire further information on the subject.

It is a most encouraging fact, and substantiated both by the Upper and Lower Canada official Reports, that in general the public schools of the province have enjoyed uninterrupted prosperity, and progressed very materially, despite the financial depression and prostration of trade which were universally experienced in that and the preceding year. The stringency of the times was such, however, that it was feared the educational, as well as all other interests, must be affected. In this painful apprehension Dr. Ryerson, as he expresses it, has been pleasingly disappointed.

From a *résumé* of the statistical tables accompanying the Report it appears that in 1858, the number of pupils who attended the common or elementary public schools, from the ages of 5 to 21 years, was 293,683, showing an increase of 21,046 on that of the preceding year. The school population limited to children from the ages of 5 to 16 years, entitled to attend the schools was 360,578—increase 35,690. This, however, was not the whole common school population, as through some omission in the provisions of the law, the returns were not made to show the number of persons aged between 16 and 21 years to whom the law has, since 1850, extended the right of attending the schools. The number of children who attended, between 5 and 16 years, was 267,383—increase 19,919; and of those of this class who did not attend these schools the number was 93,195, as will appear on comparing the foregoing figures. Of children reported as not attending any school whatever, the number amounts to 52,943—increase 6,216; a pro-

gress in the wrong direction certainly, but for which some compensation may be found in the fact that, in both years, there has been a steady increase in the number of pupils studying the higher branches of common school education, and that the number of attending pupils from 16 to 21, or upward, is put down as 26,300—an increase of 1,097.

In Lower Canada the number of children from 5 to 16 years was reported in the census for 1858, as 247,204. There is every reason to believe that this statement is much below the actual amount of common school population for the year, even when limited as above. It is well known that on this point, the returns had been more or less defective for several years previously. This was owing to divers causes, which having been already fairly explained, need not be repeated here.

But from reliable data this population has been estimated for the year at over 330,000, as stated in the Superintendent's Report.

In Upper Canada the number of boys on the rolls was 160,633, of girls 133,050—increase 10,604 and 10,442, respectively.

In the number of *indigent* children who attended, there is an increase of 1,670, the total being 6,490. But the "distinction of *indigent* children," to quote the terms of the report, "does not obtain where the schools are *free*, as no child then attends as a *pauper*, but all children attend as a matter of right, each inhabitant contributing to support the school according to his property, and not according to the number of his children."

The number of male teachers employed in the common schools during the year, was 2,965—increase 178; of female teachers 1,237—decrease 59. Of these 856 ranked as *first* class teachers—increase 216; *second* class, 2,364—increase 300; and *third* or inferior class 883—decrease 79. The Council of Public Instruction having recently raised the standard of qualification, the Chief Superintendent expresses a hope that the last named class will yearly diminish.

With regard to the remuneration of teachers it would appear by the reports of the local Superintendents for the year, that the average salary of male teachers was \$454—decrease \$7; of female teachers \$242—decrease \$12. Had these reports been received in all cases, however, the average decrease would not have been material.

The number of school sections (districts), including the ward school divisions in cities and towns, was 4,267—increase 250. Schools reported as open 3,866—increase 135. Sections not reporting schools open 401.

In the mode of support directly from the people, the figures show a progressive tendency to favor the property principle in preference to the monthly fees or capitation dues. Of *free* schools (that is, in which no fees are charged, but which are supported by all according to property), there were 1,936—increase 229; schools *partly free* 1660—increase 101. Of the schools in which the rate-bills were twenty-five cents per month for each pupil (the highest charge the law allows in this form), only 114 remained—decrease 1,240. Those in which the rate-bills were less than twenty-five cents numbered but 13, showing an increase in the schools abolishing the rate-bills of 431.

The number of schoolhouses built during the year was 158, being 43 less than the year preceding. The whole number reported was 3,691; of which 352 were built of brick, 244 of stone, 1,505 of *frame*, 1,573 of *logs*, and 20 kind not reported. Of the school sites 2,993 were held by deed—increase 255; held by *lease* 463—increase 19; *rented* 160—increase 13; tenure not reported 78—decrease 165.

During the year 58,941 visits were made to the schools—increase 9,745. Of these 8111, were made by local superintendents—increase 789; by clergymen 4,360—increase 335; by municipal councillors 1,949—increase 155; by magistrates 2,005—increase 371; by judges and members of parliament 353—decrease 13; by school trustees 20,210—increase 2,480; by other persons 21,953—increase 5,628.

Of lectures delivered there were 2,957—increase 417; by local superintendents 2,389—increase 144; by other persons 568—increase 273.

The time during which the schools were kept open in the year will average ten months and twelve days—an increase of six days; or an aggregate increase of 21,990 days.

"It appears," continues the Report, "that in 1708 schools, the daily exercises are opened and closed with prayer—being an increase of 159, that the Bible or Testament is read in 2,510—being an increase of 95."

The advantages resulting from a uniform system of text books have been secured for Upper Canada. Those sanctioned by the Council of Public Instruction, especially the National School Books,

are almost universally adopted. Maps are provided in 2,403 schools—increase 113; globes in 612—the first reported; blackboards in 2,895—increase 243; sets of apparatus, including orreries, tellurians, &c., in 500—increase 28.

The Legislative grant for 1858 amounted to \$133,000, or \$3,000 more than the preceding year. The amount raised by the municipalities was \$270,503—being \$137,503 above the grant, and \$22,687 more than the sum raised in 1857. Of the sum apportioned from the Legislative grant for common school apparatus, prizes, and libraries, there has been a decrease of \$1,649—the amount this year being only \$6,577. The like amount was also furnished from local sources. The total value of articles sent out to, or elsewhere purchased by trustees, under this head, was \$14,142—decrease \$3,251. In addition to municipal assessments, the trustee school assessments,—moneys raised and expended chiefly for the purchase of school sites, and the erection and furnishing of schoolhouses—amounted to \$486,572—being a decrease of \$98,569. Dr. Ryerson considers this to be a very large amount, taking into account the "resources of the country and the unprecedented pressure of the times." The trustee school rate-bills on parents sending children to school amounted to \$195,879—increase \$45,380. The total receipts for common school purposes was \$1,244,488—being a decrease of \$49,927. Total amount paid teachers \$920,633—increase \$60,402. The total amount raised and expended for the purchase of school sites and the erection of schoolhouses was \$173,625—\$34,263 less than the preceding year. For rents and repairs of schoolhouses \$37,250—decrease \$356. For school books, stationary, and to defray incidental expenses \$102,838—increase \$13,804.

The Protestant Separate Schools, established under the 19th sec. of the School Act of 1850 and the 4th sec. of the Supplementary School Act passed in 1853, are stated to be less than a dozen in number. The Catholic Separate Schools, conducted (since May 1855) under the 18th Vct. Cap. 131, numbered 94—showing a decrease of 6 as compared with the statistics of the preceding year. Of these schools 50 were situated in townships, and 44 in cities, towns and incorporated villages. The number of pupils was 9,991—increase 27. The average time during which the schools were kept open was ten months—decrease one month.

