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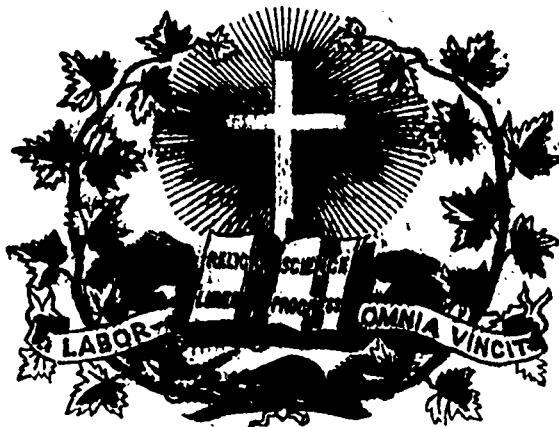
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The Milky Way.

[From The Expanse of Heaven : by Proctor.]

Lo ! these are but a portion of His ways, they utter but a whisper of His glory,—Jon xxvi. 11.

If on a calm, clear night, when there is no moon, we regard the starlit sky, we see spanning the vast concave of the heavens a zone of cloudy light. In our country [England], where the air is seldom free from haze and vapor, even when it appears clearest, this wonderful zone is faint and indistinct. Only in certain portions can we recognize its lustre so distinctly as to feel assured (unless acquainted with its figure and position) that we are not looking at clouds high up in the air. But in southern latitudes the Milky Way is aglow with light. There it is seen as a brilliant band athwart the heavens—

A broad and ample road, whose dust is gold,
And pavement stars, as stars to us appear.

We can not wonder that ancient astronomers should have looked with wonder on this amazing phenomenon. Steadfast as the stars amidst which its course is laid, the galaxy shone night after night before their eyes, and offered a noble problem for their thoughts. Nor did they fail to perceive the meaning of that steadfastness which, to the unthinking, would have had no significance. They saw that the wondrous cloud must

lie at an enormous distance ; and that in all probability its light must be produced by the combined luster of countless stars, removed to so great a distance as to be separately indistinguishable.

Manilius, their astronomical poet, put forward this stupendous conception, and we find Ovid describing the Milky Way in terms not unlike (setting aside their paganism) those in which one acquainted with modern astronomical results might poetically present them :—

A way there is in heaven's extended plain,
Which when the skies are clear is seen below,
And mortals by the name of Milky know ;
The groundwork is of stars, through which the road
Lies open to the Thunderer's abode.

But it is when the Milky Way is studied with the telescope that the true glories of this wonderful zone are seen. A large instrument is not needed. Galileo saw the wonders of the galaxy with his small and imperfect "optic tube"—a telescope which, in our day, though invaluable as a relic of the great astronomer, would be worth but a few shillings, so far as its optical performance is concerned. Wright, of Durham, analyzed the depths of the Milky Way, and formed a sound opinion as to the true nature of the zone, by means of a telescope only ten inches in length. The smallest telescope which the opticians sell for star-gazing, when turned upon certain parts of the galaxy, will reveal a scene of wonder which is calculated to fill the least thoughtful mind with a sense of the infinite power and wisdom of the Almighty. Countless stars pass into view as the telescope is swayed by the earth's rotation athwart the rich regions of the galaxy.

There are stars of all orders of brightness, from those which (seen by the telescope) resemble in luster the leading glories of the firmament, down to tiny points of light only caught by momentary twinklings. Every variety of arrangement is seen. Here the stars are scattered as over the skies at night ; there they cluster in groups, as though drawn together by some irresistible power ; in one region they seem to form sprays of stars like diamonds sprinkled over fern leaves ; elsewhere they lie in streams and rows, in coronets and

loops and festoons resembling the star festoon which, in the constellation Perseus, garlands the black robe of night. Nor are varieties of color wanting to render the display more wonderful and more beautiful. Many of the stars which crowd upon the view are red, orange, and yellow. Among them are groups of two and three and four (multiple stars, as they are called), amongst which blue and green and lilac and purple stars appear, forming the most charming contrast to the ruddy and yellow orbs near which they are commonly seen.

But it is when we consider what it is that we are really contemplating that the true meaning of the scene is discerned. That the true lesson taught by the star depths is understood. Then we may say with the poet, but in another sense—

The floor of heaven
Is thick inlaid with patines of bright gold.
There's not the smallest orb which thou behold'st
But in his motion like an angel sings,
Still quiring to the young-eyed cherubim.

