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THE
JOURNAL OF EDUCATION

FOR LOWER CANADA

EDITED BY THE HONORABLE P. J. O. CHAUVEAU, LL. D., SUPERINTENDENT OF EDUCATION FOR LOWER CANADA,
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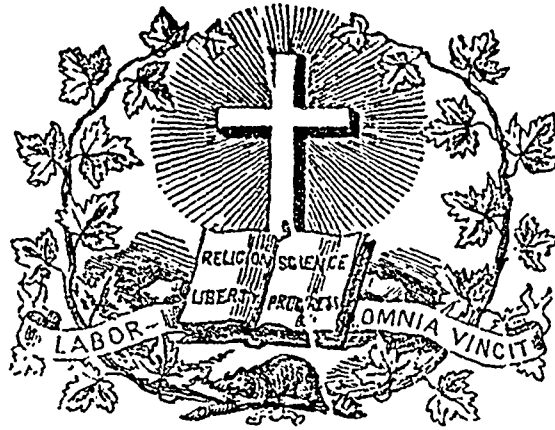
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No. 1.

SUMMARY.—**LITERATURE.**—Poetry: Earth's Defence of Winter, by Mrs. Leprohon.—The Stable at Bethlehem, by the same.—*Adeste Fideles.*—**SCIENCE:** Leaves from Gosse's Romance of Natural History, (concluded).—Pleasant Ways in Science: No. 1. Curiosities of Monon.—**EDUCATION:** Language, the Teacher's Great Instrument, by John Bruce, Esq., Inspector of Schools.—**OFFICIAL NOTICES.**—Appointments: School Commissioners.—Diplomas granted by Boards of Examiners.—Donations to the Library of the Department.—**EDITORIAL:** To the Public. The late Mr. Bruce.—Departmental Library.—Annual Meeting of St. Francis District Teachers' Association.—Agricultural College at Ste. Anne's, Kamouraska.—Extracts from the Reports of School Inspectors, (continued).—**NOTICES OF BOOKS AND PUBLICATIONS:** The Metropolitan Fourth Reader.—*Northwick: The Harp of Canada*—*Montreal Gazette Illustrated Supplement.*—*La Reine Canadienne.*—*L'Echo du Cabinet de Lecture.*—Taylor: Portraits of British Americans.—Caldwell: The Invasion of Canada.—Petitclair: Une partie de Campagne.—*Le Foyer Canadien.*—Suzor: *Travail d'Art et d'Histoire Militaires.*—Lescarbot: *Histoire de la Nouvelle France.*—Brunet: *France Litteraire au XVe siecle.*—Chasles: *Michel de Certeux.*—Maintenon: *Correspondance g n rale.*—Bocher: Otto's French Conversation Grammar.—Hanson: Preparator; Latin Prose Book.—Hanson and Rolfe: A Handbook of Latin Poetry.—Bonc ur: *L'Instituteur de l'Enfance.*—Foa: *Le Petit Robinson de Paris.*—**MONTHLY SUMMARY:** Educational Intelligence.—Neurological Intelligence.—Literary Intelligence.—Scientific Intelligence.

"But see their glassy bosoms, transparent, glittering, bright,
Whilst quick across the surface darts the skater strong and light,
And gay and cheerful voices ring out from shore to shore,
And forms are clearly mirrored on that dazzling crystal floor."

"Yet, Earth, I cannot listen to thy soft, persuasive voice,
For beauties of sweet summer have made heart and sense rejoice
Far too often, and in thought, I recall each cloudless day,
Spent with friends in sunny rambles—in wanderings joyous—gay."

"Why, the time for pleasant converse is the stormy winter's night,
Its long and quiet evenings, with fire and tapers bright.
The soothing strains of music, laughter, jest and happy song;
Ah! the dearest social hours to winter stern belong."

"I yield—thou hast thy charms, yes, Earth, I grant it now,
In winter's sterner hours, as when spring-buds deck thy brow,
To no more of idle grieving o'er summer's beauties fled,
For winter gives with bounteous will its joys and gifts instead."

LITERATURE.

POETRY.

(Written for the *Journal of Education*.)

EARTH'S DEFENCE OF WINTER.

BY MRS. LEPROHON.

"Oh Earth, where is the mantle of pleasant emerald dye
That robed thee in sweet summer, gladdening heart and eye,
Adorned with blooming roses, graceful ferns, blossoms sweet,
And bright green moss like velvet that lay soft beneath our feet?"

"What! am I not as lovely in my garb of spotless white?
Was young bride in her beauty ever clothed in robe as bright?
Or, if you seek for tinting warm, at morn and evening hour,
You'll find me bathed in blushes bright as those of summer flower."

"But, Earth, I miss the verdure of thy woods and forests old,
The waving of their foliage casting shadows o'er the wold,
The golden sunbeams peering 'mid the green leaves here and there;
And I sigh to see the branches so cheerless and so bare."

"But oft, they're clothed in ermine to the sight and touch more fair
Than the costly robing monarchs on regal garments wear,
Whilst at times the glittering branches with jewels are ablaze,
The Frost King's pearls and diamonds flashing back the light's clear rays."

"Well, I grieve to see thy rivers, thy lakes and mountain streams,
That in summer rippled gaily beneath the sun's glad beams,
Whilst light barks glided swiftly o'er their azure waves at will,
Held now in icy barriers that guard them cold and still."

THE STABLE AT BETHLEHEM.

'Twas not a place proud and fair,
He chose for His first home;
No daz'ling pile of grandeur rare,
With pillar'd hall and dome;—
Oh no! a stable, humble, poor,
Received Him at His birth;
And thus was born, unknown, obscure,
The Lord of Heaven and Earth.

No band of anxious menials there,
To tend the new-born child,
Joseph alone and Mary fair,
Upon the infant smiled;
No brodered linens fine had they,
Those little limbs to fold;
No baby garments rich and gay,
No tissues wrought with gold.

Come to your Saviour's lowly bed,
Ye vain and proud of heart!
And learn with bowed and humbled head
The lesson 'twill impart;—
'Twill teach ye not to prize too high
The riches vain of earth—
But lay up in yon glorious sky,
Treasures of truer worth.

And ye, poor stricken sons of grief,
Sad "outcasts" of this life,
Come, too,—ye'll find a sure relief
For your heart's bitter strife;
Look at Bethlehem's stable poor,
Your Saviour's lowly cot,
Will it not teach ye to endure,
Aye, yes, to bless your lot?

Mrs. LEPROHON.

A DESTE FIDELES! (1)

O come, all ye faithful,
Joyfully triumphant;
O come ye, O come ye, to Bethlehem;
Come and behold Him,
Born the King of Angels;
O come, let us adore Him,
O come, let us adore Him,
O come, let us adore Him, Christ the Lord.

God of God,
Light of Light,
Lo! He abhors not the Virgin's womb;
Very God,
Begotten, not created;
O come, let us adore Him,
O come, let us adore Him,
O come, let us adore Him, Christ the Lord.

Sing, choirs of Angels,
Sing in exultation,
Sing, all ye powers of heaven above;
Glory to God
In the highest.
O come, let us adore Him,
O come, let us adore Him,
O come, let us adore Him, Christ the Lord.

Yea, Lord, we greet Thee,
Born this happy morning,
Jesus, to Thee be glory given;
Word of the Father,
Now in flesh appearing;
O come, let us adore Him,
O come, let us adore Him,
O come, let us adore Him, Christ the Lord.

SCIENCE.

Leaves from Gosse's Romance of Natural History.

(Concluded.)

THE TERRIBLE.

Captain Methuen has given us the following graphic account of an encounter with this most vicious herbivore, which the Cape colonists consider a more dangerous foe than the lion himself. The gallant captain and his party had discovered a herd of buffaloes, and had wounded some, but they had escaped to cover. He had climbed on the low boughs of a small *wait-a-bit* thorn, whence he struck another bull. The wounded animal "ran towards the report, his ears outstretched, his eyes moving in all directions, and his nose carried in a right line with the head, evidently bent on revenge:—he passed within thirty yards of me, and was lost in the bush. Descending from my frail perch, Frolic [the Hottentot attendant] again discovered this buffalo standing amongst some small thick bushes, which nearly hid him from view; his head was lowered, not a muscle of his body moved, and he was without doubt listening intently. We crept noiselessly to a bush, and I again fired. The huge brute ran forward up the wind, fortunately not in our direction, and stood still again. No good screen being near, and his nose facing our way, prudence

bade us wait patiently for a change in the state of affairs. Presently he lay gently down, and knowing that buffaloes are exceedingly cunning, and will adopt this plan merely to escape notice and entrap their persecutors, we drew near with great caution. I again fired through his shoulder, and concluding, from his not attempting to rise, that he was helpless, we walked close up to him; and never can the scene which followed be erased from my memory. Turning his ponderous head round, his eye caught our figures; I fired the second barrel of my rifle behind his horns, but it did not reach the brain. His wounds gave him some difficulty in getting up, which just afforded Moneypenny and myself time to ensconce ourselves behind the slender shrubs that grew round the spot, while Frolic unwisely took to his heels. The buffalo saw him, and uttering a continued unearthly noise, between a grunt and a bello, advanced at a pace at which these unwieldy creatures are rarely seen to run, unless stirred by revenge.

"Crashing through the low bushes, as if they were stubble, he passed me, but charged quite over Moneypenny's lurking-place, who aimed at him as he came on, and lodged the ball in the rocky mass of horn above his head: the buffalo was so near at the time of his firing, that the horn struck the gun-barrels at the next instant; but whether the noise and smoke confused the animal, or he was partially stunned by the bullet, he missed my friend, and continued his pursuit of Frolic.

"The Hottentot dodged the enraged and terrific-looking brute round the bushes, but through these slight obstacles he dashed with ease, and gained ground rapidly. Speechless, we watched the chase, and, in the awful moment, regardless of concealment, stood up, and saw the buffalo overtake his victim and knock him down. At this crisis, my friend fired his second barrel into the beast, which gave Frolic one or two blows with his fore-feet, and pushing his nose under, endeavoured to toss him; but the Hottentot, aware of this, lay with much presence of mind perfectly still.

"Moneypenny now shouted to me, 'The buffalo is coming;' and, in darting round a bush, I stumbled on my rifle, cutting my knee very badly. This proved a false alarm; and directly after the buffalo fell dead by Frolic, who then rose and limped towards us. He was much hurt, and a powder-flask which lay in his game-bag was stamped flat. The buffalo was too weak to use his full strength upon him, having probably exhausted all his remaining energy in the chase: otherwise the Hottentot would undoubtedly have been killed, since a man is safer under the paws of a wounded lion, than under the head of an infuriated buffalo. Never did I feel more grateful to a protecting Providence, than when this poor fellow came to us; for his escape without material injury was little short of miraculous."

Who that has looked on the meek, deer-like face of a kangaroo, would imagine that any danger could attend a combat with so gentle a creature? Yet it is well known that strong dogs are often killed by it, the kangaroo seizing and hugging the dog with its fore-paws, while with one kick of its muscular hind-leg, it rips up its antagonist, and tears out its bowels. Even to man there is peril, as appears from the following narrative. One of the hunter's dogs had been thus despatched, and he thus proceeds:—

"Exasperated by the irreparable loss of my poor dog, and excited by the then unusual scene before me, I hastened to revenge; nothing doubting, that, with one fell swoop of my formidable club, my enemy would be prostrate at my feet. Alas! the fates, and the still more remorseless white ants, frustrated my murderous intentions, and all but left me a victim to my strange and active foe. No sooner had the heavy blow I aimed descended on his head, than my weapon shivered into a thousand pieces, and I found myself in the giant embrace of my antagonist, who was hugging me with rather too warm a demonstration of friendship, and ripping at me in a way by no means pleasant. My only remaining dog, too, now thoroughly exhausted by wounds and loss of blood, and apparently quite satisfied of her master's superiority, remained a mute and motionless spectator of the new and unequal contest.

"Notwithstanding my utmost efforts to release myself from the grasp of the brute, they were unavailing; and I found my strength gradually diminishing, whilst, at the same time, my sight was obscured by the blood which now flowed freely from a deep wound, extending from the back part of my head over the whole length of my face. I was, in fact, becoming an easy prey to the kangaroo, which continued to insert, with renewed vigour, his talons into my breast, luckily, however, protected by a loose coarse canvas frock, which, in colonial phrase, is called a 'jumper,' and but for which I must inevitably have shared the fate of poor Trip. As it was, I had almost given myself up for lost; my head was pressed, with surpassing strength, beneath my adversary's breast, and a faintness was gradually stealing over me, when I heard a long and heart-stirring shout. Was I to be saved? The thought gave me new life; with increased power I grappled and succeeded in casting from me my determined foe; and,

(1) From the *Harp of Canaan*, compiled by Rev. J. D. Borthwick.

seeing a tree close at hand, I made a desperate leap to procure its shelter and protection. I reached, and clung to it for support; when the sharp report of a rifle was heard in my ear, and the bark, about three inches above my head, was penetrated by the ball. Another shot followed, with a more sure aim, and the exasperated animal (now once more within reach of me) rolled heavily over on its side. On the parties nearing, I found them to be my brother and a friend, who had at first mistaken me for the kangaroo, and had very nearly consumed what had been so strangely begun. However, a miss is always as good as a mile; and having recruited my spirits and strength with a draught from the never-failing brandy-flask, and sung a requiem over poor old Trip, my companions shouldered the fallen foe, by means of a large stake, one carrying each end, while I followed with weak and tottering steps. You may imagine that the little beauty I ever had is not much improved by the wound on my face, which still remains, and ever will. I am now an older hand at kangaroo-hunting, and never venture to attack so formidable an antagonist with an ant-eater club; my dogs, also, have grown too wary to rush heedlessly within reach of his deadly rips. We have killed many since, but rarely so fine a one as that which first tried our mettle on the plains of New Holland."

The equatorial coast of Africa has recently yielded to European science a gigantic kind of man-like ape, which affords a curious confirmation of an old classic story. Somewhere about the sixth century before the Christian era, one Hanno is reported to have sailed from Carthage, through the Pillars of Hercules, on a voyage of exploration along the coast of Africa. In the record of this voyage there occurs the following passage:—"Passing the Streams of Fire, we came to a bay called the Horn of the South. In the recess there was an island like the first, having a lake, and in this there was another island full of wild men. But much the greater part of them were women, with hairy bodies, whom the interpreters called 'Gorillas.' But pursuing them, we were not able to take the men; they all escaped, being able to climb the precipices; and defended themselves with pieces of rock. But three women, who bit and scratched those who led them, were not willing to follow. However, having killed them, we flayed them, and conveyed the skins to Carthage; for we did not sail any further, as provisions began to fail."