The amount of Legislative grant apportioned according to proportion of attendance of pupils was \$8,531—increase \$16. Amount paid teachers \$16,731—decrease \$2,012. Expended for purchase of school sites, erection, repairs, and furnishing of schoolhouses, &c. \$11,180—decrease \$2,444. Whole amount received for separate school purposes from all sources \$28,206—decrease \$4,161.

Of grammar schools there were 75, including 31 Senior County grammar schools. The amount of apportionment from the grammar school fund was \$30,382—increase \$2,213; amount of fees received \$19,991—increase \$474; granted by municipalities \$13,305—decrease \$3,525; balances from previous year \$11,417—decrease \$10,314; total receipts \$75,617—decrease \$10,631. Salaries paid to masters \$61,073—increase \$3,520. Number of pupils 4,459—increase 386; of these 1,724 learn Latin—increase 395; 378 learn Greek—increase 94; 851 French—increase 250.

The returns voluntarily made by the colleges, academies, and private schools of Upper Canada are not complete. The number of students and pupils reported is 7,467—being 388 less than reported the year preceding.

We notice that in Lower Canada, the number of students in the colleges and academies designated under the heading of Secondary Schools, in the Superintendent's Report for the same year, amounted to 25,324. In this number are not included the universities and other institutions classed as Superior Schools. There are in these Superior and Secondary Schools 4,991 pupils who receive instruction free of charge, 322 receive gratuitous board, and 543 receive board in part gratis.

In Upper Canada the total sum devoted, in 1857, to free public libraries was \$16,200. Half this amount contributed from local sources, was chiefly from the Clergy Reserve fund, the other half being apportioned from the government grant. In 1858 there were appropriated, from local sources, chiefly from rates, \$1,991, which, with the same amount apportioned from the grant, formed a total of \$3,982.

The Sunday School libraries contained 251,489 volumes—increase 20,141 volumes. The number of volumes in the other libraries was 110,639—being an increase during the year of 13,631 volumes. In public school libraries there were 167,765 volumes—being an increase of 7,587. (These were all received from the Educational Department.)—Total 532,893—an increase during the year of 41,359 volumes.

Of public school library books there were 29,400 volumes of *History*; on *Zoology*, 12,098 volumes, on *Botany*, 2,174; on *Natural Phenomena*, 4,819; on *Physical Science*, 3,749; on *Geology* and *Mineralogy*, 1,400; on *Natural Philosophy*, 2,674; on *Chemistry*, 1,183; on *Agricultural Chemistry*, 687; on *Agriculture*, 7,390; on *Manufactures*, 7,476; of *General Literature*, 16,359; of *Travels*, 12,478; of *Biography*, 18,406; *Tales*, 45,651; *Teachers' Library*, 1,799.

The amount provided and expended for maps, apparatus, and prize books, was \$11,816—decrease \$6,308.

There were 2,201 maps of different kinds distributed during the year. "The number of globes, orreries, tellurians, sets of apparatus, and various articles was 1,474, including 3 complete sets of Meteorological Apparatus (1).

The number of sheets of *Natural History and Phenomena*, *Scripture History*, and other *Object Lessons* was 12,350; the number of *Prize Books* was 8,045—being an increase under this head of 5,488 volumes."

The total value of maps, libraries, apparatus, prize and school books, supplied from the Educational Depositories to municipalities and school sections, in 1858, is set down at \$22,765—decrease \$4,013. The total supplied from 1851 to the end of 1858, being \$156,378.

In relation to the above the following extracts will not be found uninteresting:—

"That the books for libraries, and maps and apparatus of every description, are furnished to the remotest municipalities and school sections in Upper Canada, at lower prices than they are retailed to the public in London, Edinburgh, Boston, New York, or Philadelphia; in addition to which one hundred per cent. is added to the local contributions of our municipalities and school sections for these purposes.

"That all the text-books used in the schools (except the classical, and one or two others,) are printed in Canada, and mostly on paper of Canadian manufacture; and nearly all the maps and apparatus (such as globes, orreries, tellurians, &c., &c.,) are manufactured in Canada, after having been carefully revised or improved under the direction of the Department. Copies and models are furnished by the Department to the publishers and manufacturers, and they are allowed to use them at their discretion in producing articles for sale to all individuals and families desiring them, while the Department confines its supplies to the municipalities and school sections. It is highly creditable to the parties engaged in this publishing and manufacture, to state, that their work is generally not only equal in point of excellence to that of the English and American makers, but, in many cases, it is quite superior, and, at the same time, cheaper.

"That this method of creating and developing Canadian manufactures of articles seldom produced in a new country, and of supplying the municipalities and school sections with libraries and all the appliances of school instruction, must largely contribute to the improvement of the schools, and to the intellectual and social advancement of the country."

In reference to the superannuated or worn out teachers of common schools, the Report states the number of pensioners on the small fund allowed for their relief to have been 170. Of these 15 died before receiving the pension for 1858. Of the 155 survivors—147 male and 8 female teachers—the average age was 65 years, and their average period of service  $21\frac{2}{3}$  years. 51 were members of the Church of England; 50 members of the Presbyterian Churches; 27 of the Church of Rome; 18 of the Methodist Churches; 5 of the Baptist Churches, &c. 79 were natives of Ireland, 52 of Scotland, 15 of England, 14 belonged to Upper Canada, 6 were from the United States, 2 from Lower Canada, 1 from Wales, and 1 from Nova-Scotia.

Six dollars per annum is the maximum of the sum allowed under the provisions of the law to the pensioner for every year that he has taught a common school in Upper Canada. Owing to the insufficiency of the fund (\$1,000, besides subscriptions), the amount afforded to each pensioner would be under two dollars for each year of tuition, so that no new claimants could be admitted except such

(1) A set of Meteorological Instruments, &c., consists of. 1 Self-Registering Maximum Thermometer, 1 Minimum Thermometer, 1 Standard Barometer, 1 Hygrometer, (manufactured by Negretti & Zambra, London); Rain Gauge, Drew's Meteorology, Glaisher's Hygrometrical Tables, Record Book, Book of instructions, Register, Abstract Book, Plan of Stars, &c. Wind Vane procured at the Station.

These instruments have been sent to the Meteorological Stations of the Senior County Grammar Schools, a list of which is annexed to the Report.

as paid annual subscriptions. The teachers who availed themselves of the privilege were comparatively few, but, adds the Report, "as the existing pensioners die, those who survive will, of course, receive a larger dividend; and the teachers who subscribe will be materially assisted when they become worn out, as none but subscribers will hereafter be entitled to participate in the fund."

The Normal Schools are represented as being in a very efficient condition. The number of applications and admissions exceeded those of former years. The first session 162 students were admitted, and the second 196; total—358. Of this number 186 had been teachers. It was also anticipated that the Model Grammar School not long opened, would be quite successful.

The Educational Museum founded after the example of the Imperial system, had been visited by many persons from all parts of the country, and from abroad. As a means of imparting direct instruction, nothing can be more efficient than an institution of this kind, especially one possessing an extensive collection.

#### Tenth Conference of the Teachers' Association in Connection with the Jacques-Cartier Normal School, Held Friday, the 27th January, 1860.