The least of the stars seen in the galactic depths—even though the telescope which reveals it, be the mightiest yet made by man, so that with all other telescopes that star would be unseen—is a sun like our own. It is a mighty mass, capable of swaying by its attraction the motions of worlds, like our earth and her fellow-planets, circling in their stately courses around it. It is an orb instinct with life (if one may so speak), aglow with fiery energy, pouring out each moment supplies of life and power to the worlds which circle around it. It is a mighty engine, working out the purpose of its great Creator; it is a giant heart, whose pulsations are the source whence myriad forms of life derive support; and until the fuel which maintains its fires shall be consumed, that mighty engine will fulfill its work; until its life-blood shall be exhausted, that giant heart will throb unceasingly. And more wonderful yet, perhaps, is the thought that where all seems peace and repose, there is in reality a clangor and a tumult compared with which all the forms of uproar known upon earth sink into utter insignificance.

We know something of the processes at work upon our own sun. We know of storms raging there, in which fiery vapor masses, tens of thousands of miles in breadth, sweep onward at a rate exceeding a hundred-fold in velocity the swiftest rush of our express trains. We see matter flung forth from the depths beneath the sun's blazing surface to a height exceeding ten and twenty-fold the diameter of the globe on which we live. And we know that these tremendous motions, though they seem to take place silently, must in reality be accompanied with a tumult and uproar altogether inconceivable. We know that precisely as distance so reduces the seeming dimensions of these vapor masses, and their seeming rate of motion, that even in the most powerful telescopes they appear like the tiniest of the clouds that fleck the bosom of the summer sky, and change as slowly in their seeming shape; so distance partly, and partly the absence of a medium to convey the sound, reduces to an utter silence a noise and clangor compared with which the roar of the hurricane, the crash of the thunderbolt—the bellowing of the volcano, and the hideous groaning of the earthquake are as absolute silence.

What, then, must be our thoughts when we see thousands of stars, all suns like our own, and many probably far surpassing him in splendor, passing in stately progress across the telescopic field of view? The mind sinks appalled before the amazing meaning of the display. As we gaze at the wondrous scene an infinite

significance is found in the words of the inspired Psalmist: "When I consider the heavens, the work of Thy hands, the sun and stars which Thou hast ordained, what is man that Thou art mindful of him? or the son of man that Thou regardest him?"

It has been said that with the telescopes with which the Herschels have surveyed the depths of heaven twenty millions of stars are visible. But these telescopes do not penetrate to the limits of the star system. In certain parts of the Milky Way, Sir W. Herschel not only failed to penetrate the star depths with his guaging telescope (here spoken of), though the mirror was eighteen inches in width; but even when he brought into action his great forty-foot telescope, with its mirror four feet across, he still saw that cloudy light which speaks of star depths as yet unfathomed. Nay, the giant telescope of Lord Rosse has utterly failed to penetrate the ocean of space that surrounds us on all sides.

And even this is not all. These efforts to resolve the galaxy into its component stars have been applied to portions of the Milky Way which (there is now reason to believe) are relatively near to us. But in the survey of the heavens with powerful telescopes streams of cloudy light have been seen, so faint as to convey the idea of infinite distance, and no telescope yet made by man has shown the separate stars which doubtless constitute these almost evanescent star-regions. We are thus brought into the presence of star clouds as mysterious to ourselves as the star clouds of the galaxy were to the astronomers of old times. After penetrating, by means of the telescope, to depths exceeding millions of times the distance of the sun (inconceivable though that distance is), we find ourselves still surrounded by the same mysteries as when we first started. Around us and before us are still the infinite star depths, and the only certain lesson we can be said to have learned is, that those depths are and must ever remain unfathomable. Truly, the German poet Richter has spoken well in those wonderful words which our own prose poet De Quincy has so nobly translated; his splendid vision aptly expresses the feebleness of man's conceptions in the presence of the infinite wonders of creation:

"God called up from dreams a man into the vestibule of heaven, saying, 'Come thou hither, and see the glory of my house.' And to the angels which stood around his throne he said, 'Take him, strip from him his robes of flesh; cleanse his vision, and put a new breath into his nostrils, only touch not with any change his human heart, the heart that weeps and trembles.' It was done; and with a mighty angel for his guide the man stood ready for his infinite voyage; and from the terraces of heaven, without sound or farewell, at once they wheeled away into endless space. Sometimes with the solemn flight of angel wings they passed through Zapharas of darkness, through wildernesses of death, that divided the worlds of life; sometimes they swept over frontiers that were quickening under prophetic motions from God. Then from a distance which is counted only in heaven, light dawned for a time through a shapeless film; by unutterable pace the light swept to them, they by unutterable pace to the light. In a moment the rushing of planets was upon them; in a moment the blazing of suns was around them.