The "wild men" of the ancient navigators were doubtless identical with the great anthropoid ape lately re-discovered, to which, in allusion to the old story, the name of Gorilla has been given. The region in question is a richly wooded country, extending about a thousand miles along the coast from the Gulf of Guinea southward; and as the gorilla is not found beyond these limits, so we may pretty conclusively infer that the extreme point of Hanno was somewhere in this region.

This great ape makes the nearest approach of any brute animal to the human form; it is fully equal to man in stature, but immensely more broad and muscular; while its strength is colossal. Though exclusively a fruit-eater, it is described as always manifesting an enraged enmity towards man; and no negro, even if furnished with fire-arms, will willingly enter into conflict with an adult male gorilla. He is said to be more than a match for the lion.

The rivalry between the mighty ape and the elephant is curious, and leads to somewhat comic results. The old male is always armed with a stout stick when on the scout, and knows how to use it. The elephant has no intentional evil thoughts towards the gorilla, but unfortunately they love the same sorts of fruit. When the ape sees the elephant busy with his trunk among the twigs, he instantly regards it as an infraction of the laws of property; and, dropping quietly down to the bough, he suddenly brings his club smartly down on the sensitive finger of the elephant's proboscis, and drives off the alarmed animal trumpeting shrilly with rage and pain. There must be something so wild and unearthly in the appearance of one of these apes, so demon-like in hideousness, in the solemn recesses of the dark primeval forest, that I might have told its story in the preceding chapter. The terrors with which it is invested are, however, more than imaginary. The young athletic negroes, in their ivory hunts, well know the prowess of the gorilla. He does not, like the lion, sullenly retreat on seeing them, but swings himself rapidly down to the lower branches, courting the conflict, and clutches at the foremost of his enemies. The hideous aspect of his visage, his green eyes flashing with rage, is heightened by the thick and prominent brows being drawn spasmodically up and down, with the hair erect, causing a horrible and fiendish scowl. Weapons are torn from their possessor's grasp, gun-barrels bent and crushed in by the powerful hands and vice-like teeth of the enraged brute. More horrid still, however, is the sudden and unexpected fate which is often inflicted by him. Two negroes will be walking through one of the woodland paths, unsuspecting of evil, when in an instant one misses his companion, or turns to see him drawn up in the air with a convulsed choking cry;

and in a few minutes dropped to the ground a strangled corpse. The terrified survivor gazes up, and meets the grin and glare of the fiendish giant, who, watching his opportunity, had suddenly put down his immense hind-hand, caught the wretch by the neck with resistless power, and dropped him only when he ceased to struggle. Surely a horrible improvised gallows this!

The pursuit of the whale, whether that species which our hardy mariners seek amidst the ice-floes of the Polar Seas, or the still huger kind which wallows in the boundless Pacific, is one full of peril, and its annals are crowded with strange and terrible adventures. Swift and sudden deaths; the shattering of a boat into fragments, and the immersion of the crew in the freezing sea; the dragging of a man into the depths, by a turn of the tangled line round his leg or arm, are but too common incidents in this warfare with the leviathan. One instance of this last named accident is on record, in which the sufferer escaped with life, to tell the harrowing tale of his own sensations.

An American whaling captain in the Pacific was fast to a sperm whale, which "sounded," or descended nearly perpendicularly. The line in swiftly running out became suddenly entangled; the captain was seen to stoop in order to clear it, and in a moment disappeared over the bow. The boat-steerer seized an axe, and instantly cut the line, in hope that, by the slackening, the unfortunate man might become freed.

Several minutes had elapsed, and hope had well nigh become extinguished, when an object was seen to rise to the surface a little way off. It was the body of the captain, which in a few seconds was lifted into the boat. Though senseless and motionless, life seemed to be not extinct, and the usual remedies being applied, he revived, and became, to use his own phrase, "as good as new," when he gave an account of his singular escape.

It appears that in attempting to throw the line clear from the *chock*, a turn caught his left wrist, and he was dragged overboard by the descending whale. He was perfectly conscious as he was rushing down with immense rapidity, and it seemed to him as if his arm would be torn from its socket, from the resistance of his body to the water. Well aware of his peril, he knew that his only chance was to cut the line, but with his utmost efforts he could not raise his right hand from his side, to which it was pressed by the force with which he was dragged through the water.

On first opening his eyes it appeared as if a stream of fire was passing before them; but, as he descended, it grew dark, and he felt a terrible pressure on his brain, and there was a roaring as of thunder in his ears. Yet he still remained conscious, and still made vain efforts to reach the knife that was in his belt. At length, as he felt his strength failing, and his brain reeling, the line for an instant slackened by the whale's pausing in its descent; he reached and drew his knife; the line again became tight, but the edge of the keen blade was across it, and in an instant he was freed. From this moment he remembered nothing, until he awoke to light and life and agonising pain, in his bed.

Perhaps the reader is familiar with a dreadful example of the voracity of the great white shark. About thirty natives of the Society Islands were proceeding from isle to isle in one of their large double canoes. A storm coming on, the lashings of the two canoes were torn apart by the violence of the sea, and they were separated. Their depth and narrowness rendered them incapable of floating upright when single; and, though the crew strove hard to keep them on an even keel by balancing the weight, they were every moment capsized. In these circumstances, they endeavoured to form a raft of the loose spars and beams, the boards and paddles, which they could get at, hoping to drift ashore thereon. From their numbers, however, compared with the small size of the raft, the latter was pressed so deep, that the waves washed above their knees. At length they saw the horrid sharks begin to collect around them, which soon grew so bold as to seize one of the shipwrecked wretches, and drag him into the abyss. Another and another followed; for the poor islanders, destitute of any weapons, and almost exhausted with hunger and fatigue, and crowded together on their submerged narrow platform, could neither defend themselves nor evade their ferocious assailants. Every moment made the conflict more unequal, for the sharks, attracted by the scent of blood, gathered in greater numbers to the spot, and grew more and more audacious, until two or three of the mariners only remaining, the raft floated so as to elevate them beyond reach of the savage monsters, which continued to threaten them, and lingered around, until the waves at length bore the survivors to the beach.

Among reptiles, the mailed crocodiles may be mentioned as formidable foes to man. Vast in bulk, yet grovelling with the belly on the earth; clad in bony plates with sharp ridges, the long tail bearing a double row of teeth, like two parallel saws; splay feet terminating

in long diverging hooked talons; green eyes with a peculiar fiery glare, gleaming out from below projecting orbits; lips altogether wanting, displaying the long rows of interlocking teeth even when the mouth is closed, so that, even when quiet, the monster seems to be grinding with rage ("his teeth are terrible round about," Job xii. 14),—it is no wonder that the crocodile should be, in all countries which it inhabits, viewed with dread.

Nor is this terror groundless. The crocodiles, both of the Nile and of the West Indian Isles, are well known to make man their victim; and the alligators of continental America are not behind them. Those of the great rivers of South America appear to be more savage than their northern congeners. Waterton and other observers have recorded terrible examples of their voracity; and I will add one from a more recent traveller, an officer engaged in the wars which liberated the South American provinces from the Spanish supremacy.

During Morillo's campaign in the Apurí country, three officers were on their route with despatches from Colonel Range's camp at Congrial, to General Paéz's head-quarters at Cana Fistola; and not being able to procure a canoe, were obliged to swim their horses over a small branch of the lagoon of Cunavichi, which lay across the road, carrying as usual their saddles on their heads. Two of the party were brothers, by name Gamarra, natives of Varinas. One of them, a lieutenant of Paéz's Lancers, loitered so long on the bank, as only to have just entered the water at the moment his comrades had reached the opposite side. When he was nearly half-way across, they saw a large *caymán*, which was known to infest this pass, issuing from under the mangrove-trees. They instantly warned their companion of his danger; but it was too late for him to turn back. When the alligator was so close as to be on the point of seizing him, he threw his saddle to it. The ravenous animal immediately caught the whole bundle in its jaws, and disappeared for a few moments, but soon discovered its mistake, and rose in front of the horse, which, then seeing it for the first time, reared and threw its rider. He was an excellent swimmer, and had nearly escaped by diving towards the bank; but, on rising for breath, his pursuer also rose, and seized him by the middle. This dreadful scene, which passed before their eyes, without the least possibility of their rendering any assistance, was terminated by the alligator, having previously drowned the unfortunate man, appearing on an opposite sand-bank with the body, and there devouring it.

It is in this class of animals that we find the most terrible of all creatures; more potent than the roused lion, the enraged elephant, the deadly shark, or the mailed alligator. In the whole range of animal existence, there is none that can compare with the venomous snakes for the deadly fatality of their enmity; the lightning stroke of their poisonous fangs is the unerring signal of a swift dissolution, preceded by torture the most horrible. The bite of the American rattlesnake has been known to produce death in two minutes. Even where the consummation is not so fearfully rapid, its delay is but a brief prolongation of the intense suffering. The terrible symptoms are thus described:—a sharp pain in the part, which becomes swollen, shining, hot, red; then livid, cold, and insensible. The pain and inflammation spread and become more intense; fierce shooting pains are felt in other parts, and a burning fire pervades the whole body. The eyes begin to water abundantly; then come swoonings, cold sweats, and sharp pains in the loins. The skin becomes deadly pale or deep yellow, while a black watery blood runs from the wound, which changes to a yellowish matter. Violent headache succeeds, and giddiness, faintness, and overwhelming terrors, burning thirst, gushing discharges of blood from the orifices of the body, intolerable fetor of breath, convulsive hiccoughs, and death.

Mr Francis T. Buckland has described the awful effects of a dose of poison received from the cobra-di-capello in his own person. Fortunately it was a most minute dose, or we should not have received the account. A rat which had been struck by the serpent, Mr Buckland skinned after its death. He scraped the interior of the skin with his finger-nail, forgetting that he had an hour before been cleaning his nails with his penknife. In so doing, he had slightly separated the nail from the quick, and into this little crack the poison had penetrated. Though the orifice was so small as to have been unnoticed, and though the venom was not received direct from the serpent, but had been diffused through the system of the rat, the life of the operator was all but sacrificed.

A few years ago the people of London were shocked by the sudden death of Curling, one of the keepers of the Zoological Gardens, from the bite of a cobra.

In India, where the species is common, its propensity to haunt houses frequently brings it under notice, and many accidents occur. It seems, however, on some occasions to be placably disposed, if not assaulted; and some singular escapes are on record of persons who have had presence of mind enough to let it alone. One is told of an officer who, having some repairs done to his bungalow, was lying on

a mattress in the verandah, reading, nearly undressed. Perhaps his book was of a soporific tendency, for he dropped asleep, and awaked with a chilly sensation about his breast. Opening his eyes, he beheld, to his horror, a large cobra coiled up on his bosom, within his open shirt. He saw, in a moment, that to disturb the creature would be highly perilous, almost certainly fatal, and that it was at present doing no harm, and apparently intending none. With great coolness therefore he lay perfectly still, gazing on the bronzed and glittering scales of the intruder. After a period which seemed to him an age, one of the workmen approached the verandah, and the snake at his footsteps left its warm berth, and was gliding off, when the servants at the cry of the artisan rushed out and destroyed it.

It curiously happens that in some of the creatures whose rage is likely to be fatal to man, there should be something in the physiognomy which puts him on his guard. We have seen that it is so in the sharks; we have seen that it is so in the crocodiles; it is so pre-eminently in the venomous serpents. There is in most of these an expression of malignity, which well indicates their deadly character. Their flattened head, more or less widened behind, so as to approach a triangular figure; their wide gape, and the cleft tongue ever darting to and fro; and, above all, the sinister expression of the glaring hideous eye, with its linear pupil, are sufficient to cause the observer to retreat with shuddering precipitancy. Darwin, speaking of a sort of viper which he found at Bahía Blanca, says: "The expression of this snake's face was hideous and fierce; the pupil consisted of a vertical slit in a mottled and coppery iris; the jaws were broad at the base, and the nose terminated in a triangular projection. I do not think I ever saw anything more ugly, excepting, perhaps, some of the vampyre bats."

Many of the snakes of South America are highly venomous. One of these is called, from its prowess and power, the bush-master. Frightful accidents occur in the forests of Guiana by this terrible species. Sullivan gives us the following: his host, a few days before, had sent a negro to open some sluices on his estate; but, as he did not return, the master, thinking he had run away, sent another negro to look after him; this negro went to the place directed, and found the man quite dead, and swollen up to a hideous size. He was bitten in two places, and death must have been instantaneous, as he was not more than three feet from the sluice. They supposed that it must have been a bush-master that had killed him. The couni-couchi, or bush-master, is the most dreaded of all the South American snakes, and, as his name implies, he roams absolute master of the forest. They will not fly from man, like all other snakes, but will even pursue and attack him. They are fat, clumsy-looking snakes, about four feet long, and nearly as thick as a man's arm; their mouth is unnaturally large, and their fangs are from one to three inches in length. They strike with immense force; and a gentleman who had examined a man after having been struck in the thigh and died, told the narrator that the wound was as if two four-inch nails had been driven into the flesh. As the poison oozes out from the extremity of the fang, any hope of being cured after a bite is small, as it is evident that no external application could have any immediate effect on a poison deposited an inch and a half or two inches below the surface; the instantaneousness of the death depends upon whether any large artery is wounded or not.

The same traveller records the following shocking story about a very deadly snake, called the manoota, that infests the borders of the Lake of Valencia, in Venezuela:—

"An American we met related an anecdote of this snake, which, if true, was very frightful. He had gone in a canoe one night with a father and son, intending to shoot deer next morning on one of the islands in the lake. When they reached the island, the son, notwithstanding the repeated warnings of his father, jumped out; but he had no sooner done so, than he gave an agonised yell, and fell back; the father immediately sprung out, but was also struck by the snake, but not so severely. They got the young man into the boat, but he swelled to a horrible size, and, bleeding, at eyes, nose, and mouth, died in less than half-an-hour. Our friend and the father now set out on their return to Valencia with the dead body. A storm had in the meantime arisen, and they were in the greatest danger of being capsized. The old man was suffering fearful agony from his bite, and had nearly gone out of his mind; and the narrator described in graphic terms the horrors of his situation, in a frail canoe, in a dark night during a severe storm, and the momentary expectation of being capsized, his only companion being a mad father lamenting over the body of his dead son."