The President having taken the chair, the Secretary read the minutes of the previous meeting. Messrs. Roch Martineau and Elie Monseau were appointed to prepare essays to be read at the meeting in May, and the following subject was chosen for debate at next meeting:—"Whether arithmetic, geography, general history, &c., can be better taught from a system of oral teaching from notes or from text books?"

The Superintendent of Public Instruction then addressed the meeting, and, in the course of his remarks, alluded to the means recently adopted for bringing our teachers to the highest state of efficiency. He then announced the formation of new districts, and the appointment of new inspectors, expressing a hope that these would, as far as practicable, be selected from among the teachers of the district to which they were appointed; and added, that by taking an active part in the Association, and attending the meetings, teachers would become better known to the department. He urged them to consider that their advancement depended chiefly on their own exertions; salary should not be placed above every object; other resources could be rendered available; as an example, he would suggest horticulture. He invited all teachers to be present at these meetings, and to send to the *Journal of Education* contributions on any subject they may choose, to be treated as best suited the talent and taste of each correspondent. He concluded by reading a paper on "the present position of public teachers in France," ably written, by Mr. Theodore Barrau.

Mr. Jardiin followed, with a lecture on the method of teaching mathematics.

The Secretary having stated the subject to be debated as follows:—"Whether it would be of more advantage to date the commencement of the scholastic year from the 1st May or from the 1st July."—Messrs. Emard, Moffatt, and Giroux thought the proper time would be the middle of August, as the vacation would then occur during the greatest heat of summer.

Mr. Boudrias held a different opinion. September, he said, would be the month, as the vacation would then correspond to the harvest time.

Two of the former speakers pointed out several objections, and were answered by Mr. Leroux, who was followed on the same side by Messrs. Bourbonniere and Simays.

Mr. Valade proposed the 1st or 15th of October, and urged the importance of skilled horticulture. Mr. Leroux supported this proposition, and said that during the time of harvest the schools were almost deserted, and that teachers themselves required leisure to reap what little they may have had time to sow.

Messrs. Gauvreau and Perrin held the same language with the last speaker.

The President having reviewed the arguments advanced on both sides, declared his intention of putting the question to the vote, when Mr. Boudrias, seconded by Mr. Emard, moved an adjournment until  $1\frac{1}{2}$  o'clock, P. M., which was agreed to.

At the hour appointed the President again took the chair, and after some further debate, the members present unanimously pronounced themselves for dating the scholastic year from the 1st of September—the vacation to commence the 15th of July.

Mr. J. V. Regnaud, a Professor in the Normal School, having been called, addressed a few words of kind advice to the teachers, which were received with applause. The thanks of the meeting were then tendered the Hon. Mr. Chauveau, and Messrs. Verreau,

Regnaud, Valade and Leroux, for the active part they had taken, and the valuable counsels they had offered. To this Messrs. Valade and Leroux responded in appropriate terms. After a vote of thanks to the President, the meeting adjourned to the last Friday in May.

**Ninth Conference of the Association of Teachers within the limits of the Laval Normal School, Held Saturday, the 26th January, 1860.**

Were present: Rev. Langevin, Principal, and the Rev. Abbé Fortier; F. E. Juneau, Esq., I. S.; and Messrs. J. C. Lafrance, (President) F. X. Toussaint, Chs. Dion, A. Doyle, J. B. Cloutier, Ls. Lefebvre, Jos. Létourneau, B. Pelletier, N. Thibault, A. Demers, J. Donnelly, B. Rouleau, J. DeGuise, A. Esnouf, Geo. Tremblay, Régis Roy, O. Legendre, N. Lacasse, L. F. Tardif, Thél. Lefebvre, F. Fortin, J. Lachance, P. Drolet, F. X. Gilbert, S. Côté, and E. Labrèque, teachers, and the pupils of the Laval Normal School.

The minutes of the last conference were read and adopted. Mr. Louis Lefebvre delivered a lecture on "Electricity;" Mr. C. L. Lafrance spoke on the lot of the teachers in the country, and mentioned the many difficulties they have to contend with in obtaining their salary from the School Commissioners. The following question was then discussed, viz: "What are the best means to secure to the teachers under the control of the Commissioners, the regular payment of their salaries;" and the following resolutions, proposed by the learned Principal, were unanimously adopted:

*Resolved*—That, in the opinion of this Association, the regular payment of the salaries of the teachers under the control of the Commissioners, might be obtained by the following means:

1o. If the Secretaries-Treasurers of the scholastical municipalities were strictly required to give security every year.

2o. If the Inspectors examined carefully and in detail the accounts of the Secretaries-Treasurers, and ascertained the amount paid and the amount due to each teacher, by questioning the Commissioners and the teachers themselves, and if they were obliged to make, semi-annually, a report in detail to the Superintendent.

3o. If the Commissioners were bound to exact the monthly fee, and to pay the teachers with it every month. The balance due to the latter could be paid on receipt of the Legislative grant.

4o. If, according to the law, the Commissioners, exacted the payment of the rate from the rate payers during the month of July of each year, and if they were bound to sue those in arrears after the delay of one month (the month of August), under penalty of themselves paying personally a fine. It should devolve on the Inspector, in his quality of Justice of the Peace, to exact the fine, without the power of exempting them from that obligation.

5o. If the Commissioners were condemned to a similar fine by the Inspectors, should they delay more than a month after the expiration of each term to pay in full the salary of the teachers for that space of time.

*Resolved*—That a petition, based on the preceding resolution, be signed by the President, in the name of this Association, and sent in to the Honorable the Superintendent, with prayer that he be pleased to submit it to the favorable consideration of the Council of Public Instruction.

Resolutions were afterwards passed expressing the gratification of the Association at the appointment of Messrs. Juneau and Boivin to inspectorships. It was also resolved to request the Superintendent to permit that the payments of subscriptions to the *Journal de l'Instruction Publique*, and the premiums to the pension fund be in future placed into the hands of the Principal of the Laval Normal School.

The following subject was chosen for debate at the next meeting: "What would be the best means to adopt so as to fix the minimum of salary to be paid to teachers?"

The meeting then adjourned to the last Saturday of May next.

Teachers' Association in connexion with the McGill Normal School.

**ANNUAL REPORT.**

To the members of the Teachers' Association, in connexion with the McGill Normal School.

Ladies and Gentlemen,

The committee of the Association beg to submit their third Annual Report for the year ending 1st Jan. 1860.

As the work in which the Association has been engaged during the past year, so nearly resembles that which occupied their attention during the previous one, a lengthened Report of its affairs is, in the opinion of your Committee, entirely unnecessary; particularly when it is taken into consideration that the business of the officers is so well understood by the members.

For the information of teachers in general as well as other friends of Education the Committee considered it necessary to insert an advertisement every month in the *Montreal Transcript*, giving the subject of the Essay to be read, and the name of the Essayist, the day and hour of meeting, etc. By this means, it was thought, many more would be induced to join the association; but in this the Committee regret to say they have been somewhat disappointed. The attendance at each monthly meeting is, however, taking many circumstances into account, quite satisfactory—the number of Teachers and assistants averaging from 25 to 30.

It is to be earnestly hoped that the Association will persevere in its work, and should the results be but small and gradually produced, still in time the good effects will be seen and appreciated by all who have the cause of Education at heart.