"Then came eternities of twilight, that revealed but were not revealed. On the right hand and the left towered mighty constellations, that by selfrepetitions and answers from afar, that by counter-positions, built up triumphal gates, whose architraves, whose archways, horizontal, upright, rested, rose, at altitude, by spans

that seemed ghostly from infinitude. Without measure were the architraves, past number were the archways, beyond memory the gates. Within were stairs that scaled the eternities around; above was below and below was above, to the man stripped of gravitating body; depth was swallowed up in height insurmountable, height was swallowed up in depth unfathomable. Suddenly, as thus they rode from infinite to infinite, suddenly, as thus they tilted over abysmal worlds, a mighty cry arose that systems more mysterious, that worlds more billowy, other heights and other depths, were coming, were nearing, were at hand.

"Then the man sighed and stopped, shuddered and wept. His overladen heart uttered itself in tears, and he said, 'Angel, I will go no further; for the spirit of man acheth with this infinity. Insufferable is the glory of God. Let me lie down in the grave, and hide me from the persecution of the Infinite, for end I see there is none.' And from all the listening stars that shone around issued a choral voice, 'The man speaketh truly: end there is none that ever yet we heard of!' 'End is there none?' the angel solemnly demanded; 'is there indeed no end? And is this the sorrow that fills you?' But no voice answered, that he might answer himself. Then the angel threw up his glorious hands to the heaven of heavens, saying, 'End is there none to the universe of God. Lo! also there is no beginning.'"

The Study of Natural History.

BY PRES. S. H. MCCOLLESTER.

Philosophy, poetry, and history have their representative men. Thus, Bacon is the exponent of philosophy, Shakespeare of poetry, and Humboldt of natural history. The latter was a peculiar man by nature. He was gifted with a comprehensive mind and a fine temperament. Pure in his aspirations, he was disposed to seek and know the good. In his course he was not special or partial. He seemed to strike out in all directions. He made intimate friends of the stones, flowers, and stars. Certain minds may have gone deeper into the strata of the earth, or soared higher into the heavens; but it is believed that no other mind has exercised by common consent such unquestioned authority on all scientific subjects. He is the world's cosmopolitan, the king in the realm of universal science. He seemed to assimilate in himself the knowledge of others; and when he had explored, as far as possible, with borrowed light, he kindled his own torch, and journeyed far on in hidden ways. Delighted, ennobled, strengthened, at length he returned, laden with the trophies of science and patient endeavor, and presented to the world his wonderful picture of things above, around, and below—his "Cosmos."

His life was one of remarkable activity. He was always in earnest, and determined in his work. He felt that one can not borrow of nature, but must buy and pay down. He indulged in no wild fancies or visionary theories, but pressed on to the discovery of facts.

Though the frost of ninety winters had rested upon his head, the heat of ninety summers had scored his countenance, and the observations of four-score and ten years had furnished his mind with the riches of wisdom and truth, yet his heart was young, his mind active, and his love of study undiminished. Ripe in experience and culture, he passed peacefully to the higher life, leaving behind the sure testimony that the study and pursuit of natural history is productive of great good, and calculated to elevate the soul and pre-

pare it better for duties here, and for the richest joys hereafter.

It were well if more would walk in the footsteps of this great man, this student of nature. But it is a lamentable fact, that the study of natural history is greatly neglected in this country. Our educational institutions give it too little attention. It occupies the merest nook in the liberal course of study. Students are not often required to take it up until they have nearly run the college race and reached the goal. Wearied with many studies, and worn by years of mental application, they wear out a season in contriving how to avoid this and that branch of natural science; or, otherwise, if a student chanced to be enamored with nature, he is liable to be set down as belonging to the school-girl order, romantic and weak. How is it possible in such cases that the real object of education can be understood and appreciated?

In some parts of Europe, a more judicious method is chosen. The child is early made acquainted with the elementary principles of natural history. Almost every home has its museum of curiosities. Children delight to spend their holidays in highways and by the hedges, in woods and glens, by lakes and brooks, becoming familiar with animal life in all its varieties and forms. Natural history occupies a high place in their institutions of learning. Their graduates are men of the most extensive culture and broadest views. Their travelers see the most, and describe the best. Their scholars are the most profound, and their literature the most mature.