Even the most insignificant of creatures may be the scourge of the most exalted. We have seen some examples of insect pests in a former chapter, and of their ravages and successful assaults against man; but that he should be actually slain in mortal conflict with a fly is something unusual. Yet last summer this happened in India.

"Two European gentlemen belonging to the Indian Railway Company,—viz, Messrs Armstrong and Boddington—were surveying a

place called Bunker Coode, for the purpose of throwing a bridge across the Nerbudda, the channel of which, being in this place from ten to fifty yards wide, is fathomless, having white marble rocks rising perpendicularly on either side from a hundred to a hundred and fifty feet high, and beetling fearfully in some parts. Suspended in the recesses of these marble rocks are numerous large hornet's nests, the inmates of which are ready to descend upon any unlucky wight who may venture to disturb their repose. Now, as the boats of these European surveyors were passing up the river, a cloud of these insects overwhelmed them; the boatmen as well as the two gentlemen jumped overboard, but, alas! Mr Boddington, who swam and had succeeded in clinging to a marble block; was again attacked, and being unable any longer to resist the assaults of the countless hordes of his infuriated winged foes, threw himself into the depths of the water, never to rise again. On the following day his corpse was discovered floating on the water, and was interred with every mark of respect. The other gentleman, Mr. Armstrong, and his boatmen, although very severely stung, are out of danger."

Such is the story as narrated in the *Times* of Jan. 28, 1859. But I have the pleasure of being personally acquainted with some of the members of the family of Mr Armstrong, who have assured me that the insects were not hornets, as represented, but honey-bees; it may be not the hive-bee domesticated with us, but a species well known as making honey. Whatever the true nature of the insect, it affords an apt illustration of such passages of Holy Scripture as the following:—"The Lord shall hiss for... the bee that is in the land of Assyria," (Isa. vii. 18.) The Lord thy God will send the hornet among them, until they that are left, and hide themselves from thee, be destroyed." (Deut. vii. 20.)

And with this we shut up our "chamber of horrors."

Pleasant ways in Science.

No. I.—CURIOSITIES OF MOTION.

Under this title we propose from time to time to consider divers scientific questions in an informal manner, seizing rather upon their amusing, pictorial, or ideal aspects than attempting to build them up into the technical form of a methodical treatise. Our object is to bring interesting results within the reach of those who may not have time or opportunity for arriving at them through a regular course of study, and to render assistance to those who diligently collect facts, but require help in the art of associating them together, so as to form a philosophy. We shall begin with some entertaining facts concerning Motion.

Of all earth's millions of human inhabitants how few know when they awake in the morning what enormous journeys they must take before the day will be over, and the dawn of the morrow will greet their eyes. It would alarm a Londoner to tell him at daybreak that he should be shot off to Persia with the speed of a rifle bullet; and indeed we know no artificial mode of spinning him onward at anything like such a rate, even for short distances, with due regard to the continuance of his life. Nature, however, rolls him along with tremendous speed as the earth careers from west to east. In the course of twenty-three hours fifty-six minutes, four seconds, and nine hundredths of a second, the earth turns round on its imaginary axis. If at any moment we thought ourselves upright, we must remember that since that moment flitted away, we have been turned topsy-turvy, and brought right again exactly in that space of time. How do we know this? It is one of the many things which the stars tell those who worship them with the homage which science pays to their brilliant and yet unseen orbs. (1) If we set up a tall convenient mark, or take a distant church spire, a lightning rod or a flag-staff, and note when any particular star is exactly over it, in precisely the time we have given, that star will be again in its place; and as all stars tell us the same tale, we accept their evidence that our big earth-ball, which at the equator is nearly twenty five (2) thousand miles in circumference, turns round its own axis in a little less than twice twelve hours. (3) Now if

(1) The reader may consider as part of this series the paper, "We never See the Stars," which see to explain the paradox in the text. (See Vol. v., p. 47.)

(2) The diameter of the earth is 7925.604 miles, and its circumference 24,509 miles. The circumference of a circle is rather more than three times its diameter, say 3.14159 times.

(3) It is not necessary for our present purpose to take into account the effect produced upon the period between two successive advents of any star on the meridian, by the motion of the poles of the earth, which do

not constantly point to the same place in the heavens. For explanation of this, the reader can see Sir J. Herschel's *Outlines of Astronomy*. The difference between a solar day, averaging twenty-four hours, and a sidereal day, must be borne in mind. As the change in the position of the earth's poles is small and slow, and as the stars are too remote for their proper motions to affect the question, we may consider them as fixed points, to which the same meridian returns in equal times. The sun does not appear fixed. It seems to traverse the heavens in its annual motion in a direction opposite to its diurnal motion, so that the latter motion appears slower than the diurnal motion of the stars, and the solar day is so much longer.

we could get a fairy stool to stand upon nothing, above the earth's surface at the equator, and we could sit upon it, and watch the globe spin round, it would in the course of a day and night spread before us its five-and-twenty thousand miles of successive scenery. Great cities with their "cloud capped towers" and "gorgeous palaces," cultivated fields, primeval forests, desert lands, and ocean with its varied shores, would come and vanish like the thoughts and pictures of a wondrous dream. According to this supposition we should be quite still, while every point on the equatorial circle would travel through a space equal to the globe's circumference in its daily journey. As facts go, we are practically still, or move so little in the course of the day that we may be considered so, and the globe takes us round with it in the prodigious tour we have described, not bringing before our eyes a succession of terrestrial scenes, but unfolding the heavens as a scroll, and enabling us to read their glorious characters as successive portions rise to our view in the east and vanish in the west. The earth's velocity of rotation at the equator is 1520 feet in a second—rather less than the initial velocity of a rifle-ball. In our latitude it is about 820 feet per second.

In addition to this journey of rotation, we have another one to take, namely, that of revolution round the sun, and this we accomplish at an average rate of sixty-eight thousand and forty miles an hour.

Thus, two swift motions operate upon us, and we feel them not—only know them by reasoning from facts that afford no evidence of them to an uneducated mind. The common eye cannot fail to see the sun, and moon, and stars rise and set. A more watchful eye notices that at different seasons our skies exhibit different groups of stars, in regular and recurring succession. Thus, something must move—but what, and how? The pole star moves so little, or in so small a circle, as to seem the pivot about which the heavens turn, and if all the stars were supposed fixed in crystal spheres, the motions of such spheres would account for very much that is observed. Thus, the ancients for a long time had no notion of the true system. They took the earth for a thing firmly fixed, or rooted, and ascribed all celestial movements to other bodies more or less distant from it. A greater precision of observing power, and a larger store of facts, gradually revealed the real state of the case.

How do we ever know that we move or are moved, or that anything moves? In the earth journeys we unconsciously accomplish we have illustrations of motions that carry us along and which we cannot feel. On a dark night, or with eyes shut, in a railway train, a rumbling and shaking informs us that we are not still; but we easily get confused as to which way we are going, if the motion is smooth enough not to force the fact upon our attention. Our chief evidence that motion has taken place is derived from the information afforded by our eyes that certain things have changed their relative positions. If an object seen one minute on our right, is seen the next minute on our left, either the object has gone half round us, or we have gone half round ourselves. If two objects are situated in front of us, so that when we look straight ahead we can just see both together at the same time, and if a few minutes later we can only see one at a time, either they must have receded from each other, or we must have approached them, so that their actual distance occupies a greater apparent space than it did before. At a distance, the view of a whole town is compressed into the size of a sixpence a foot off of our eyes; nearer, a single brick is more than we can see at once. Let us suppose that we see the town in its sixpenny dimensions, and that presently its apparent magnitude far exceeds the capabilities of a single glance. How can we tell whether we have walked to the town, or the town has walked to us? "What a ridiculous question!" would be a general exclamation, and yet how many supposed well educated people could give an intelligible proof of what really occurred? It would not do for them merely to say that they knew they moved on, because they passed things on the road. We should ask how they knew the things did not pass them. If two bodies are moving in opposite direction, with equal or different velocities, their positions with reference to each other at any given moment will be the same, as if one kept quite still and its motion were added to that of the other, and in order to prove whether one or both had moved, reference must be made to some fixed and ascertainable point.

not constantly point to the same place in the heavens. For explanation of this, the reader can see Sir J. Herschel's *Outlines of Astronomy*. The difference between a solar day, averaging twenty-four hours, and a sidereal day, must be borne in mind. As the change in the position of the earth's poles is small and slow, and as the stars are too remote for their proper motions to affect the question, we may consider them as fixed points, to which the same meridian returns in equal times. The sun does not appear fixed. It seems to traverse the heavens in its annual motion in a direction opposite to its diurnal motion, so that the latter motion appears slower than the diurnal motion of the stars, and the solar day is so much longer.

Being paradoxically inclined, we will add that such a *fixed* point may be a rapidly moving one, and will do just as well, nay, in most cases, it would not enjoy the merit of what we call "fixity" if it did not travel at a great rate. Suppose Westminster Abbey were miraculously impressed with, and enabled to perform, the duty of standing still, while Charing Cross and the Houses of Parliament went with the earth's surface on its diurnal tour, the angle made by lines connecting these buildings, as seen from Charing Cross, would rapidly change, and the inhabitants of London, not let into the secret, might think the old abbey was running away. As the earth moves, carrying along with it its burden of hills, buildings, and trees, the "fixity" of any one of these objects depends upon its partaking of exactly its own share of the motion common to all. The motion of the earth, from west to east, does not hinder the railway from carrying us from east to west. It is as easy to walk from St. Paul's to Charing Cross, as from Charing Cross to St. Paul's, and no passenger feels whether he is going as the earth goes, or in opposition to her diurnal course.

In order to become aware of motion, we want comparison. An object moving on the earth's surface in a direction or with a velocity different from the direction and velocity common to all territorial objects, manifests its special motion by taking up a new place in reference to other objects, and we assume that the other objects have not moved because their position is unchanged with reference to each other.

In the smoothest form of travelling, if we do not look at objects for comparison, we scarcely know that we are moved. If a jerk occurs, one part of our body immediately complains that its position, with reference to other parts, is violently changed. An extreme instance of this sort of action is when a cannon ball takes off a leg by communicating to it a velocity with which the rest of the unfortunate individual cannot possibly keep pace.

The velocity with which certain motions take place is far beyond our possibility of conception. We see them expressed in lines of figures that soon cease to have any meaning which understandings can grasp. An uneducated man has no conception of a few thousands. To a savage, all beyond twenty or a hundred is vaguely presented as a great many. An ordinary man of business grasps the notion of a million, though only to some extent. Billions, trillions, and their connexions, seem all alike—vast, vague, and not to be comprehended. An astronomer or mathematician penetrates their mysteries up to a certain point; but he is soon brought to a condition of nonapprehension, and gigantic numbers come at last to mean to him just what smaller numbers do to the savage—a quantity greater than he can adequately comprehend.

Astronomy brings us into acquaintance with motions of enormous velocity traversing prodigious spaces, chemistry and physics exhibit motions equally wonderful for their incalculable speed, and yet performed in spaces too minute for us to conceive. A swallow in its swiftest flight is said to move at the rate of ninety miles an hour; Mercury, in its journey round the sun, performs about 109,360 miles in an hour: (1) Venus, being less near the centre of our system, is contented with a march of 80,000 miles an hour; while our earth, in the same time, traverses 68,010 miles. These are wonderfully quick motions, but they are nothing to the velocity of light, which travels, according to recent experiments, at the rate of about 185,000 miles in a second. (2)

A great quantity of evidence leads to the conclusion that light is a motion of an extremely subtle fluid, as sound is the motion of air. (3) Now, wave motion is somewhat complicated. If two persons hold a long rope, and one lifts his end rapidly up and down, a wave motion visibly passes from one end to the other. A portion of the rope rises and falls, passing its motion on to the next portion, until the whole rope is affected by a beautiful series of wave lines. Now the velocity with which each portion rises and falls is one thing, and the velocity with which the wave form is transmitted from one part to another is another thing; and when wave actions take place, there may be an enormous difference between these two velocities. When we speak of light coming to us from sun or star with a rapidity of 185,000 miles a second, we mean that the *wave form* reaches us with that degree of speed; but the velocity with which the ether particles rise and fall in

their vibrations is infinitely more swift. When we investigate sounds, we find their pitch depends upon the slowness or rapidity of their motions—a metallic strip that vibrates with great rapidity giving an acute sound, which becomes graver as the velocity of vibration is diminished. A complete vibration is the oscillation of a particle once forwards and once backwards through a greater or smaller arc. The intensity of a sound depends on the size or amplitude of the vibration, and its pitch upon their velocity. By comparing the note yielded by vibrations whose velocity was known with that of the humming of a gnat, it has been estimated that this little creature vibrates its wings fifteen thousand times in a second.

We have spoken of the velocity with which the forms of light waves travel, so that they reach us from the sun in eight minutes thirteen seconds and three-tenths of a second. Tremendous as is this speed, it looks small when compared with that of the vibrations which the ether particles experience. Thus, "when the ether makes 450 billions of oscillations in a second, the sensation of red light is produced, while 730 billions of oscillations in a second produce violet light."

(To be continued.)

EDUCATION.

Language, the Teacher's great Instrument.

So much have teachers to deal with words and their proper use, especially in the language of teaching, that their attention cannot too often be directed to the study of both.—The exigencies of their vocation suppose this. The right discharge of duty renders it imperative. Success in teaching they can never have without a considerable command of language.

May I then hope that a few words of friendly expostulation on this subject will not be unacceptable, coming from one who wishes to profit by his own advice?

Words are the exponents of thought,—the foundation of language, its constructing materials; and when formed into language, become the mirror of the mind, in which man sees man, by which thoughts are exchanged, and the world's work is carried on.

Words, even in their isolated and unconnected position, lead to the ideas they represent, and thus become aids to thought, with which we cannot dispense. Separately, how quickly do they bring up ideas and things for the observation of the mental faculty. Varied, powerful, and wonderful are the associations which oftentimes a single word will raise. Each word has a conjured power of its own, turning up the idea therein deposited, and giving wing to the mind to fields of thought.