Your Committee have given up all hope, at least for the present, of being able to obtain a government grant in aid of the funds, all their efforts to procure such assistance having failed.

The Papers read and discussed during the year are as follow:—1st by Mr. Maxwell, subject, "Sacred History." 2nd by Prof. Hicks, subject, "Mental Science: A study of importance to the Elementary Teacher." 3rd, by Mr. Burns, subject, "Algebra." 4th. by Mr. Pope, subject, "Map Drawing with illustrations." 5th., by Mr. Brown, subject, "The object of Teachers' Associations." 6th by Mr. Robertson, subject, "Language." 7th by Miss Martinson, subject, "Music with illustrations;" this Paper was repeated. 8th by Mr. Arnoid, subject, "The Progress of Education in Lower Canada." Each of these Papers formed a topic of much discussion among the members, and often elicited many practical hints that may be the means of assisting the teacher in his difficult and arduous work.

The Committee cannot let this opportunity pass without thanking the Editors of the *Montreal Herald, Gazette, Transcript, Witness* and *Journal of Education*, for their kindness in publishing the Report for the year 1858.

The Editor of the last named journal also deserves their cordial thanks for publishing in full several of the Essays read before the Association.

In closing their labours for the year 1859 your Committee would now offer up their humble thanks to Almighty God for his guidance and assistance in the important work in which they have been engaged, and they would earnestly recommend every member to seek His help, not only to further the objects of the Association, but for the progress of Education in general throughout the country, for without His blessing on the Teacher's labours it is in vain to hope for good and permanent results.

H. ARNOLD,  
Corresponding Secretary.

Montreal, March 1860.

**Report of the Chief Superintendent of Public Instruction for Lower Canada for 1858.**

*Translated from the French by the translators to the Legislative Assembly.*

Extracts from the Reports of the Inspectors of Schools.

Extracts from Reports of Inspector BRUCE.

*Huntingdon*.—Since 1855, Education has made rapid advancement in this municipality, and were they not so much given to changing teachers, I believe, the advancement would still be greater. At present, three common schools and the Academy are in operation.

*Elgin*.—The five schools of this Township are kept pretty regularly in operation, except the School of District No. 2. The most manifest progress of scholars, is in schools of districts Nos. 3, 4 and 5. The children attending No. 2 progress very little. What very much retards education in this township is low salaries. The highest salary is only £36. The consequence is, that teachers of superior qualifications never apply for their schools. Small salaries are not to be attributed to the people's want of means. Elgin is one of the most thriving townships in this part of the Province,—



townships not nearly so thriving as Elgin give far more towards supporting their schools.

**Godmanchester.**—Godmanchester has 11 schools. Only 1 of these, (No. 9,) is at present without a teacher. The results of the examinations of 6 of these were satisfactory; 4 were found in a fair state, and No. 9, when in operation, was in a pretty satisfactory state. Generally, the education of the children in this township, is acquiring a character more healthy and intelligent than formerly; and the people, generally, appear to be more disposed to make teaching more remunerative, with the view of securing more efficient teachers.

**St. Anicet.**—In the majority of the schools of this parish the progress of the scholars is tolerably fair: that of the children of Nos. 1 and 4, is very manifest. The schools of districts Nos. 2, 3, 7 and 8 are at present under mediocrity—attributable to inferior teachers. The internal and very unseemly disputes in this parish have done and are still doing much to retard the advancement of education. Were the people as earnest, and united in their efforts, to support their schools, and secure efficient teachers, as they are disunited and determined, in opposing each other in school matters, their children would be reaping more fully the benefits of education. I have, however, to report more favourably of the willingness of the School Commissioners to accompany me to see their schools examined, and see them better supplied with apparatus.

**Dundee.**—I have still to record my dissatisfaction with the schools of this Township, the mode pursued in managing schools, and school affairs, and especially in engaging teachers. Very seldom, do I find twice the same teacher in the same school. Constantly changing and engaging incompetent persons to conduct schools, is most ruinous to them. Under such mode of school management no school can thrive. Not unfrequently do I find half their schools without teachers,—the township has 8 school districts. Two of these were without teachers when lately visited; and of the 6 schools in operation of only one have I been able to report as in a satisfactory state. Found two far from satisfactory. The children in the other three are making some advancement in the few branches taught,—though not much to the credit of the teachers. Were the School Commissioners men of more nerve and determination in carrying out the school law, no question the schools would be in a more flourishing and satisfactory state. They exhibit a degree of negligence and apathy scarcely excusable.

**Hinchinbrook.**—The School Commissioners of this Township have done much to advance education within their Municipality. A number of their school districts have been much enlarged, to enable them to engage superior teachers. And in this they have succeeded. When I last examined their schools I found not in one an inferior teacher. And the children are taught with an intelligence and zeal which is very creditable to their instructors. Nearly all the branches taught are taught much farther than the school law requires. Examining schools thus conducted, and children so efficiently trained, is certainly cheering. The only school which nearly not my expectation is that under dissentient trustees.

**Franklin.**—This Municipality has 8 schools. The children attending Nos. 6, 7 and 8 are in a very backward state. In the most rudimentary parts of their education I find an imperfection and a want of advancement, which is really painful, and not a little discouraging. The scholars of Nos. 1, 4 and 5 are progressing far more satisfactorily. The degree of intelligence and amount of knowledge manifested by not a few in these schools, prove the pains taken by the teachers, and the advantage of having schools conducted by steady persevering masters. The schools of districts 2 and 3 show an upward tendency.

**Ormatown.**—This is one of the three Municipalities in this section of my field of inspection, whose schools take the lead in improving. The reason is obvious; their teachers are better paid, engaged for longer terms, and the engagements of some continued for years; of 12 schools in operation, I have in my present report, reported of none as in an unsatisfactory state. See tabular view page 11. Both the School Commissioners and the people are beginning to do more in supplying schools with suitable apparatus.

**St. Jean Chrysostôme, Division No. 1.**—In this division of St. Jean Chrysostôme, two schools are doing remarkably well; viz the dissentient school, and that of No. 1 under the School Commissioners. The schools of Nos. 2 and 3 are in a fair state, but not what could be wished. The children attending these schools are noted for bad attendance, for which we have to blame, not the scholars but the parents. Irregular attendance is one of the greatest difficulties with which the painstaking teacher has to contend.

**St. Jean Chrysostôme, Division No. 2.**—Since the school law has been put in operation in this division, the schools have manifestly improved. But of no schools can I yet say that its scholars

are really well advanced. Till lately so backward were nearly all the children, that it will require, with even good teachers, some time to bring them up to the standard of good common school progress. The best conducted schools are those of Nos. 2 and 8. In reading and writing the children of No. 1. French, are making fair advancement,—in other branches their progress is very little. The other schools in operation are not yet in a very satisfactory state. Without able and more energetic teachers, these schools will continue in their hitherto lame, tardy, and languid state; and to attract abler instructors, salaries have to be increased.

**Hemmingford.**—Speaking generally of the schools of this large Municipality I would remark, that to enable them to have efficient schools, the number of their districts must be lessened. Without this it is not in the power of the School Commissioners to give such salaries as will secure efficient teachers. The teachers in charge of their schools at present are, (two or three excepted,) by no means qualified to conduct schools with advantage to the scholars. Not a few have neither energy nor talent for teaching. As for skill in managing schools, it is a qualification of which they know little.