It is also true of America that she has some amateurs of natural science. Still, is it not a fact that in this country more attention should be given to chemistry, botany, astronomy, geology, zoology, and practical science? To do this, it is not necessary that less time should be devoted to the study of the classics. These have, and should have, a prominent position. The ancient languages are the mirrors through which are to be seen great and noble minds. It is important that the student of the present day should become acquainted with the style of their finished productions, the care with which they selected their expressions, the zeal with which they pursued the study of eloquence, the high estimate which they had of patriotism, fidelity, and heroism. The student should become familiar with the tragic poet, the epic bard, and the learned sage. This can be done, it is believed, only by traveling, without poney or staff, in the toilsome and thorny way which leads into the dark land of a departed people. Yet all this need not interfere with that special attention which is claimed for the study of natural history. Contact with nature has a tendency to freshen and invigorate all the powers and faculties of the mind. Let one have for companions flowers, stones, beasts, and birds, and he will be all the more likely to have a quick relish for classic lore.

Every college, before the senior year, ought to engage the thought and enlist the interest of the students in the different branches of natural history. Let them become interested in these, and they would have something to engage their minds in recreation hours. Then their leisure time would seldom be spent in dram-shops and gaming-saloons. They would prefer to go into the woods and fields, to ramble by brook and seashore, applying the principles of science and philosophy. It would be a pleasure for them to investigate and inquire into the why and wherefore. In the course of a year or two, by improving the odd moments, they would be able to collect, classify, and arrange a choice cabinet of insects, flowers, shells, and minerals. All the

while, they would be gaining also in mental discipline. Their analytical powers would be brought into constant exercise. Now thoughts and experiences would inspire and inform their minds, and give a fresh glow to their whole life. They would go forth from their Alma Mater to be and to do good. They would live in a world of matchless beauty and truth, whence they would bring forth many things, new and old, to delight and instruct.

The special work to be done for the student, is to enable him to help himself. Without self effort, mind can no more thrive than a forest of oaks can grow crammed into a damp, cold cavern. How many going out from our institutions, make a perfect failure when they come to act for themselves! They have been carried thus far; the way has not been pointed out, and they forced to journey on themselves. They have been more ambitious to recite well than to think well. Hence many are smatterers, who would be philosophers if they had been correctly taught and encouraged. They judge themselves wise, because they have walked in the beaten track of some *litterateur*.

If a student can be induced early to bow and worship at nature's shrine, he will there learn the most important lessons of his life. He will soon discover how little he knows, and how much there is to be known. The world will be full of the mysterious; but the new, the beautiful, and true will attract him onward. There will fall into his bosom, like manna from heaven, thoughts, truths, and suggestions, which will point the way to a happy and useful life. By the time he has reached one height, he will have gained discipline and strength, so as to be ready to push on still higher. All the while he will be meek, humble, adoring, trusting. Thus it was with Humboldt, Miller, Hitchcock, and has been with every true scholar of nature.

Perhaps the strongest reason which can be urged in favor of devoting more time and attention to the natural sciences is that they tend to carry man out of himself and unite him in close relationship to God. By them he is convinced that the visible is a sure proof of the invisible, that the essence of things is spiritual, and that man, for the most part in this life, must walk by faith. The center of the great circle of sciences rests on faith in God. The student of nature can advance but a little way by sight. The chemist, with his crucible and lamp, may separate the compound into its simple elements, but he can not ascertain how, whence, or why the latter exist.

The botanist may dissect the tree—root, trunk, branch, stem, leaf, and flower; yet the life-principle he can not discover. How and why it grows he can not understand. The geologist may delve into the crust of the earth, discovering wonderful facts concerning its history and changes; yet he can not advance a great distance before he is involved in darkness and lost in mystery. Faith alone can light up his way, and speed him onward. The astronomer may soar and revel among the stars; he may see much to delight and astonish; but his physical sight soon fails him, and by the eye of faith only can he still gaze up among those infinite worlds, and at length see God. So it is with all who travel in nature's realm; they soon reach that point beyond which no mortal sense can penetrate. But by thus walking and exploring, they are prepared to believe. They can not rest satisfied until, from the plant, the stone, and the star, they mount by faith up to God. The more true science there is, the more faith. The greater the knowledge of the earth, the clearer the insight into heaven. The more the mind admires nature, the more the heart delights in revelation. The life of the divine Teacher is an illustration of this. His instruc-

tions show he had a passionate fondness for the works of nature. His sermons are replete with metaphors, similes, and illustrations drawn from the grass, the lily, the sparrow, the lake, and the mountain. He went into the wilderness to pray and to prepare himself for his great duties. He was baptized in the Jordan, taught by the Sea of Galilee, was transfigured on Tabor, and bade adieu to his disciples in the midst of the quiet and charming beauties of Ascension Mount.