Till a considerable knowledge of words and their precise import are acquired, and their relative and reactionary power are practically understood, none can be a distinguished composer, nor a correct commanding speaker. *And these every teacher should be.*

We estimate the beauty, the power, and the value of the language used by any speaker or writer to develop his reasoning, exhibit his demonstrations, or depict his facts, just according to the power or the elegance of the principal leading words selected by him, and the perspicuity with which the parts of his composition receive their successive arrangement and relative conjunctive union.—But this supposes a masterly knowledge of words.—A large proportion of words in their application never change their forms; many have various grammatical forms, but few, very few, have, each, only one unvaried application. But the teacher is understood to possess a considerably extended knowledge of them all, and how rightly to use them.

How can he instruct others in their correct effective application if he has not himself made them a subject of earnest study? How can he instruct others in their correct effective application, if he has not well trained himself to chaste expressive language? How can he have practical skill to indoctrinate his pupils in the principles of language, written or uttered; rightly to select and apply words,—how to get the precise word or words necessary to express perfectly that meaning which he wishes to convey, if he has not himself gone through a course of suitable training?—Clearly to

(1) These figures are taken from Sir J. Herschel's *Outlines of Astronomy*.

(2) This velocity of light corresponds with the distance now assigned to the sun upon astronomical grounds—namely, 91,600,000 miles.

(3) It must not be understood that sound is exclusively produced by vibrations of common air. In *Ganel's Physics*, translated by Atkinson, we find it well stated that "sound is a peculiar sensation excited in the organ of hearing by the vibratory motion of bodies, when this motion is transmitted to the ear through an elastic medium." Solids and fluids will conduct sounds, and so will all gases. The sounds we commonly hear and make use of are vibrations of atmospheric air.

conceive and forcibly to express thoughts, require much lingual training,—first with the teacher, then with the student.

Learning others to clothe their thoughts in language suitable and accurate, implies a practical knowledge of the art. For no one can be a sure director to another in any thing he ill understands.—Not only should a teacher have a clear conception of what he teaches; his knowledge of it should be thorough, and his teaching talent should square with his knowledge.

To be a trustworthy director of the minds of youth, and effectively to carry out in practice the mental train, in any thing, we can never be, without suitable advance training.—Be entreated, then, to direct attention to teaching qualifications, to the one especially here recommended. Aim at the attainment of this high essential teaching gift, and set off accomplishment. As words are the materials of language, make them the subject of your special study, not as a dry etymological exercise, but as a practical applicative one. We may know the meaning of a word, be able to give its etymology,—its etymology of form, and its etymology of derivation, and yet be little skilled in using it, or giving it that place in our sentences, in writing or speaking, which will best command attention, and give expressive clearness to our ideas. Words have their science, and we must study it; they have their art, and in it we must train ourselves. And we all know how much a good practical knowledge of this art adds to, and distinguishes, the gifts of the educator. Without it he can never well succeed. With it, with zeal and energy, he cannot fail to succeed. This admits of no doubt.

In order to possess as full and exact an acquaintance with the treasures of the language we daily use, we must study it historically; we must study it in its literature; we must study it in its productions; we must study it in the laws of its structure.—But study includes practice. The fruit of study, be it little or much, shows itself in practice; and if it stands not the test of practice, its value is small.

We ought to study, and to study carefully the application of words,—how they are used and put together in the writings of distinguished authors, such as Shakespeare, Milton, Addison and Macaulay. The authority of such writers is paramount and supreme. They are our best models. But unless we PRACTICE after such models, we can never produce anything approaching their elegance of diction.

However much those distinguished writers,—those great masters of vocables, as embodied in language, copied after THEIR selected models, it was the skill of their own practice, persevered in, which gave them that transcendent position, from which coming generations will never displace them.

What they did, let us follow. They gave laws, examples: these, let us obey. Their words, their forms of speech, their construction, let us make our own.

It is true, our vocation requires degrees of latitude. The language of teaching differs very materially from that of the historian, the moralist, &c.—In simplicity, clearness, conciseness of expression, warmth of ardour, and impressive utterance, the language of the teacher *shou I stand* NUMBER ONE. Who needs language to be fully understood, to be so moulded as to suit the mind of the child, in its every stage of development, to be so concisely worded as to at once reach the child's understanding, to be so well expressed, and so impressively uttered, as to stamp its image on the mind, *as the teacher?*

How often does the earnest educator wish, yes, pray, that he were able to give his pupil a multiple power of mental vision, that he might clearly see things as presented to his mind?—Labour as he may, with his every power of expression, and studied speech, and multiplied illustrations, how often does he fail to make adequate conveyance of his ideas, and illustrations, into his pupil's understanding? And, no doubt, he often wonders whether it is with himself, or with his scholar, or with both, or owing to some extraneous circumstance which he cannot trace, that his defeat is owing. He labours to bring him under the

full light of his teaching; and to make him give his interested attention to the subjects of his studies, but he fails.

Now my own experience, and studied observations, tell me, that language has something to do in such failures. Want of well chosen words, fitly spoken, beset, times without number, and in many different ways, our teaching, cripple and foil our efforts and cause many an aching of the head and heart.—Fellow educators, be persuaded, be prevailed upon, to study teaching language more. This great medium of instruction can never have too much of our attention and study.

In many schools, (and perhaps, some of it in all schools), there is an unsuitable use of words; a darkening of explanations and illustrations, by the language employed; a dullness brought over a whole class, under instruction, caused by the manner and language of the teacher; and, almost daily, a waste of school time and loss of instruction, and principally owing to the unsuitable character of the language used.—In some schools there is a gross perversion of language, and a use of words and expressions unworthy of place in school language, and far beneath the dignity of teaching.

It is very doubtful, that teachers are aware of how much suitable well expressed language adds to the force and superiority of teaching; how much it strengthens the authority of the teacher; how much more success it gives to his efforts; and how much it saves of time and labour.

The teacher, in fidelity to his vocation, should be pure to his heart's core. Has he reality and earnestness in his work? he needs language to show it. Has he intelligence and skill? he needs language to show the one, and exercise the other. Has he aptness and zeal for his profession? he can show neither to advantage, without studied oral language.—Without well studied suitable language, how little of radiant light can follow his teaching, with power to enkindle the youthful mind, and awaken it to energetic effort!—Wanting skilful teaching-command of language, how superficial must instruction be; how little power can it have, to infuse instruction into the mind, deepen impressions, and render them indelible! The living voice, well trained, wisely used, exerts a power, and carries with it that magical influence which constitutes one of those marvels which one mind exerts on another—*constraining its will!* If so, with men, what must it be with children? As we address children, is it not our highest wish to stamp on their minds the best images in our own, and give these the very best moulding? If so what better instrument can be employed than language? Just consider what endless trains of thought and argument do not words, well arranged and powerfully expressed, carry on,—what principles will they not elucidate and evolve;—what energy will they not express and induce; and what results will they not achieve in the great world of mental elaboration, and in that of practical exertion for the benefit of mankind?

The teacher who has acquired a command of language and skill to shape and mould it, is more than doubly armed for his work, and has it in his power to do more than double work.—Without this command, how can he effectively pour the treasures of his mind into the hearts of his pupils; how can he give a home to his own intelligence in the heads of those he trains? A teacher may be indefatigable, steady and persevering, but if he be wanting in that command of utterance which tells upon the minds of his scholars, wakens them up to receive his instruction—giving it a living lodgment—a working continuance there, a great deal of his labour must be ineffectual and his success precarious.

Mark the teacher's position: he is setting before himself a work to be done: he is setting before his pupil a work by him to be done. How best to do this is the question. It is to be done by language. This is the great instrument. And must it not be a matter of highest importance to him to know how best to use this instrument,—how best to choose his words, give them their best mould and character,—give them dress,—their best teaching costume,—with the most expressive utterance at his

command? It is not vain verbal repetitions, high flourishes of speech, or vociferous utterances, he needs. The language of true teaching rejects these. It is that language which has aptness in its tones, teaching skill in its construction, wise arrangement in its words, suitable effort in its utterance, and a continuity of character, according with the unfolding of the subject studied, which effective teaching demands.—It is language very different from that of the orator,—different from that of the public speaker,—different from that of the pulpit, or the college hall. Its standard qualities must be simplicity and clearness,—level with the capacity of children;—not a pedantic abuse of words by an ill-judging use of dictionaries—a wrapping up of ideas in misty verbiage, or a silly dread of plain speaking, when plain lucid speaking is what is wanted.—The true earnest teacher, whose great aim is to make his words, his speaking, light and life to his pupils, so chooses his words that each, as a shining star, carries light along with it.

He studies their meanings and their uses as an educator,—so as to obtain power over them—and enable him to give them that connection and oral utterance, which will raise in the minds of his scholars clear and exact thoughts on what he teaches.—The art of putting thoughts in the right light for the young, should be daily practised by every teacher.—Like the skilful composer of music in choosing and arranging his notes, he should so choose and arrange his words as to make his meaning clear and expressive, and with an utterance which will have power with the student, enabling him to think, conceive, understand, &c. This is the way to rouse, exercise and strengthen his mind; and to enable him to say, as he (the teacher) explains,—I understand; as he illustrates,—I comprehend; as he repeats,—I remember; as he shows the way,—I advance; as he encourages,—I make effort.

Now, unsuitable, ill-constructed language, ill-expressed, can never enable a student to speak thus responsively.

Long spun-out sentences will never enable him to do it. Ideas clothed in language which his mind cannot grasp will never enable him to speak thus, and understandingly advance.

One of the most powerful things to give polarity to a pupil's attention, and magnetize his mind, is strikingly winning language.—If clear, the child quickly catches up the ideas; if striking, it arrests his attention; if lucid on the subject, he is interested; and if it excites desire, he wishes to be with his master in his mental store.

If language is the main instrument, in educating youth, why is not more attention paid to its cultivation as a teaching qualification?—I do say, that the language of teaching is yet in its infancy. The state of many schools tells this. The children, instead of being alive to their work, appear to be listless and unconcerned; and the whole work appears to be to them uninteresting and repulsive.—Contrast with this the school where the children are quickened to effort by plain, life-giving, well suited language. There, every pupil shows life and earnestness; and as addressed by the teacher, are all attention and desire; and just because his manner, kind, taking, and winning language,—rich with instruction—silently works on their minds—giving always a touching development to their faculties. And thus the work goes on; the children feed on their master's instruction, and are delighted with their work. His exertion is a stimulant to their exertions. His intelligence operates as a charm, kindling in their minds a desire to be like him. And his daily efforts to reach their minds by varied illustrations and examples, give a quickening power to theirs, to similar efforts.

Using correct language has a good effect on the pupil in forming his own language. In a hundred things he imitates his master and follows his example. If the teacher studies the use of correct language, silently the pupil is led to make him his model; and he grows up, under his language-influence, a correct speaker. And vulgarisms, and incorrect language again, have an opposite effect. For one of the most powerful influences under which children are exerted on, and which they unconsciously receive, is the silent instruction they receive by imitation,

and the repetition of examples. Positive teaching does not do more, if it does not do less, than the personal influence and daily example of the teacher in his speech and behaviour to give mould and character to their conduct and speech. Experience confirms it.—The influence extends further. Children educate one another in their daily contact, both in school and out of school, more than any one pupil can educate himself. And language is certainly one part of this education. How careful, therefore, should every teacher be in the use of words and phrases, and in moulding his language.

Whether for good or evil, these influences are ever at work. And if we cannot get rid of them, let us watch them; and watch ourselves, too, that we may shun the evil and cleave to the good. Let our language be chaste and becoming, correct and suited to our position as educators of youth. The habits contracted at school grow with their growth, and their sum forms their character when they become men.

There is more in the use of correct language,—suited to the capacity of children, and in its effective use than we are always aware of; and just because we make not the language of teaching a special study.—How often do teachers fail in their labours,—blaming their pupils' dullness and not themselves for want of success in their teaching! Yet the blame was with themselves. The language they used never reached their pupils' understanding.

If the sole secret of a teacher's success is in his skill, and judgment, and the power with which he contrives to regulate and conduct school work,—it is his language, manner of utterance, the correct and clear simplicity of his diction, and the mind-touching earnestness of his expositions and addresses which give life and effect to all. Let his language be correct, chaste and becoming, and the impressions made on the child's mind will much partake of its character. The teacher's language is the mirror of his mind. And the more purity and accuracy it has, and the more it is adapted to teaching, and level with the capacities of those addressed, the more likely it is that children will, by little and little, acquire correct forms of expressions, and correctness of speech,—after the model of their teacher.—The influence of correct language upon young persons, daily heard, has an imbibing power. The teacher's words and expressions, sentence-moulding, and manner of utterance, daily iterated, become silent teachers, though little noticed, in their progressive results. Yet their objective power is great. Their silent influences play a great, a very great part in giving mould and character to the language of youth. Scarcely an expression drops from a teacher's lips, but, in some way, may be credited with some influence,—leaving some impress, however faint, on the sum of thoughts and emotions which make up the character of the pupil.—Hence the vast importance of making school-language every way suited to its sphere. School-language has a currency peculiar to itself. And the teacher who neglects or will not condescend to make it his study, his special study, is laying fetters upon his teaching.

Educators are understood to be men of mind and knowledge,—of especially that knowledge which their profession requires. But how are they to make it an instrument of power without a command of oral language? No teacher can give much life and effect to his teaching without effective speaking; nor can he display to his young auditors his own mental resources, nor profitably rivet their attention; nor give a clenching effect to what he teaches without commanding language. There is in good language, fitly spoken, a living power, difficult to resist. With plain, downright, home-striking earnestness, exhibited through correct, clear, expressive language, what teacher may not succeed?—To every teacher we would say: the careful study of teaching-language is one of the best advices we can offer. It is entitled to your highest consideration. To this study and a mastery knowledge of the branches you teach, I give a priority of place. Other qualifications you must have. But *these stand first*.

With what should a teacher be more familiar than school-language? Book language, and voice language, constitute the medium

of his teaching. But the language of the book is fixed; and daily it needs the *key of the living voice*. That of the living voice, he can put into a thousand forms,—varying it till the understanding of the pupil catches the idea.