**St. Andrews, County of Argenteuil.**—Education has in this parish made within the last two years, very favourable advancement. The position of three or four schools is very favourable, and an independent school in the village of St. Andrews is also doing some service to the cause of education. I have to record my entire satisfaction with the present state of the Academy of the parish, under Mr. M'Inyre, and of the schools of districts Nos. 3 and 6. The majority of the children attending these are advancing in their education steadily and intelligently. The progress of a few is rapid and highly creditable to their teachers. Of only three schools can I say that they are below mediocrity. The principal cause is, that their districts are too small and weak to make it possible for them to keep their schools regularly in operation, and under efficient teachers. It is true that School Commissioners might do more to keep the schools of these districts open, by raising the parish school assessment and monthly fees, but this, from prudential considerations they decline to do.

**La Châte.**—Of 3 schools in this Municipality, only 3 are in a backward and unsatisfactory state. So irregularly are these kept open, so bad is the attendance of the scholars when they are in operation, and so incompetent often are their teachers, that it would be surprising if, under such circumstances any manifest progress could be made. One of these districts, (No. 5,) is noted for its internal disputes about its school and teachers. For this the School Commissioners cannot be altogether exonerated. So long as they allow the people to engage their teachers, and control their school as they please.

The other schools in the parish are conducted satisfactorily; those of districts Nos. 1 and 2 especially. The pupils of both these schools are advancing steadily and many of them rapidly in all the branches taught in common schools. Of their teachers, I am happy in being able to speak in terms of decided approbation. They are zealous, painstaking and assiduous.

**Gore and Wentworth.**—The state of schools and of education in these Townships is far from favourable. Twice have I visited the schools of these Municipalities, and finding only one or two in operation, and these conducted by very incompetent persons. The only reason given by the Commissioners for having their schools so frequently closed, is, not the penurious disposition of the people, who will not allow their school taxation to be increased, nor monthly fees to be levied, but the general low circumstances of nearly all the settlers. I admit there is much truth in this. Nearly all the land in these townships, is rugged and unproductive, and much admits not of cultivation. Yet I cannot persuade myself that more cannot be done for educating their youth. Were the School Commissioners, with the cooperation of the people, more zealous and determined, more alive to the work and importance of education, and to take a sincere and cordial interest in the educational well-being of their youth, more, unquestionably more, might be done. See farther page 19th of my report.

**Chatham.**—This Township has 15 school districts: and each sustains a school. At last visit the schools of Nos. 4, 6, 9 and 11 were without teachers. Of those in operation 5 were found in a satisfactory, state, viz: Nos. 1, 2, 3, 5, and 8, the most advanced scholars are in Nos. 2, 3, and 8. In these schools the children are, at present, receiving a very fair, and rather extended practical education. Their teachers appear to be earnest and assiduous, and doing much to develop and to train all the faculties. I observed that in two of these the teachers do not a little to stimulate a craving for knowledge, give vigour to attention, and a practical character to the understanding. The rest are of the mediocre class of schools. In two of these the French only is taught. Not being

long in operation. the scholars have yet made little advancement, except in reading and writing.

I have to report favourably of the Commissioners of this Municipality. They devote not a little of their time in attending to school matters, and keep their schools in operation.

*Grenville and Union.*—For my remarks on Grenville and Union, see page 23rd of my report.

*City of Montreal.*—The schools under the control of the Protestant School Commissioners of Montreal continue to sustain their former high character. These schools go under the denomination of common schools, but, in fact, few, if any of our model schools excel them.

(To be continued.)

## MONTHLY SUMMARY.

### EDUCATIONAL INTELLIGENCE.

—The *Edinburgh Courant* says:—"It has been arranged that each of the Orleans Princes shall place one of his sons at the Edinburgh High School, under the care of Dr. Schmitz, who acted as tutor to the Prince of Wales during His Royal Highness's recent stay in Edinburgh. The names of the youthful Princes, who are all about 14 or 15 years of age, are the Duc d'Alençon, second son of the Duc de Nemours; the Duc de Penthièvre, only son of Prince de Joinville; and the Prince de Condé, eldest son of the Duc d'Aumale. The Comte d'Eu, eldest son of the Duc de Nemours, is about to join the Spanish army in the present expedition to Morocco."

—The Mayor of Douai, France, in a circular to the communal schoolmasters, expresses his determination to put down the precocious habit of smoking, which he learns, by the reports of the police, prevails to a deplorable extent among the boys of that city. He therefore desires all the schoolmasters, not only to mark down for punishment all children whom they may see smoking in the streets, but to search the pockets and portfolios of the scholars from time to time, and to take away all cigars, cigarettes, pipes, and tobacco which may be found. He authorizes the most severe punishments, and will sanction any measure which the schoolmasters may devise to check the growing evil.

—A deputation, consisting of gentlemen connected with various interests of Ulster, waited on his Excellency the Lord-Lieutenant, at the Viceregal lodge, yesterday, at 1 o'clock, for the purpose of communicating their views on the subject of intermediate education. The Right Hon. the Chief Secretary was present.

The following memorial was read by the Bishop of Down and Connor:—

"That there is a great want in Ireland of a higher class of schools to carry on the instruction received in the lower schools; that, as an incidental effect of the establishment of the national system giving cheap instruction in the elementary branches, many mixed schools which combined Latin and mathematics with English reading have disappeared; that the colleges have not been able to accomplish all the good which they would otherwise have effected in consequence of the want of suitable feeding schools; that the merchants and manufacturers have a difficulty in finding educated clerks and skilled workmen; that in other countries in Europe, in Canada and the United States of America, provision has been made for teaching the higher branch in every town of importance, and in not a few villages; and that, as your memorialists can testify, there is a strong desire felt by the middleclasses, and even by the more elevated portion of the operative classes in Ireland, to have the means of education in languages and science within the reach of their children, in order to fit those who wish it for the learned professions, for the public service at home and abroad, and for the higher walks of mercantile and manufacturing life. Looking to these facts, your memorialists are most anxious that the Government should aid, as in other countries, in stimulating a higher education. Memorialists are of opinion that this would be best effected by the erection, under public authority, of a number of schools for the higher branches of knowledge in various parts of the country. Memorialists conceive that these schools ought to a large extent to be self-supporting, but aided by public endowments, and under a systematic Government inspection; and that they ought to be non-sectarian in their character, so as to be available for the instruction of youth of all denominations without distinction. Memorialists willingly leave the details of such a measure to be arranged by your Excellency and the Right Hon. the Chief Secretary for Ireland, but they beg leave to call your Excellency's attention to two important public facts:—One is, that there has been drawn out by a commission appointed by Her Majesty, on the recommendation of a former Lord Lieutenant, an able and elaborate report on the endowed schools of Ireland. The constitution and existing state of these schools

are there fully set forth, and a unanimous opinion expressed that they need to be reformed; and it is now expected by the country that there should be legislation on the subject. It is confidently hoped that, without interfering with the will of the founders, there may, by a better distribution of the funds, be furnished the means of aiding new schools all over Ireland. The other is, that the Committee of Her Majesty's Council on Education for Great Britain does encourage the teaching of Latin to a limited extent in the schools of England and Scotland, which are aided by a grant from the Legislature. The pupil teachers in these schools may receive instruction in Latin, and teachers qualified for giving instruction in the elementary branches get a higher status and a higher salary when they can stand an examination in Latin. The extension of a like provision to Ireland would be reckoned a great boon. Every Lord Lieutenant who has been in Ireland for the last six years has expressed his approbation of such a measure as that which we now crave; and as full information has now been obtained, and as everything is ripe for legislation, it would be peculiarly gratifying to your memorialists if what has been so long talked of were now executed under the lieutenantancy of one who has long been led, by his high literary tastes and his patriotic feelings, to take the deepest interest in the educational institutions of Ireland, and who can on this occasion have the assistance of the administrative talents of the distinguished statesman whom Her Majesty has been pleased to appoint as Chief Secretary for Ireland. And your memorialists will ever pray."—*London Times*.