Just consider the advantage to the scholar, that the mental store he is receiving at your hand is one of each single part of which the understanding has got hold, and the impressions on his mind are correct; so that their frequent reiterations will be iterations of correct impressions, worthy to be made part of his mental store.

How many imperfect, incorrect impressions are made on the minds of children in school from inattention to this! How much of teaching is worthless,—often worse than worthless, because of the use of improper, vague, ambiguous language! How much has obscure, ill-expressed language kept in shade, instead of exhibiting in light, valuable truths!

Teachers should accustom themselves not only to expressive plain language, suited for teaching children; they should make voice training also a special study. The more they train their own voice, and accustom themselves to correct expressive language, the better prepared are they to teach their pupils correct language, and to train their voices.

This is a part of teacher-training almost entirely overlooked; yet it is one of the very first things which demand attention. Indeed, our teachers should be put through a course of voice-training, and of oral speaking.

Our Normal schools should take up this subject. It belongs to their province.—Great room exists for reform on this subject. Voice has its science and its art. We must labour to bring them down to our schools; and practically familiarize our teachers with both; and thus clothe them with higher educative powers,—with a greater array of intellectual and vocal force.

JOHN BRUCE,
Inspector of Schools.

OFFICIAL NOTICES.



APPOINTMENTS.

SCHOOL COMMISSIONERS.

His Excellency the Administrator of the Government in Council was pleased, on the 29th October, 1865, to approve of the following appointments of School Commissioners, viz.:

County of Jacques-Cartier.—Ste. Geneviève, No. One: Mr. Zéphirin Binet.

County of Rimouski.—Matane: Mr. Jean Truchon.

County of Pontiac.—Litchfield: Messrs. Norman McQuaig, John Scott, Ashel Smith and William Dunnel.

County of Yamaska.—St. François-du-Lac: Rev. Joseph Paradis, Priest.

County of Kamouraska.—Ste. Anne, No. Two: Rev. Odilon Paradis, Priest.

County of Quebec.—St. Gabriel de Valcartier: Rev. David Shanks and Rev. Patrick Kelly.

TRUSTEES OF DISSIDENT SCHOOLS.

His Excellency the Administrator of the Government in Council was pleased, on the 18th December last, to approve of the following appointments of Trustees of Dissident Schools:

County of Two Mountains.—St. Joseph-du-Lac: Mr. Duncan McColl.

County of Dorchester.—St. Edouard de Frampton: Mr. Hugh Hurley, Jr.

County of Nissisquoi.—Stanbridge: Messrs. Marcell Poissant, Pierre Boudreault and Moise Bissonet.

DIPLOMAS GRANTED BY BOARDS OF EXAMINERS.

BOARD OF EXAMINERS OF STANSTEAD.

1st Class Elementary (E)—Messrs. Russell T. Chamberlin, Edwin Lathrop, Charles Perkins, and Misses Augusta Cues and Phoebe Fletcher.
Nov., 1865.

C. A. RICHARDSON,
Secretary.

BOARD OF EXAMINERS OF KAMOURASKA.

1st Class Elementary (E)—Misses Eugénie Lapointe and Céline Michaud.
Nov., 1865.

P. DUMAIS,
Secretary.

DONATIONS TO THE LIBRARY OF THE DEPARTMENT.

The Superintendent of Education acknowledges with thanks the following donations to the Library:

From M. Henri Castermann, Tournai, Belgium: "Lettres à une Jeune Fille, par Madame Bourdon; Politesse et Bien-séance, par un ami de la jeunesse; Lecture et Chant, par un ami de la jeunesse; Politesse et Savoir-Vivre, par Madame Bourdon; Manuel de Politesse et de Savoir-Vivre, par Pauline Olivier."

From T. K. Ramsay, Esq., Q. C.: Fourteen Volumes of the Journals of the House of Assembly of Lower Canada, from 1792 to 1866, except the years 1799 and 1800.

JOURNAL OF EDUCATION.

MONTREAL (LOWER CANADA), JANUARY, 1866.

To the Public.

With the present number commences the Tenth Volume of the *Journal of Education*. Intended primarily to aid and popularize the public educational system of the country, this periodical, foremost in disseminating useful knowledge, has never lost sight of its chosen motto: *Labor omnia vincit*. How far it has accomplished its mission will be for the public to judge.

Although necessarily restricted within certain limits, our constant aim has been to render these columns as attractive to the general reader as possible. Thus, in addition to the matter bearing specially on education, we have called to our aid the varied resources of poetry, literature, science, history and biography. To Notices of Books and Publications we have allotted a large space, as also to literary, scientific, fine-arts and miscellaneous intelligence. In a word, the interest which belongs to the literary review has been, as far as possible, combined with the practical utility of the purely educational sheet. And here we may be permitted to observe that there exists no valid reason why matter having reference more immediately to education, whether in the form of suggestions or treating of the results of experience, should not be read by every intelligent person. Education is preëminently a household science, than which no knowledge is of more constant and universal application. To ignore it altogether is to ignore the duty of a parent, a guardian, and of a useful member of society. The importance of the subject is self-evident and needs but to be mentioned.

It is not, however, for these reasons alone, though amply sufficient in themselves, that we would again appeal to the public for continued encouragement and support, but also because this enterprise is one in which the public have a direct interest. The

small grant accorded annually by the Legislature to assist in maintaining this journal and *le Journal de l'Instruction Publique*, being divided in Lower Canada between two publications, the Department is not so independent of public patronage in this matter as in the western section of the Province, where the same sum is applied to a single purpose. For these reasons we venture to hope that the claims of this journal to public confidence and support will be fully recognised, and that after nearly ten years of continued exertions, this appeal will meet with a liberal and patriotic response.

The late Mr. Bruce.

It is with deep regret that we have to announce the death of John Bruce, Esq., Inspector of Schools, who expired suddenly while addressing the pupils at the College of Lachute, on the 19th January. At the time of the painful occurrence he appeared to be in excellent health and spirits, and only a few moments before, had been jesting with the children. He was about sixty-five years of age when he died.

Mr. Bruce was born in Scotland and was very respectably connected. While still a young man he came to Canada, adopted the vocation of teacher and opened a school in Montreal, where his ability and success soon made him known. Many years of his active life were devoted to the exercise of his profession, during which he rendered important services to the cause of education. When the law creating the office of School Inspector was put in force, he was one of those first appointed, and continued to discharge the duties of his official position until death removed him from the busy scene of his labors. An esteemed contributor to this journal, he has favored us with many articles, one of which will be found in another column. He had also actively contributed to the establishment and success of the Lachute College and the Huntingdon Academy. Twice in each year he visited regularly all the schools in his extensive district of inspection, which comprised the County of Huntingdon, parts of the Counties of Châteauguay and Argenteuil, and the Protestant schools of the city of Montreal; and the reports which he made of these visits were invariably drawn up with the utmost care, and contained statistical and other information of great value. In him the public has lost a faithful and zealous servant, and the Department an able collaborator.

Departmental Library.

Mr. Ramsay has presented the Library of the Department of Public Instruction with fourteen volumes of the Journals of the Lower Canada Legislative Assembly. As several volumes were already in the possession of the Department, the collection is now considerable; and we would feel much obliged to any one that would assist in making it complete. A few isolated volumes are comparatively worthless; whereas a complete series is of the utmost value for consultation and reference, and for these purposes, the library is always open to the public.

The volumes for the following years are still wanting: from 1799 to 1800, from 1809 to 1817 inclusive, from 1820 to 1824 inclusive, and for the years 1831, '34, '36 and '37.

Annual Meeting of St. Francis District Teachers' Association.

This Association held its regular Annual Meeting at Huntingville, Ascot, in the "Chapel," on Friday and Saturday, 22nd and 23rd of December, 1865.

About twenty District School Teachers, some of the principal Academy Teachers of the District, and most of the Officers of Bishop's and Saint Francis Colleges, with a considerable number of the inhabitants of the village and country surrounding for some miles, formed the assembly. It is pleasing to note that several from a distance were School Commissioners and Clergymen. It is thus evident that these men look to teachers as to persons holding a great power, and whose deliberations are of great importance and interest. It is confidently hoped that this interest will increase and that a much larger proportion of the teachers of the District will avail themselves of the benefits of attendance.

The meeting was opened with prayer, at 11 a. m., on Friday, by the President, the Rev. Principal Nicolls, D. D. The Secretary's records were read and approved. The President appointed, as Committee on Nominations, Messrs. Hubbard, Graham and Smith; and as Business Committee, Messrs. Mallory, Hubbard, Graham and Lebourveau. The latter Committee met and reported, and immediately after the Association adjourned till afternoon.

At two p. m., the meeting was duly opened. The Committee on Nominations handed in their report, which was adopted: the officers for the following year being as follows:

OFFICERS, 1866.

President—Principal Graham, M. A., Richmond; Vice-Presidents—Prof. H. H. Miles, M. A., Lennoxville; S. H. Shonyo, Esq., M. A., Hatley. Secretary Treasurer—A. Duff, A. B., Richmond. Executive Committee—The President and Secretary, ex-officio; E. Johnson, Esq., M. A., Stanstead; E. W. Smith, Esq., Windsor; John Ewing, Esq., Durham.

The President elect took the Chair, and the ex-Secretary continued to act in the room of his successor, who had not yet arrived.

The announcement was made by Dr. Nicolls of the award of prizes offered for competition by Hon. J. S. Sanborn, for the best Essays on "The Defects in our Common School Instruction." None of the Essays sent to the Judges had the excellence worthy of the first prize, and two second prizes had been awarded, one to Miss Lucrecia B. Lovejoy, of Barnston, another to Miss Harriet B. Benton, of Stanstead.

The first of these Essays was read to the Association by Dr. Nicolls, and was discussed by the Secretary, the President and Rev. Mr. Evans, of Sherbrooke.

Mr. W. E. Jordan, of Eaton, then presented a paper on "Instruction in Writing," giving on the blackboard practical illustrations of his remarks. The discussion on the paper and its subject was shared by the Inspector, the President, Rev. Prof. Dodwell, Dr. Nicolls and Prof. Miles.

The Evening Session was opened by prayer by Rev. Prof. Dodwell, and was made very interesting by Mr. Johnson, M. A., Preceptor of Stanstead Academy, who read a paper on "Instruction in Reading and Spelling in our Common Schools." This Essay was discussed by the President, Rev. Prof. Dodwell, Inspector Hubbard and Mr. Johnston.

After singing together, the Association listened to the second of the Prize Essays, which was read by Mr. W. E. Jordan. A discussion followed this, upon the recent order issued from the Education Office announcing the intended enforcement of the use of certain School Books authorized by the Council of Public Instruction for Lower Canada. The meeting was then adjourned in the usual manner until the following day.

At the opening of the morning session on the 23rd, Mr. Johnson offered prayer; and the names of several new members were added to the Association Roll. While the Secretary was receiving instructions to forward Mr. Sanborn's prizes to the successful Essayists, several members took occasion to remark

that this year, as well as last, ladies have carried off the prizes, and it was noticed that among those who have been teachers in the District for a period longer than six months, the number of gentlemen is very small.

An Address was then delivered by Mr. A. Duff, jr., B. A., adverting chiefly to professional inefficiency on account of lack of training to the actual work of Education. It was asked, Why could not those unable to attend lectures in a Normal School serve a lengthened apprenticeship to the work, under some experienced teacher, before taking the entire charge of a school? Again, might there not be quarterly or monthly meetings of teachers in small areas of country, as for example in Townships, for consultation and instruction? It was much to be regretted that only a few young men avail themselves of the benefits, almost invaluable, of University Education. Were these more used and prized, there would not be so few gentlemen among our teachers. It would be wisdom in young men to study during the whole winter, when the facilities for this are greatest, and seek to earn by healthy work on farm or elsewhere in summer, that support for time of study now commonly earned by teaching in winter.—The speaker urged that great favor ought to be shewn to the school books which are native, even while there exist in them many serious faults. We would be more prosperous, if more united in educational work and more determined that everywhere in the profession the right should be known and followed.

Prof. H. H. Miles, M. A., of Bishop's College, Lennoxville, then addressed the Association on the subject of A Normal School for the Eastern Townships, holding that the means advised by the last speaker were not equal to the work to be done, and that there was a necessity for much more general training than could be obtained in an apprenticeship under an experienced teacher. An understanding of that which is good in all systems of education was wanted, and this could best be obtained from the lectures of a Professor in a Normal School. The speaker referred to the fact that he urged attention to this subject upon the Association at its last meeting at Stanstead, and stated that the idea very commonly prevailed that institutions of this kind ought to be located in large towns, this idea being nevertheless very erroneous. It was very desirable that a Committee be appointed by the Association to investigate the propriety and possibility of the establishment of such an institution somewhere in these Townships, and that the committee prepare a report on the subject for the next meeting. On the close of the address, several members engaged in its discussion. As the hour for adjournment had passed, the meeting separated, assembling again at half-past one.

After further discussion on the subject last considered, it was resolved upon vote that Inspector Hubbard, Prof. Miles and A. Duff, jr., be a committee to investigate thoroughly the whole question, and prepare a report thereon for the next meeting.

It was then unanimously decided to appoint a delegation to attend the next meeting of the Bedford District Teachers' Association; and that Principal Graham and any other members who may find it convenient to do so, shall there represent this Association.

H. Hubbard, Esq., M. A., then presented some explanation of the orders which have been issued from the Education Office with the notice that non-compliance may be followed by refusal of the Government grant. He desired that he should be understood as speaking in his private capacity as a citizen, and not as an Inspector of Schools. In case of wilful and needless refusal to comply with the Department's regulations, not only the single district refusing will lose its share of the public money, but the whole of that school municipality will suffer in which there may be those thus refusing. Therefore, the work of meeting the difficulties which may arise in the change of school books and engagement of legally qualified teachers, comes not upon teachers, but upon school commissioners. It is the duty of these latter to examine the orders and see how compliance may be secured.