—The annual examination of the Missisquoi High School, situated between Cowansville and Churchville, took place on the 27th of February.

As far as the time permitted, the scholars were questioned upon all the various branches pursued, without having their attention previously directed to any part in particular; and their answers gave evidence of their industry and perseverance, and of the thoroughness and completeness constantly aimed at in this Institution.

The classes in Arithmetic, Algebra, Geometry, Grammar, Geography, Latin, Greek, French and Music, did themselves great credit, and would be an honor to any educational establishment.

The exhibition in the evening was most entertaining and instructive, and was attended by such a crowd as could not well be accommodated in the large and spacious school-room of the Academy. From the manner in which the pieces were recited, it is evident that there is no deficiency among the scholars of this school in regard to the speaking or debating talent, which may be of so much service to themselves and their country in future time. The Musical performances, ably presided over by Mrs. Bews, were most pleasing and effective.

Parents and friends of education should show that they value learning, and are disposed to encourage children amid its difficulties and toils, by making it a point of duty to be present at the literary examination, as well as at the lighter and more popular exercises of the exhibition.—*Waterloo Advertiser*.

—We call the attention of parents and of teachers to the following fearful accident:

"From the Quincy (Ill.) *Herald*, we learn that a most terrible calamity, rivalling that of the Pemberton Mills, occurred on Thursday last, near the town of Hardin, Illinois, on the Illinois river, and about twenty-five miles above Alton. Fifty school children, in attendance at a university at that place, went out upon the ice to play. The ice gave way, and, with one exception, all were lost. Our informant was unable to give further particulars, but he represents that the village was a scene of universal mourning, almost every family in it having lost one or more of its members."

### LITERARY INTELLIGENCE.

—The high price of new books in England puts it out of the power of the great middle classes to purchase them, and the Circulating Library system has consequently grown up to gigantic proportions. One establishment of the kind, that of Mr. Mudie, has come to be a power in the Commonwealth of Literature, and on the number of copies purchased by him depends the success of many a new book. This will be apparent when we state that he announces that 2,500 copies of "Adam Bede" are in circulation among his customers. He gives the following statistical list of his operations during the year from January, 1858: Volumes circulated—History and Biography, 56,742; Travels and Adventures, 25,552; Fiction, 87,781; Miscellaneous, including Science, Religion, Reviews, &c., 46,150; making a grand total of 316,044 volumes. The machinery by which this is accomplished is all systematically arranged.

—In the obituary notices of the late Lord Macaulay, it was stated that he left no family behind him. It is a strange coincidence that the greater number of men noted for mechanical genius, like many of those famous in literature, science and government in Great Britain, have left no children to perpetuate their names. Shakespeare, Milton, Bacon, Newton, Harvey, Pope, Mansfield, Pitt, Fox, Gray, Cowper, Collins, Thomson, Goldsmith, Gay, Congreve, Hume, Bishop, Butler, Locke, Hobbs, Adams, Adam Smith, Bentham, Davy, Sir Joshua Reynolds, Flaxman, Sir Thomas Lawrence, Robert Stephenson, and others well known to fame in British annals, have no lineal representatives now living.—*U. C. Journal of Education*.

SCIENTIFIC INTELLIGENCE.

—We feel much pleasure in informing our readers, on the authority of the London Guardian, that Sir Wm. Hooker, the distinguished botanist, has been in communication with the Duke of Newcastle for some time with respect to the publication of a magnificent work, at the Government expense—viz.—A complete Flora of the British Colonies—Dr. Griesbach of the University of Dettingen, was appointed for the West Indies some time since, and the first number of his work has just been issued, and Sir William Hooker has determined to take Canada as his share of the field of inquiry. He and his staff will probably arrive here in the beginning of the spring. The Botany of the Himalayas by Sir William, is one of the most valuable additions to botanical literature that has been made for years.—U. C. Journal of Education.

—Mr. J. M. Lemoine, of Quebec, publishes, in the Canadian, a series of very interesting articles on Canadian ornithology. They will also be found in our Journal de l'Instruction Publique.

—A correspondent of the New-Brunswick mentions a remarkable fact, which, it would appear, science has not yet accounted for. That part of the ice on the shores of the Gulf of St. Lawrence, which lies over oyster beds, is never so solid as at other places. It even occurs very frequently, that large spots over the oyster beds remain unfrozen, causing many accidents. Lately a gentleman who was travelling on the ice near to the coast, lost his horse and sleigh, and had himself a very narrow escape, on meeting unexpectedly in the night with one of those oyster ponds. The fact has ever been well known to the fishermen, who take advantage of it in their trade.

—The following is a process for restoring writing effaced by sea water, which has been employed with much success by Mr. Alfred Smée, of the Bank of England, in deciphering letters damaged by the accident which had happened to the Northman on her voyage from India:

The letter is moistened with hydrochloric acid, after which a soft brush dipped in a saturated solution of yellow prussiate of potash is lightly passed over it, and the writing appears of a beautiful blue colour, owing to the formation of prussian blue. The solution of the yellow prussiate of potash should be added in excess. The letter is dried by pressing it between the folds of blotting paper, and afterwards holding it before the fire. The document may be preserved by coating it with isinglass.

When the letter is much damaged, the operation requires exceeding care and nicety. In such a case it would be well to take a photographic copy, previous to submitting the paper to the action of the chemicals.

The result of the operation is the consequence of a chemical action. Most kinds of ink contain iron in solution; sea water containing oxides having greater affinity for the acids combined with the iron, unite with these acids and the oxide of iron is left in the fibres of the paper. Hydrochloric acid being poured on the paper, immediately unites with the oxide of iron, and forms a hydrochlorate of iron; this on the addition of the yellow prussiate of potash, is decomposed, the hydrochloric acid freed, and an insoluble cyanoferrate of potassium (prussian blue) precipitated. The hydrochloric acid is employed to place the oxide of iron in a state proper to be acted upon by the yellow prussiate of potash, which has no effect upon the uncombined oxide.

STATISTICAL INTELLIGENCE.