A very lively discussion followed these statements, Messrs. Jordan, Mallory, Martin, Hubbard, Prof. Miles, Rev. A. Duff and Dr. Nicolls, and A. Duff, jr., taking part. The opinion of the Association was finally embodied in the following resolution, moved by W. E. Jordan, Esq., seconded by A. G. Martin, Esq., and carried by a large majority:

That, "Whereas it has recently been announced by authority that the Council of Public Instruction for Lower Canada has enacted that certain series of school books shall be introduced into all Academies, Model and District Schools in the Province, on and after the first day of July, 1866, under penalty of forfeiting the public money now received by these schools, in case of failure to comply with this enactment; and Whereas this Association believes that the inhabitants of this District and the whole Eastern Townships have such an interest with regard to the books used in their schools that their wishes should be consulted and that they should have a voice in the selecting of the books; therefore, be it resolved, that a Committee of five be appointed to lay before the Council of Public Instruction the views of the Association regarding the aforementioned order."

On nomination, the following gentlemen were appointed as committee for this work, Principal Graham of St. Francis College, Principal Nicolls of Bishop's College, Rev. C. P. Mallory, and Messrs. W. E. Jordan and A. G. Martin. In accordance with the feeling expressed by several during the foregoing discussion, it was moved by Rev. Dr. Nicolls, seconded by Rev. C. P. Mallory, and unanimously carried, that,

"Whereas it appears to this Association that the addition to the Council of Public Instruction of men professionally interested in the work of Education, would add to the efficiency of the Council and be highly acceptable to the people of the Eastern Townships, it is resolved that a Committee of three be appointed to memorialize His Excellency the Governor General on the subject."

On nomination, the Committee was thereupon unanimously appointed, to consist of Prin. Graham, Prof. Miles, and Rev. A. Duff. On motion it was then decided that a semi-annual meeting of the Association be held.

Principal Nicolls then announced that J. H. Pope, Esq., M. P. P., for the county of Compton, had intimated to him his intention to present the sum of \$30 in prizes, for Essays, to be prepared during the ensuing year, on subjects to be hereafter made known.

By vote of the meeting the Secretary was instructed to send to the several newspapers of the Eastern Townships, and also to those published in Montreal and Quebec, an account of the proceedings of the Association.

It was also resolved that Prof. Miles be requested to make an abstract of the 'Samborn' prize essays for publication.

The thanks of this Association were unanimously voted to the Hon. A. T. Galt, and J. S. Samborn for the prizes given by them for essays written on educational subjects.

A vote of thanks was tendered to the people of Huntingville for their generous hospitality shown to the Association.

After motion to adjourn, Rev. Principal Nicolls offered prayer; and the Association sang the Doxology and separated.

Signed,

A. DUFF, jr., B. B., Sec. St. F. Dist. T. A.

Agricultural College at St. Anne's, Kamouraska.

Several weeks since we received a letter from a correspondent giving an account of the origin, progress and prospects of this institution. Owing to the pressure of other matter at the time it did not appear, and has been since overlooked. The correspondent has just placed in our hands a pamphlet issued by the College, from which we now make some extracts, intending to recur to it again hereafter. We look with favour upon this enterprise. It is located where great good will flow from it. And having been undertaken by the Roman Catholic clergy, under the direct sanction of the Bishop of Quebec, it may be

expected to be carried forward successfully. The clergy cannot do a better work than to bring their great influence to bear upon the improvement of the agriculture, especially of the French Canadian population.

Our programme, says the Rev. Mr. Pilote's report, has been considerably enlarged this year. Heretofore circumstances would not allow us to follow other than a course of agriculture proper, botany, physical and chemical agriculture. Two new courses of great importance have since been introduced, one of veterinary surgery, and the other of rural law. Dr. Tetu, of Rivière Ouelle, has undertaken the first, and Mr. Notary DeGuise, of St. Anne, the second.

These two courses have been prepared with great care by each of the two professors, and attended with deep interest on the part of the students, once a week. Apart from this there are four class hours each day in winter, with six hours of study, in which the students are expected to prepare and analyze the courses. In summer there are two hours of classes with four hours of study and six of manual labor. The students undertake the care of the cattle, each in his turn. At the commencement of each day's study they report the substance of the proceeding, of which each of them should have taken notes.

In order to complete the instructions of the professors the students have visited on two occasions the Agricultural Exhibition of the two neighbouring counties, at Kamouraska and St. Roch. Admitted by special favor to the examination and award of the juries, they were enabled to learn and understand many things which their text books could not otherwise teach them. There were this year four different terms, held by as many professors, apart from daily and monthly classes and demonstrations of certain practical matters on the farm, apart from the ordinary courses of a fifth professor.

A theoretical instruction is completed by the works of the field. I should now speak of the farm. Since my last report the farm has been increased by about 20 arpents, by the acquisition of two pieces of land. But as the college only entered into possession late last fall, there will be no question of this in the present report. The farm comprises 177 arpents and 50 perches, without counting 9 arpents and 94 perches in garden and orchard. [The report goes on to speak of the crops raised, and the yield per acre. Owing to the brief period the college has been in operation they were necessarily small, and a return of the quantities raised, &c., would therefore be no criterion, as it would by no means show the capabilities of the institution when in full operation.]

HORSES.—In establishing the farm intended for the instruction of the students of the School of Agriculture and the public generally, it was necessary to study the improvement of the cattle as well as the perfection of the crops. The management have always thought it desirable to have a race of heavy, robust horses on the farm for work which could not be undertaken by light horses. Our lands are so very clayey that they cannot be broken up unless by often repeated deep ploughing. Heavy draught horses are one of the essential conditions of good agriculture, where the soil is hard and difficult to break up. We believe that in this we shall realize our hopes, as the farm will soon possess a breed of horses fit for the work of clearing—uniting the necessary strength for heavy work with the agility to move alertly to some distances. These horses were produced by crossing a half-blooded mare with pure Canadian stallions of great size. They seem to possess all the qualities required in farm horses.

BOVINE RACES.—It is known that the Canadian cow is a good milker, her expenses considered. But she is small. By allying her to a somewhat rustic and foreign race, possessing even greater milking capacities, an excellent dairy breed is produced. This mixture develops its size, augments its weight, and gives precocity and the power to gather flesh when the time has come when they should be sent to the butcher. It is for this reason that we have preferred the Ayrshire to any other breed as an improving type. The improvement noticeable in our herd is no longer as it was five years ago, a mere matter of opinion; it is a fact recognized by all who come here.

The report proceeds to speak at length of the farming operations of the College, the results of which appear to be highly satisfactory. The programme, as now constituted, is as follows: "Course of Agriculture and Agricultural Chemistry—Professor Schmouth." This course, in addition to the matters usually taught in it, combines the following:

PHYSICAL AGRICULTURE: Indicative nature of the barometer. Influence of Heat on Vegetation.

AGRICULTURAL CHEMISTRY: Nature of Carbonic Acid; Substances to be met with in rain water; Composition of drinkable water; Tables indicating the quantity of mineral materials taken from the soil by each species of plant; Difference between clayey and chalky soils;

New method of disinfecting fecal matter; State of the urine before its employment; The blood as a manure; Fish; Muscular flesh; New experiences on manure and lime; Composts; Rotation of crops; New thoughts in drainage; Perfected agricultural instruments.

The Rev. Mr. Methot's course, the next on the list, is more scholastic, but, nevertheless, is based on agriculture as a science, and comprises agricultural arithmetic in all its branches; as also geometry, surveying, levelling, and grading.

The course of Zootechny, by Dr. Tetu, is designed to extend over two years, and comprises a thorough study of the horse and his diseases, his points, capabilities and uses, best breeds crossing, etc., as also a proper appreciation of the Scotch and English races of cattle, with the character and points of the Durham, Devon, Ayrshire, Galloway, Canadian and other breeds, best milking races, best adapted for farm labour, butcher's meat, etc.; and, further, a review of the treatment and points of sheep, hogs, etc., etc., the course concluding with a study on the best adapted and most economical means of feeding and fattening cattle, etc.

Mr. DeGuise's course will also last two years, and comprises a thorough study on Agricultural law, Contracts, Rents, Interest, Penalties, Damages, and all other legal matters, a fair knowledge of which is almost indispensable to the intelligent farmer.

Further additions to this extensive course are contemplated, so that farmers need not send their sons to foreign countries in order to acquire a theoretical as well as a practical acquaintance with everything relating to the higher branches of scientific farming. With the object of encouraging the study of Agriculture as a science, the Lower Canada Board of Agriculture has created 20 scholarships in the Agricultural Colleges of Ste. Anne and Ste. Thérèse, and for our part we should gladly see them filled, feeling satisfied that by these means, and these means only, can Canadian agriculture be improved, and take the higher standard all friends of the farmer would like to see it taking. Institutions like Ste. Anne's Agricultural College are well qualified to elevate this standard, and should receive every encouragement. As it is, it now receives a mere pittance from government.—*Montreal Gazette.*

Extracts from the Reports of the School Inspectors for 1861 and 1862.

(Continued.)

Extract from the Report of Mr. Inspector VALADE.

COUNTY OF HOCHELAGA.

1. *Hochelaga.*—The Catholic school of this municipality is now kept by two Ladies of the Order of the Holy Names of Jesus and Mary, who impart an excellent education to upwards of 65 pupils. Both languages are taught with equal success. Decency, order, and perfect discipline characterize this establishment. The Sisters are liberally and regularly remunerated, and the accounts are in order. I distributed seven prizes.

The Protestant dissentients have the advantage of possessing a school which is remarkable for the various branches taught, and the regular progress of the 43 pupils who attend it. The teacher, Mr. Webbs, is a young man worthy of the confidence which he enjoys. The examination was a brilliant one, and I thought it my duty to distribute seven prizes. Accounts in order.

2. *Coteau St. Louis.*—The commissioners of this municipality have:—1st. An academy kept by two clerks of the Institute of St. Viateur. 2nd. An elementary boys' school, conducted by Mr. Nabasés. 3rd. Two girls' school, kept respectively by Miss Dugal and Miss Aycaud. Upwards of 250 pupils attend these four institutions. It is to be hoped that the academy, inaugurated under such favorable auspices, will be maintained with the success which we have a right to expect from it. Mr. Nabasés, by his probity and aptitude, has obtained unlimited confidence. Of the two girls' schools, I regret to say that one is inferior and the other retrogressive. The two female teachers gave up teaching a short time after my visit in April last. They were immediately replaced.

I visited a class of deaf and dumb pupils with great interest, as they always excite well-merited sympathy. The deaf and dumb creature, whom nature has isolated from the rest of the human family, is in this institution an active, intelligent, modest, and pious being. I distributed 19 prizes at the academy and in the class of deaf and dumb pupils (15 in number), and also at Mr. Nabasés school. The accounts are in order, although there are arrears every year.

The dissentients have a good school, kept on a good footing by Mr.

Lamb, who, in addition to the elementary branches, teaches mensuration, arithmetic in all its parts, the use of the globes, and composition; 43 pupils attend this excellent school. Praise is due to Mr. Lamb, whose talents are equal to his aptitude. 11 prizes distributed. Accounts in order.

3. *Côte de la Visitation*.—The Catholic school is now kept by Miss Lemire, who performs her duties in a satisfactory manner; 36 pupils attend this school, which is supported in part by the Seminary of Montreal. Three prizes distributed. Accounts well kept.

The Protestant municipality is inactive. There are no taxes and no schools. The parents send their children to the schools of the neighbouring municipalities.

4. *Côte des Neiges*.—The commissioners have three schools under their control; one is a model school kept by Mr. Jardin, the other two are elementary, and are respectively kept Mrs. Leduc and Mrs. Hubardeau; 138 pupils attend these schools. It is with pleasure that I bear testimony to the liberality of the ratepayers in this municipality, and their anxiety to maintain good schools in their midst. Their male and female teachers are also well paid, and the finances are in good condition.

The dissentient school now gives a satisfactory return for the sacrifices which the ratepayers have made. The teacher, Mr. Walker, discharges his duties with punctuality, and his pupils are remarkable for progress. 30 pupils; 4 prizes distributed; accounts in order.

We find on the hill two independent schools, one of which is specially supported by the Seminary and is attended by 50 pupils; the other has 20.

5. *Coteau St. Pierre* has three schools, all provided with good teachers:—Mrs. Lanctôt, Miss Burns and Miss Bell. The first two are well versed in the English and French languages, the latter in English only; her pupils are of English origin. These three schools are attended by 173 pupils. Prizes distributed, 18. Accounts in good order.

6. *Côte St. Paul*.—The dissentients have a school here, which would no doubt be a credit to them, were it not that the teachers, who are frequently inexperienced in teaching, are sometimes changed several times in the course of the year. This of course is quite incompatible with progress on the part of the pupils. 30 pupils. 1 prize. No accounts rendered.

7. *St. Henri des Tanneries* has a boys' school, kept by Mr. Hétu, and a girls' school by Miss Lucie Bibaud, whose assiduity and excellent method of teaching are deserving of the most liberal encouragement on the part of the commissioners. 189 pupils attend these two schools. 15 prizes distributed. Accounts perfect.

I think it proper to state that I found about a dozen of pupils in Miss Bibaud's school, who answered a number of questions on the subject of the particples, and wrote them from dictation with admirable coolness and correctness.

The dissentients have a school kept by Mr. Burns, and attended by 40 pupils. Mr. Burns intends leaving this section, and the trustees will immediately engage another teacher. Accounts in order.

There is also an independent school here, attended by 25 pupils of English origin.

8. *Longue Pointe*.—There are in this municipality, 1st, an independent academy for girls, kept by the sisters of La Providence; 65 young girls here receive a careful and solid education. 2nd, a boys' school kept by Mrs. Passage. 3rd, a mixed school, kept by Mrs. Falkner. 104 pupils attend the two last mentioned schools, and their examination was most satisfactory.

It is but an act of justice to make special and honorable mention of the president, Mr. Guy, who has contributed by his frequent visits, practical advice and pecuniary sacrifices, to the reputation now and for several years past enjoyed by the Côte St. Leonard school. 19 prizes distributed; accounts perfect.

The dissentients continue to keep a school at Elmwood, under the direction of Miss Burns; 25 pupils attend it. It seems to me less flourishing than formerly. 2 prizes.

9. *Pointe aux Trembles*.—This parish possesses two fine institutions; a girls' academy under the direction of the Sisters of the Congregation, and a boys' academy in charge of the Brothers of St. Joseph. The girl's classes are well kept.

The Brothers' academy would be more useful if the professors were less frequently changed. 140 pupils attend the two establishments. There is also a mixed school kept by Miss Allard, which is attended by 30 pupils; the examination was satisfactory. 11 prizes were distributed in this municipality. The school accounts are not in good order.