—The official returns of the emigration from Liverpool during the year just closed have now been completed at the government office; and although, on comparison with the year preceding, the numbers in the aggregate do not appear to vary very materially, the variation in the tide of emigration to the different countries has been most marked. The total number of passengers, "under the act," who have taken their departure from the Mersey during the twelve months just elapsed have numbered (inclusive of cabin passengers) 68,035, against 70,466 in 1858, being a decrease of 2,441. During the past year, to the United States, 168 ships, of 286,960 tons, sailed, with 1,561 cabin and 47,137 steerage passengers, "under the act," against, in 1858, 167 ships, of 256,556 tons, with 1,446 cabin and 43,180 steerage passengers, being a falling off of about 300. In "short ships," not "under the act," or submitted to government inspection, 143 vessels sailed in 1859, with 5,203 cabin and 2,283 steerage passengers. These "short ships" include all travelers by the Cunard, Canadian, and African mail steamers, &c. To Canada the departures numbered only three vessels "under the act," of 2,859 tons, with 544 steerage passengers, against, in 1858, 7 ships, of 8,027 tons, with 12 cabin and 1,934 steerage passengers. However, in 1859, "short ships" carried to the Canadian provinces 1,958 cabin and 2,118 steerage passengers. To the Australian colonies the greatest falling off has been exhibited, scarcely more than two-thirds the number of emigrants having left the Mersey during the past year. Fifty-two ships, of 72,189 tons, sailed to Victoria, with 508 cabin and 9,883 steerage passengers, against, in 1858, 66 ships, of 90,888 tons, with 690 cabin and 15,662 steerage passengers. To Melbourne 19 "short ships" took their departure, with 32 cabin and 333 steerage passengers. To New South Wales 9 ships, of 10,154 tons, sailed, with 4 cabin and 3,476 steerage passengers—the great proportion being government emigrants, dispatched by the Colonial Land and Emigration Commissioners—against 9 vessels, of 9,579

tons, with a like number of cabin and 3,455 steerage passengers, being a slight improvement over 1858. Only 8 cabin passengers were conveyed to New South Wales in "short ships" during the year. To South Australia 3 ships, of 2,443 tons, were engaged in the conveyance of 1,052 government emigrants, against, in 1858, 5 vessels, of 5,381 tons, with 1,991 passengers, also at the expense of the Emigration Commissioners. None carried out in "short ships." A feature which distinguishes last year's Liverpool emigration has been the dispatch of 6 vessels, of 6,704 tons, which carried out 104 cabin and 1,317 steerage passengers—the same number of sailings with passengers direct being heretofore unheard of. To the Cape of Good Hope the departures comprised 4 vessels, of 2,860 tons, with 7 cabin and 993 steerage passengers, against, in 1858, 6 ships, of 5,420 tons, with 10 cabin and 2,059 steerage passengers—the latter in both years being sent out at the colonial expense—the selections of the commissioner in London, the Hon. William Field; 10 cabin passengers were, in addition, "short shipped" to the Cape of Good Hope. To the East Indies 3 ships "under the act" were dispatched during the second half of the past year, with 1,544 steerage passengers, all soldiers' wives and children, (which can hardly be classed as passengers,) and 13 "short ships" sailed, with 96 cabin and 20 steerage passengers; the unfortunate Accrington, which has put into the Brazils, with 65 deaths among the passengers, and captain and mate poisoned, was one of the former class. In addition to the foregoing, the following "short ships" have sailed during the year:—To America, 35 ships, with 230 cabin and 38 steerage passengers; to Africa, 12 mail steamships carried 296 cabin passengers; to the West Indies, 5 vessels, with 39 cabin passengers; to New Brunswick, 3 ships, with 31 cabin and 3 steerage passengers; to Nova Scotia, 1 cabin and 4 steerage passengers; to Prince Edward Island, 9 cabin passengers; and to China, 4 cabin passengers; making a grand total, "under the act" and "not under the act," of 10,103 cabin and 71,632 steerage—81,755 passengers, or an average of nearly 7,000 souls per month sailing from Liverpool. With the exception of the melancholy losses of the Royal Charter, Pomona, Indian, &c., there have been no features calling for particular notice in glancing at the emigration for the year, which closes, as usual at this season, at almost its dullest point.—Hunt's Merchants' Magazine.

—The Exports of Canada in 1859 were as follows:—

From Sea-ports .....	\$9,785,551
Inland ports, as reported .....	13,316,827
Estimated amount of exports not reported at inland ports..	1,664,603

\$24,766,981

Inclusive of ships built at Quebec in 1859—12,799 tons at \$34 per ton, \$421,566.

The following is a comparative table:—

	Exports.	Imports.	Total.
1856 .....	\$32,047,017	\$43,584,387	\$75,631,404
1857 .....	27,006,624	39,430,598	66,437,222
1858 .....	23,472,609	29,078,527	52,551,136
1859 .....	24,766,981	33,555,161	58,322,142

The value of ships built at Quebec is that which shows the principal decrease. It was in

1856 .....	\$1,213,078
1857 .....	1,383,444
1858 .....	743,640 (18,501 tons, at \$40 per ton.)
1859 .....	421,566 (12,399 tons, at \$34 per ton.)

—Lower Canada possesses in the River and Gulf of St. Lawrence an extent of coast of 1,000 miles, where the Cod, Herring, Mackerel, Salmon, and other fisheries are carried on successfully.

Whale fishing is also carried on by vessels fitted out from the Port of Gaspé. Average season value of whale oil is \$27,000.

The Cod fishing is carried on along the whole coast of Canada; the Herring fishing principally at the Magdalen Islands, in the Bay of Chaleur, and on the coast of Labrador; the Mackerel fishing at the Magdalen Islands, along the coast of Gaspé, and in the lower part of the River St. Lawrence.

There are above 70 Salmon Rivers in Lower Canada, which the Government are now fostering with a view to enhance the commerce of this valuable fish. The latest annual catch is 3,750 barrels. The Bay of Chaleur alone formerly exported 10,000 barrels.

Number of boats belonging to Canada fishing on the Canadian shores, from 1,200 to 1,500.

Nearly 100 Canadian vessels are employed in the fisheries of Canada. Number of fishing vessels from Nova Scotia and the other Lower Provinces fishing on our shores, from 250 to 300.

Number of fishing vessels from the United States frequenting our shores, principally for the Cod and Mackerel fishing, from 200 to 300.

Quantity of dried and smoked fish yearly exported from Canada .....	172,893 qu'ls.
Quantity of pickled fish exported from Canada .....	118,257 bbls.
Consumed in Canada, above kinds .....	75,000 qu'ls.
Quantity of fish oils exported from Canada .....	190,218 gal's
Number of Seal Skins do do .....	13,000
Quantity of Salmon taken in the Rivers of Canada .....	3,500 bbls.
Quantity of Trout and Halibut taken in Canada .....	900 bbls.
Total fish productions valued at .....	\$1,026,288.

*Note.*—The take by vessels other than Canadian is not computed in this table.

Square and manufactured timber is exported in large quantities from the different ports of the coast of Gaspé. There is also found an abundance of wood of the best quality for ship-building purposes. The lands in the district of Gaspé are composed of a light but fertile soil, producing all kinds of grain and vegetables. There are millions of acres of those lands which are still in the wild state, and covered by beautiful forests.

The population of the District of Gaspé and of the north coast of the Rivor and Gulf of St. Lawrence is 32,000 souls.

The District of Gaspé alone could contain and support a population of more than 100,000.

The Inland Lakes and Rivers abound in fish.

The Fisheries in Canada are as yet in a state of infancy.

The merchantable fish products derived from the Lakes and Rivers from Upper Canada consist chiefly of White-fish, Salmon, Salmou-Trout, Herring, Lake-Trout, Speckled-Trout, Sturgeon, Pickerel, Bass, Muscalonge, &c. Inferior kinds also abound in the smaller lakes, tributaries, and streams.

The extensive area, great depth, clear cold waters, abundant feeding banks, shoals and spawning grounds, of the principal Upper Canadian Lakes, render the fish found therein numerous, of good quality, and of large size.

The annual take of the different species of fish is carefully estimated at \$380,000 value.

This produce is variously disposed of by export, fresh and cured, in the neighbouring United States, and for domestic sales and consumption.

Ready markets are found both at home and abroad for any seasonable catch.

Tracts of cultivable land bordering on the great Lakes are still disposable for settlement.—*Montreal Gazette.*

—A correspondent of the *N. Y. Times* under date of February 1st, writes from Quebec as follows:

The Legislature of Canada passed a Fishery Act, about two years since, for the regulation, protection, and encouragement of the inland as well as the Gulf fisheries, and two Superintendents of Fisheries were appointed—one for Upper one for Lower Canada, each with a staff of suitable overseers, &c. The Upper Canadian official has made but little progress in his duties; the Lower Canadian a great deal. But I wish, in this present letter, not to treat of the subject of fisheries generally, so much as to describe the method of artificially breeding salmon adopted by the Lower Canada Superintendent, Richard Nettle, Esq., of Quebec.

In a large room, well ventilated in summer and sufficiently warmed in winter, is a tank, about eight feet by twelve, divided into two main compartments—one deep, the other shallow. The latter is again subdivided into three divisions of different depths, from six inches to about one. Water from the city pipes—which is supplied from Lake St. Charles, up in the mountains, eighteen miles away—is kept constantly flowing into this tank, with the proper contrivances for preventing any sudden stoppage of the supply. The shallow parts of this, the ovarium, are floored with sand and stones, in imitation of a river's bed. The deep part has only a few pieces of rock at the bottom.

Salmon spawn in September, and at that time the female fish are taken with nets from the neighbourhood of their spawning-beds. A very gentle pressure makes them shed their *ova* into a pail to the number of perhaps 20,000 each, and a single male fish then suffices for the impregnation of a pailful of spawn, which is then very carefully brought to the ovarium and placed in the shallow compartments above described.

When first taken, the spawn is of a yellow colour, each little egg being of the size of a small pea, and semi-transparent. Close observation detects a little reddish spot on one part of the ovum. In a short time, this spot, which is where the impregnation occurred, grows larger and deeper in colour, while the ovum gets more and more opaque. In December, the rudimentary fish can be seen, curled up within the skin of the egg. In January, the black spots become visible—the eyes of the embryo. Towards the end of February, the little fish bursts from its confinement. Last year, the first of the spawn completed these transformations in 113 days.

When the salmon thus make their appearance, they are almost like small tadpoles, or bullheads, in form, and lie quiet among the stones for a few days until they become more shapely. Then they become lively, and rush about the tank briskly. A fly, thrown upon the water, brings a host of them up to the surface, eager for their prey. They grow but little for several months, none becoming longer than one's finger. But if these little creatures are then put into a river, they will make their way downwards into the sea, grow with surprising rapidity in salt water, and return to the same river next year weighing from four to seven pounds.

The advantages of breeding salmon artificially are several, but it is sufficient to mention one or two. When the spawn is deposited in the rivers, it may remain barren. If it escapes this danger, the trout and other fish eagerly seek for it, and they even say that large trout will follow the female salmon at spawning time in expectation of a meal. If the eggs do, in time, give forth small fry, these have to run the gauntlet of innumerable perils before they reach the sea and grow to a sufficient size to be careless of other enemies than man and the salmon-eating otter. Thus, perhaps 99 per cent, of the spawn—certainly 90—is destroyed.

By artificially breeding, that quantity lives. Mr. Nettle's experimental tank now contains about 5,000 spawn, and all are in a forward state.

Nor is fish-breeding likely to remain a mere experiment in Canada. Three large lakes, Megantic, St. Francis and Louisa, have just been leased for nine years to a Mr DeCourtenay, a French gentleman, who lived a long time in Italy, and was President of the Fishery Company of the Lago Maggiore. Mr. DeC. will bring hither some of his old Italian employées, spend several thousand dollars in erecting and managing apparatus for artificially propagating salmon in one lake, sturgeon in another, and some other fish in the third, and, when they are well grown, catch, and send them to New York, Boston, Montreal, &c., fresh, and to the West Indies, Brazil, &c., barreled.

Another step has been accomplished, during the year just expired, towards the development of the mine of riches our waters may be made to afford. (1) Captain Fortin, the commander of a revenue cutter, *La Canadienne*, was instructed to lay down small seed-oysters, obtained at Caraquette, at different places in the Gulf of St. Lawrence. He has done so. Next year the operation will be renewed, to see how far up the great river oyster beds can be formed. It is contemplated to make an experiment at the mouth of the Saguenay River, and thus to add another attraction to the many which cluster around that delightful spot.

—Man shews his courage in many ways. He rushes to the field of battle to meet death, he hazards his life in a frail bark on a tempestuous ocean; as a student he passes his days in an obscure garret, working out the solution of some deep problem; the advocate of some great and noble work we behold him braving the prejudices, the suspicions and the calumnies of those around him. But what shall we say, how can we characterize the courage of the man who indulges in the adulterated liquors of this country, without the consolation even of their procuring him an easy mode of death. Dr. Hiram Cox, inspector in Cincinnati, happening to be in a tavern of low standing, was eye witness of the following fact; two men called for some brandy, and while swallowing it the tears literally rolled down their cheeks. Being curious to know the composition of a compound which could produce so powerful an effect, Dr. Cox analysed the beverage and found it to contain only 17 parts of alcohol, instead of 40, the proper proportion; the other 83 parts being made up of sulphuric acid, cayenne pepper, caustic, potassa and strychnine. A pint of this mixture would be sufficient to kill the most determined toper. Dr. Cox states in his report, that of 400 lunatics he had examined, he found at least 250 whose alienation was due to excessive drinking. Among these he observed a youth of seventeen whose condition was the result of a single fit of intoxication produced by adulterated liquors. Dr. Cox has inspected 700 taverns of various classes and found that the nine-tenths of the liquor therein retailed were adulterated. He says, that to his own knowledge nineteen young men of respectable families had been killed in the space of three months, by the use of these poisons. They are equally fatal to persons of a more advanced age, who use them even in moderation; in less than three months *delirium tremens* opens their tomb.—*Courier des Etats-Unis.*

(1) Mr. Fortin acts as Commissioner of the Government for the protection of the fisheries and the preservation of peace in the several parts of the Gulf of St. Lawrence. He had recommended in one of his valuable yearly reports the operations which he has been allowed to make for the formation of oyster beds. (Ed. J. of E.)

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