The dissentients have opened a school under the direction of a

teacher who has no diploma. 18 pupils have been entered on the register. These dissentients have hitherto made great sacrifices in order to obtain for their children a suitable education. I sincerely wish them success in this new establishment. There are also two independent schools, one for boys, the other for girls, attended by about 60 pupils. The girls' school, which I visited, appeared to me to be conducted with ability, and to have made progress.

10. *Rivière des Prairies*.—This parish shows great zeal in the cause of education. The model school, kept by Miss Lecuyer, is well conducted. Miss Demarbo's school is making progress. Miss Corbeil's school is retrogressive. 140 pupils attend these schools. 10 prizes were distributed in the first two schools. Accounts correct.

11. *Sault au Recollet*.—This parish comprises three municipalities; 1st., the village, which contains a model school, kept successfully and ably by Mr. Contu, of the Jacques Cartier Normal School, and an elementary school, kept by Miss Duplessis; 2nd., the upper municipality school, kept by Miss Payard; 3rd., the St. Michel school, kept by Miss Hughes. All these schools give entire satisfaction to the parents and ratepayers; they are attended by 235 pupils. 19 prizes distributed. Accounts in order. I think it due to the commissioners of these several municipalities to state that there appears to be a cordial understanding among them.

A few acres from the church is situated the establishment of the Ladies of the Sacred Heart: the instruction here imparted is a credit to the parish. Upwards of 100 young ladies receive a most careful education at this institution.

COUNTY OF JACQUES CARTIER.

12. *St. Laurent*.—This parish also deserves particular notice on account of the zeal displayed by the commissioners in the selection of competent teachers, and above all for the continual and generous efforts which are made by the Reverend Mr. St Germain. There are no less than 7 schools in this parish, attended by 220 pupils; 2 academies which alone give instruction to upwards of 250 children. Rapid and very satisfactory progress. Accounts in order.

Dissentient school. I was very well satisfied with the last examination of the pupils in this school, which is kept by Miss Carmichael, and is attended by 30 pupils. Accounts in order.

13. *Pointe Claire*.—This municipality has a model school, kept by Mr. Malbouf, and four elementary schools, kept by Misses Mitchell, Perrier, Clément and Rabreau; besides a convent school under the direction of the Sisters of the Congregation. Several of these schools, particularly the Convent, are a credit to the parish. Mr. Brunet, the Secretary, performs his duties with remarkable energy. I regret to say that the school corporation has but one school-house, really a handsome building but going to ruin and in want of immediate repair. 208 pupils attend the schools of Pointe Claire. 16 prizes distributed. Accounts in order: a large amount of arrears collected.

14. *Lachine*.—This municipality has a model school, directed by Mr Tessier, of the Jacques Cartier Normal School, and 4 elementary schools kept by Mesdames Tessier and Parc, and Misses Dubois and Paré. Those kept by Mr and Mrs Tessier are worthy of the most liberal encouragement. With the exception of the Côte St Paul school, all the others work well. 280 pupils. 23 prizes distributed. Accounts well kept.

Dissentient school. I repeat the remarks which I made in my last report, viz.: that the dissentient school of Lachine is one of the best in the district; the teacher, Mr Allan, enjoys, as he really deserves in every respect, public esteem and confidence. Pupils, 66. 11 prizes. Accounts perfect.

15. *St. Anne*.—School No. 1, Miss Caron, teacher.—60 pupils. Miss Caron is not deficient in ability; her regular conduct and the pains which she takes to ensure the success of her pupils render her generally esteemed.

School No. 2—teacher, Miss Charest, whose method of instruction is worthy of commendation.

School No. 3, kept by Miss Tassé, is retrogressive. This teacher is about to leave the locality. 120 pupils attend these three schools. Eight prizes distributed. Accounts each year loaded with arrears; thus the teachers' salaries are very irregularly paid.

St. Anne has also an independent school, in which both languages are taught, and which is attended by 15 pupils.

16. *St. Genevieve* contains three municipalities, and has four elementary schools and a school directed by the Sisters of St. Anne. The classes of the convent are excellent. The teachers, Misses Melodie Nuckle and Gravelle, perform their duties faithfully and with success. 250 pupils attend these schools. 21 prizes distributed. Accounts in order. There is also an independent school attended by 15 pupils.

Notices of Books and Recent Publications.

THE METROPOLITAN FOURTH READER.—*Arranged expressly for the Catholic Schools in Canada.* Montreal; 1866.—8vo, vi-180 pp. D. & J. Sadlier & Co.

When it was officially announced that the Metropolitan series of Readers had been approved by the Council of Public Instruction, on the recommendation of the Roman Catholic members of the Committee on Books, it was also stated "that the Fourth Reader was only approved on the condition that certain specified changes would be made therein." The changes referred to, as will be seen by the new edition recently issued, consisted in substituting lessons on Canadian History for matter better suited to the schools on the other side of the line than to those of Canada. As regards the articles which may be objected to from a Protestant point of view, it was not intended that the book should be forced upon the Protestant children, any more than the teaching of *Goldsmith's Catechism of the History of England*, which has been approved on the recommendation of the Protestant members of the Committee, should be made compulsory in Catholic schools. As we have frequently had occasion to explain, the object which the Council had in view in classifying the books into several categories, was to apprise parents, teachers and local School Boards of the religious tendencies by which each is characterised.

There are several series of Readers intended for Protestant schools which are now under the consideration of the Council. We must also call the attention of our readers to a very excellent book approved on the recommendation of the whole Committee, and which will suit equally well Protestant and Catholic children—we mean Rev. Mr. Borthwick's *British American Reader*.

BORTHWICK.—*The Harp of Canada; or Selections from the Poets on Bible Historical Incidents.* Arranged chronologically; By Rev. J. Douglas Borthwick. Worthington, Montreal; 1866.—8vo, 269 pp.

The compiler, Rev. Mr. Borthwick, has collected in a pretty volume, a selection of poetry on Scriptural subjects, which he has arranged in the order of the sacred narrative, from the Creation to the Last Judgment. Interspersed with the British and American poets represented, we find such names as McGee, Reade, and Darnell maintaining the honor of Canada. Mrs. Leprohon, who, for two years past, has been an esteemed contributor to this journal, also occupies a large space.

MONTREAL GAZETTE ILLUSTRATED SUPPLEMENT.—4to, 18 pp., triple columns.

The MONTREAL GAZETTE, the oldest newspaper published in Montreal, presents its subscribers with a New Year's Day Gift of which the above is the title. It contains many interesting extracts taken from a work now rather difficult to obtain—we mean *Hochelega Depicta*. Among the curiosities is a plan of the city, borrowed from a work published by Jeffrey in 1760. Views of churches, banks and other edifices recently erected are also given, and point to the flourishing condition now attained by the old town of Hochelega.

LA REVUE CANADIENNE.—(Montreal).

The numbers for September, October, November and December, contain the continuation of the tale entitled *Jacques et Marie*, by Mr. Bourassa; *Le Cœur et l'Esprit*, by Mr. Hector Fabre; an article by Rev. Mr. Raymond, G. V., on Church and State; the commencement of an historical essay on the commercial relations between Canada and the United States, by Mr. Gerin; a review of books and a monthly summary of events, by Messrs. Senecal, DeBeilefeuille, and Royal. We are glad to see that this review is ably maintaining the position which it has already earned for itself.

L'ECHO DU CABINET DE LECTURE PAROISSIAL.—(Montreal).

We have received the first number for 1866. It is illustrated with woodcuts. This useful periodical presented its subscribers during the year with three portraits on steel, representing Jacques Cartier, la Sœur Bourgeois, and DeSalaberry, the hero of Châteauguay.

TAYLOR.—*Portraits of British Americans.* (Montreal).

The fourth and fifth numbers contain biographies and photographs of Sir Richard Graves McDonnell, late Governor of Nova Scotia; Hon. Mr. Howe, the well-known statesman and author, of the same Province; Chief Justice Bowen; Judge Caron, Chairman of the Commission for the Codification of the Laws; Mr. Talbot, one of the founders of the colony of Upper Canada; Dr. Leitch, botanist, and Rector of Queen's College; Hon. Mr. Campbell, ex-Speaker of the Legislative Council; Hon. Mr. Dorion, member of the Legislative Assembly; Col. Irvine, and Mr. Hodges, the engineer who superin-

tended the building of the Victoria Bridge. We learn from the letter-press which accompanies the last mentioned portrait, that Mr. Hodges is working a peat bog on the banks of the river Bécancour, which will no doubt prove of great advantage to the country.

CALDWELL.—*The Invasion of Canada in 1775.* Mercury Office, Quebec, December, 1865.—19 pp.

This is a short account of the Siege of Quebec by the army commanded by Arnold and Montgomery, written in the year following that event. According to Mr. LeMoine, who has favored us with a copy of this pamphlet, the author is Major Henry Caldwell, father of the late Sir John Caldwell.

PETITCLAIR.—*Une partie de Campagne, comédie en deux actes.* By Mr. Pierre Petitclair. Joseph Savard, Publisher; Quebec, Dec., 1865.—8vo, 61 pp.

Mr. Savard, the friend and relative of the late Mr. Pierre Petitclair, has published this light comedy as a mark of respect to the memory of its author. It has been performed on several occasions with success, and is not without vivacity and wit.

LE FOYER CANADIEN.—(Quebec).

The number for December contains an article by Mr. De Gaspé on the Recollet Friars; an episode of the War of 1775 by Mr. Valère Guillet; poetry by Messrs. Benjamin Sulte and James Donnelly. In consequence of the removal of Mr. Desbarat's printing establishment to Ottawa, this periodical will in future be published by Mr. Darveau, Quebec. Some changes in the editorial staff and the form of the work, are also intended; and the subscription will in future be \$2.00 per annum.

SUZOR.—*Traité d'Art et d'Histoire Militaires, suivi d'un Traité de Fortifications de Campagne.* Par L. T. Suzor. Desbarats, Publisher; Quebec.—8vo, 472 pp.

Besides the above *Treatise*, Col. Suzor is the author of the following works in the same special branch of literature; viz., *L'Aide-Memoire du Carabinier; Exercices et Manœuvres d'Infanterie; Code Militaire; and Guide Théorique et Pratique des Manœuvres d'Infanterie*, all of which reflect credit, both on the author and the enterprising publishers who have given them to the public. The present treatise is compiled from the works of Vial, Villiaumé, Bannantyne, Blot and others. It is embellished with a portrait of the late Sir Etienne P. Taché, to whom the Colonel had intended to dedicate his labors.

LESCARBOT.—*Histoire de la Nouvelle-France, contenant les navigations, découvertes et habitations faites par les Français des Indes Occidentales et Nouvelle France, avec les Muses de la Nouvelle France, par Marc Lescarbot.* New edition, fac-simile of the edition of 1612. Tross, Paris; 1865.—8vo, first vol., 287 pp.; with a map.

It is with pleasure that we are called upon to add the above fac-simile reprint to the similar reproductions of Sagard's works and the Voyages of Jacques-Cartier, noticed in these columns some time ago. Retaining all the peculiar merit of the originals, which are now so scarce, these faithful copies will supply a want long felt. The new edition will contain all the maps which accompanied the first, and will be in three volumes, the last of which was to have been issued at the end of this month.

BRUNET.—*La France Littéraire au XVe Siècle.*—Frank, Paris; 1865.—8vo, viii-260 pp.—15 francs.

A synoptical catalogue of all the works printed in France, in the French language, before the year 1500.

CHASLES.—*Michel de Cervantès, sa vie, son temps, son œuvre politique et littéraire,* par Emile Chasles, professeur de littérature étrangère à la faculté des lettres de Nancy, in-8, 466 p. Paris, Didier, 7 fr. 50 c.

MAINTENON.—*Correspondance Générale de Mme de Maintenon, publiée, pour la première fois, sur les autographes et les manuscrits authentiques avec des notes et commentaires,* par Théophile Lavallée, précédée d'une étude sur les lettres de Mme de Maintenon, publiées par La Beaumelle, tomes 1 et 2, in-18, 828 p. Charpentier, Paris. Chaque volume, 3 fr. 50 c.

BÖCHER.—*Otto's French Conversation Grammar.* Thoroughly revised by Ferdinand Böcher, Instructor in French at Harvard College. Fourth edition. Urbino, Boston; 1865.—12mo, 396 pp. \$1.75. Dr. Emile Otto's French grammar was first published at Heidelberg

in 1859, and a second edition appeared in 1863. It is from the last German edition that Mr. Böcher adopted the present American work, which has already passed through four editions and risen to a high position in the estimation of professors of the French language in the colleges and schools of the United States.

HANSON.—Preparatory Latin Prose Book, containing all the Latin Prose necessary for entering College, with References and Notes; By J. H. Hanson, A. M. Fourteenth edition. Crosby & Ainsworth, Boston; 1866.—12mo, 900 pp. With a Map. \$3.

HANSON and ROLFE.—A Handbook of Latin Poetry, containing Selections from Ovid, Virgil, and Horace, with Notes and Grammatical References; By J. H. Hanson and W. J. Rolfe. Crosby & Ainsworth, Boston; 1865.—12mo, 776 pp. \$2.50.

These two handsome volumes form a complete course of Latin reading, comprising selections from the most approved writers of antiquity. Each selection being complete in itself, the student may obtain from one book as varied an acquaintance with the classics as he could otherwise secure by consulting a dozen volumes. The fact that the first published of these convenient and economical works has already reached its fourteenth edition, will show to what popularity it has attained.

BONCAEUR.—*L'Instructeur de l'Enfance*, (a First Book for Children); By L. Boncaeur. Second Edition, Revised. Urbino, Boston; 1866.—12mo, 141 pp. Price, 80 cents.

A neat elementary text-book for the use of schools and private pupils, intended to facilitate the study of the French language. It is very well arranged and will no doubt prove a valuable auxiliary to the teacher.

FOA.—*Le Petit Robinson de Paris*. Par Madame Eugénie Foa. Second edition. Urbino, Boston; 1864.—12mo, 152 pp. Price, 75 cents.

Madame Foa has wrought into a pretty tale the adventures of a boy abandoned in the vast city. The book is also intended as a reader for French students.

MONTHLY SUMMARY.

EDUCATIONAL INTELLIGENCE.

—The new building erected on St. Denis street by the Ladies of the Congregation of Notre Dame, and destined for the St. Denis Academy, was inaugurated on the 27th December last. The exercises, presided over by his Lordship the R. C. Bishop of Montreal, were very creditably gone through. Addresses were pronounced by the Misses Giroux, Honorine Chauveau and Marie Louise Globensky. Among the numerous auditory assembled to witness the ceremony were the Hon. L. J. Papineau, the Superintendent of Education, Mr. Cherrier, President of the Council of Public Instruction, the Rev. Principal of the Jacques Cartier Normal School, and many of the clergy.

—The inauguration of the new High School erected at Quebec by public subscription took place last Wednesday. This new edifice has been justly admired by all who have seen it. Its interior accommodation is all that can be desired, the utmost care having been taken to provide for the comfort of the pupils. At two o'clock P. M., the Trustees, subscribers, and invited guests assembled in the old building, and proceeded to the Chapel, accompanied by the pupils, who, on leaving the old school, gave three hearty cheers. Many citizens and members of the Protestant clergy were present. Among the latter were the Lord Bishop of Quebec, the Rector of Bishop's College, Lennoxville; the Rev. Messrs. Mountain, Clarke, Fothergill, Sewell, Rose, Hamilton; and Messrs. J. Thomson, R. Hamilton, E. S. Scott, &c. Rev. Dr. Cook, Chairman of the Board of Trustees, presided on the occasion. He gave an account of the High School from its origin, and spoke of the difficulties encountered by those who had inaugurated this work, and of the success obtained. His remarks were listened to with marked attention throughout, and the words of encouragement which fell from his lips awakened the sympathy of his auditory. After an address from Rev. Mr. Hatch, Rector of the High School, the prizes were distributed among the most deserving pupils. This building was erected by Mr. Archer, from a plan by Mr. Stavelly, architect.

NECROLOGICAL INTELLIGENCE.

—Among the deaths of notable persons recently announced from Paris, that of a distinguished advocate and politician, M. André Marie Jean Jacques Dupin.

M. Dupin has been reproached with serving every government in turn. His reply to this accusation was characteristic: "I have always belonged to France," said he, "never to factions."

Prior to the revolution of July, he practised at the Bar and was known as the zealous defender of every political prisoner of note. He refused every office tendered him by the government of Charles X. It was said that he discreetly kept out of the way during the insurrection; still he seems to have shown that he took a part sufficiently active in the matter, especially as he was known to have favored constitutional measures rather than violence. The insurrection over, he rendered important services to Louis-Philippe, insisting on the title of *King of the French* and drawing up the new constitution with his own hand and almost unaided. During the greatest part of this reign he filled the office of Attorney General (*procureur-général*) and, after the deposition of the king, used his best endeavors to cause the regency of the Comte de Paris to be accepted. Elected to the Constituent and to the Legislative Assemblies, the *Coup d'Etat* found him in the president's chair. In 1857, he accepted from Napoleon a seat in the Senate, and was appointed *procureur-général* in the *Cour de Cassation*, a post he still held at his death.

Death of the King of Belgium.—This event has not happened unexpectedly, for His Majesty has long been ailing, and his death has been already several times anticipated. Full of years—for he had passed the allotted period of three score years and ten—and full of honors, he has gone to his rest. He was looked upon as a father by our good Queen, and she trusted in him like a child. He was one of the foremost of European Sovereigns for sagacity and comprehensive statesmanship. George Chretien Frederick Leopold was uncle to our gracious Sovereign, Queen Victoria—her mother, the Duchess of Kent, being his sister. He was born in Cobourg, on the 16th Dec. 1790, and was consequently about 75 years of age at the time of his death. In early life he was in the military service of Russia. Compelled by the influence of Napoleon Bonaparte, in 1810, to relinquish his position of General of the army of the Czar, he, three years later, rejoined the Emperor Alexander, and took an active part in the battles of Lutzen, Leipsic and Culm. In 1814, he accompanied the allied Sovereigns to England, where he made the acquaintance of the Princess Charlotte, whom he married a couple of years later. On the occasion of this marriage, Leopold was raised to the British Field Marshal, became a member of the Privy Council, was created Duke of Kendal, and a pension of £50,000 was conferred upon him. In 1830, he refused the offer of the Crown of Greece, and the following year he was elected King of the Belgians. His first wife died the year after marriage, and he, in 1832, married the Princess Louise, daughter of Louis-Philippe, by whom he had three children. King Leopold has displayed much ability as a constitutional sovereign, and his keen sagacity was often called into requisition outside of his own kingdom. On the outbreak of the revolution of 1848, he offered to retire, if such was the wish of his people—a declaration which greatly enhanced his popularity. He has shown much tact in his relations with the French Emperor, while his conciliatory dispositions and his comprehensive statesmanship, as well as his family connections with most of the European dynasties have enabled him, on several occasions, to act as mediator in times of political complication. His death, under all the circumstances, is a real European event.—*Montreal Transcript*.

LITERARY INTELLIGENCE.

—The removal of the Government to Ottawa having caused a reduction in the ranks of the Literary and Historical Society of Quebec, one of its most active members, Mr. Lemoine, appealed to the citizens to fill up the vacancies thus occasioned. In a lecture, Mr. Lemoine proposed a stanza from Catullus, and invited the disciples of the Muse to compete in translating it into French. We subjoin two very happy attempts, which have appeared in the Quebec papers together with the English rendering by Lord Byron.

Animula! vagula, blandula
Hospes comesque corporis,
Quæ nunc abibis in loca,
Pallidula, rigida, nudula,
Nec, ut soles, dabis jocos?

Toi, de mon pauvre corps hôte vagabonde,
Toi, sa douce compagne, aux bons, aux mauvais jours,
Mon âme, tu l'envoies vers un autre monde!
Que vas-tu devenir en ces lointains séjours?
Seras-tu, —pâle, délaissée,
Sans espoir et sans avenir,—
Captive, pour toujours, d'une sombre pensée?
Ou de notre bon temps auras-tu souvenir?

Ma petite Ame vagabonde,
Compagne, hôtesse de mon corps,
Qui vas partir pour l'autre monde,
Comment seras-tu chez les morts ?
Avec ta gaieté constante ?
Ou pâle et nue et grelottaute ?

Ah ! gentle, fleeting war'ring sprite
Friend and associate of this clay !
To what unknown region borne,
Wilt thou now wing thy distant flight ?
No more with wonted humour gay,
But pallid, cheerless and forlorn ?

— We noticed, some time ago, the publication of a volume of poetry by Mr. Lemay, of Lotbinière, near Quebec, containing a beautiful translation of the poem of *Évangéline*. We are happy to learn that the literary effort of our young compatriot has met with the sympathy and approbation of the great American poet, as will be seen by the following extract of a letter addressed by Mr. Longfellow to Mr. Lemay, which has been communicated to us by a friend :

" Allow me to congratulate you on the appearance of your volume, and on the many felicities of thought and expression it contains, and the unmistakable evidence it bears of poetic talent and deep sympathy with nature. More especially, let me thank you for that portion of your work which is devoted to *Évangéline*. I feel under great obligation to you for this mark of your regard ; not only that you have chosen this poem for translation, but that you have performed the always difficult task with so much ability and success."

SCIENTIFIC INTELLIGENCE.

— M. Pouchet has sent a paper to the French Academy on the effects of freezing animals. He finds that no animal really frozen is susceptible of revivification, as freezing disorganizes the blood. The temperature at which the death of insects, grubs, and snails becomes inevitable, is far below the freezing point (from 7° F. to -2° F.). Animals may be surrounded by ice without themselves being frozen, unless the temperature is very low. M. Pouchet states, that when an animal is frozen, the capillaries contract so as to prevent the passage of the blood, and the nuclei of the blood corpuscles escape from the envelopes, and become more opaque than in a normal state.—*Intellectual Observer*.

— M. Paul Bert informs the French Academy of fresh experiments in grafting the tails of rats upon other rats. He finds that his curious process has succeeded after certain tails have been removed from the animals to which they belonged, and placed under the following conditions : 1. Exposed to the action of air in a closed tube for 72 hours, at a temperature of 44° to 46° F. 2. After exposure to a humid heat of 135° F. 3. After exposure to a temperature of 3° F. 4. After complete desiccation. 5. After complete desiccation, and exposure to dry heat of 212° F. The so-called " complete desiccation" was effected in *vacuo*.—*Id.*

— M. J. A. Villemin states in *Comptes Rendus* that he has in several instances produced tubercular disease in the lungs and intestines of rabbits by introducing beneath the skin of their ears small quantities of tubercular matter from a patient who died of consumption.—*Id.*

— The *Astronomische Nachrichten*, No. 1555, contains a long letter from Louis Grosch, detailing observations made at Santiago de Chile during the solar eclipse, 25th April, 1865, and accompanied by a drawing. We translate the principal passages in his *résumé* of what occurred. " The greater part of the sky was covered with cirrus and stratus cloud. Before the beginning of total eclipse, the sun disappeared behind thick stratus. Before the emergence of the sun, the protuberances (red flames) appeared like a serrated border. The protuberances altered in colour from carmine to cherry red : on the moon's edge the colour was yellow. Before the bursting forth of the first sun ray, there appeared from the heretofore sharp circular moon rim, serrations with three greater projections. During the whole time of total eclipse, the dark disk of the moon was sharply defined, and only surrounded by a milk white corona. In the western part of the corona, one spot marked in the drawing was for a moment very strongly illuminated, as if a bright pencil of sunlight streamed behind the moon at this spot. The protuberances extended in a curve about 60°. The highest point of the protuberances was 0.13 of a division of the micrometer (*lignes Theiles des mikrometers*). The protuberances were seen for 2½ to 3 seconds." In another passage he says, that when the colored appearance of the protuberances vanished, thin dark projections appeared to start forth from the moon just where the protuberances were highest. Were these, he asks, lunar mountains ? They appeared and vanished in a moment, and if

mountains, must have been of true sugarloaf form. In *Comptes Rendus*, No. 22, 1865, will be found a letter from P. Secchi, with extracts from letter of P. Capelletti, giving his observations on the eclipse of 25th April (which he dates 15th April). He writes from Concepcion, Chile, and says, " The first impression I received after the disappearance of the sun, was that of an immense mountain of fire, like a rose coloured horn, at 57° from the zenith towards the W." This was seen while the eclipse was total, that is for 2m. 22s. Almost diametrically opposite to it was a smaller one of the same shape, and of a somewhat lighter colour. About 38 seconds after this, coloured flames appeared, so that the sun seemed to be on fire. It looked as if a train of powder caught fire in rapid succession. This rose coloured arc was 90° broad. When the sun disappeared, three bands of light showed themselves in a direction perpendicular to the moon's border. The most luminous was so brilliant, as to dazzle the eye applied to the telescope, and in the same position as the great protuberance ; with this peculiarity, that on its western side it was cut straight like a prolongation of the lunar diameter ; on the other side it was bounded, not by a curve, but by an inclined line. The darkness was greater than he expected, and was increased by a fog. " An iridescent arc appeared at a distance of more than 30° from the sun, and disappeared when the eclipse ceased to be total. This arc had the form of a crescent, its extremities resting on a line tangential to the lower limb of the sun. Several stars of first and second magnitude were seen during the darkness." P. Secchi remarks on the novelty of this arc, and cannot suggest an explanation, except by supposing it due to a fog in the sun's atmosphere. With reference to the bright bands of light, he asks whether such rays may not be seen on other occasions, and he states that on the 8th August, M. Tacchini being at sea, noticed a double jet of light after sunset, which followed the sun and seemed to belong to him. On the same day, P. Secchi observed on the sun a large facula, the upper part of which was very brilliant, and terminated in two jets like two leaves, which he considers may have been the very objects seen by M. Tacchini under different circumstances.—*Id.*

— *The Earth in the Comet's tail.*—Our readers will recollect this was the title of a paper in our vol. i. p. 63, in which Mr. Webb furnished, from his own observations, reasons for corroborating the conclusion arrived at by Mr. Hind, that on the evening of June 30th, 1861, or a little earlier, our earth was in the tail of the comet then visible. M. Liass at the same time thought we had actually passed through the second tail of this comet. He now states, in *Comptes Rendus*, that more complete calculations confirm this belief. He computes that the axis of the second tail of the comet must have cut the earth's orbit at Ch. 12m. 10s. in the morning of the 30th June, at Rio Janeiro, and at that time he considers that we were plunged 110,000 leagues deep in the tail. From the velocity of the earth's motion he estimates that our entrance into the tail was four hours earlier. Rio Janeiro is in long. 43° 7' 15" west of Greenwich. M. Liass adds that if, as certain European observers thought, the tail was a little curved, we might, instead of simply passing through it, and across it, have moved for some time in the direction of its long axis. The breadth of the tail he estimates at 378,000 leagues.—*Id.*

Danger from Contact with a Person Struck by Lightning.—It might be supposed that, when any one is struck by lightning, the electric fluid immediately passes away, on account of the conducting power of the animal body, and of the objects in contact with it, especially if moisture is present. This, however, does not always occur ; though our present knowledge of the laws of electricity will not suffice to explain the exceptional cases. Two instances illustrating this subject have been brought before the Academy of Sciences by M. Boudin. One occurred on the 30th June, 1854. A man was killed in the *Jardin des Plantes* at Paris, by lightning, and his body was exposed for some time to heavy rain. When, however, two soldiers attempted to remove it, they received, the instant they touched it, a very violent shock. The other happened on the 8th September, 1858. Two artillery men, at Zara in Dalmatia, were appointed to remove telegraph posts ; on attempting to lay hold of them after a thunder-storm, they were thrown down and greatly injured, especially one of them. When a comrade endeavoured to assist him that was most hurt to rise, both were dashed violently to the ground ; the comrade was burned in the arm, and was afterwards affected with nervous symptoms.—*Id.*

New and Simple Mode of Reproducing Drawings, etc.—The drawing having been made with a solution of gum, glue, varnish, or any other fluid which will impart hardness, it is transferred to a plate of plaster of Paris, chalk, or anything else that is easily pulverized. This plate, having been allowed to dry, is brushed until the material between the lines of the drawing—which is not affected by the process—is removed to a sufficient depth. After which it is immersed in gum, or glue, to harden the entire surface. The result is an admirable copy of the drawing in relief, and from this a *fac simile* in metal may be obtained in the usual way.—*Id.*