The mind that is really in fellowship with nature, and understands her teachings; can not turn with indifference from the word of God. It will find no soil here sufficiently deep in which to grow and perfect the soul. The true and faithful student of natural history will willingly bow at the feet of Jesus, and learn of him. He will discover beauty and truth in the completeness of Luke, the brevity of Mark, the definiteness of Luke, the humanity of John, the earnestness of Peter, the devotion of James, and the logic of Paul. Sacred history is the completion of natural history. Let students become adepts in the latter, and they will be faithful disciples of the former. Let them become familiar with the natural, and they will become earnest seekers after the spiritual.

Agricultural Chemistry or Scientific Farming.

BY ANDREW KEEGAN.

(Read before the Teacher's Association in connection with the Jacques-Cartier Normal School, Montreal, May 26th, 1876.)

MR. PRESIDENT AND GENTLEMEN.—The subject I wish to bring under your notice is *Agricultural Chemistry or Scientific Farming*.

Agriculture is an honourable profession; the first man that ever lived upon the earth, was an Agriculturist, and Agriculture must exist till the last man leaves it.

The knowledge which an Agriculturist ought to possess, needs not extend very far. He should at least possess a thorough knowledge of those elements that form plants, the nature and combination of the soil in which they grow, and the kind and quantity of fertilizing manure he is to apply. It is upon this very knowledge that, practically speaking, the subsistence of the whole human race is dependent: the tiller of the soil is the purveyor for all mankind. To know this, the Agriculturist must have a knowledge of *Agricultural Chemistry*.

It is now well understood, that plants must be fed, and that every plant is fastidious, and will only receive its own particular and proper kind of food. The diet of plants is as much to be attended to for their health and maturity, as the diet of a child for its health and growth.

The primary object in cultivating the ground is to give nutritious food to the plant's growth. Their food must be of two kinds, *organic* and *inorganic*, and is derived from two sources, the *atmosphere* and the *soil* in which they are fixed.

The organic food of plants is derived, as it has been said, from the atmosphere and supplied by nature without human aid. It consists of four simple elements, namely: *Carbon, Oxygen, Hydrogen and Nitrogen*. The inorganic part of plants consists of ten or twelve simple elements, namely: *Potash, Soda, Lime, Silica, Phosphoric Acid, Sulphuric Acid*, and some other. The organic part of plants is vastly the greater, it forms from 90 to 99 per cent of almost all plants, as may be shown by burning a plant. That which passes away or disappears,

forms carbon, oxygen, hydrogen and nitrogen; and the ashes or what remains, forms the inorganic part, which is very small when the size of the plant, before it was burnt, is considered.

Now, to say something of the properties of these four simple elements that form the organic part of plants; three are gases, namely: oxygen, hydrogen and nitrogen; the fourth, carbon, is a solid—the diamond is pure carbon. Carbon and oxygen form carbonic acid gas, which is a most deadly poison when taken into the lungs; it is said that no air-breathing animal can live more than two minutes in pure carbonic acid gas. It is produced in many ways: 1st. all animals exhale it from their lungs; 2nd. all matter in the state of combustion; 3rd. all decaying vegetable matter, and 4th. All decomposing animal substances.

It may be here naturally asked, why not the whole atmosphere become vitiated, and unfit for the habitation of animal life. But the Great Dispenser of all good has so ordained it, that what would destroy animal life, becomes food for the vegetable kingdom. Plants, by their leaves and green parts, take in or absorb carbonic acid gas, retain the carbon which adds to their size, and forms their fibres or woody part, and give back the Oxygen for the support of animal life; for no animal can subsist without its presence: this grand discovery was made in the last century.

A chemist, by name *Bonnet*, was the first who observed the phenomenon of gaseous evolution by the leaves of plants; *Dr. Priestly*, in 1774, discovered the gas to be oxygen. Another chemist, *Ingenhousz*, showed that the plant should come under the influence of the sun's light and heat; and *Sennabier*, another philosopher, showed that the oxygen gas, so obtained, is the product of the decomposition of carbonic acid gas.

Oxygen and Hydrogen form all the water that surrounds the globe; two parts of hydrogen and one of oxygen by volume, form water. Hydrogen and nitrogen form Ammonia, or what is more commonly called hartshorn.

It is now understood that plants do not take in nitrogen from the air; and as nitrogen is found in the constitution of plants and animals, then the plant must take it in by the root or sponges from the soil, in the state of ammonia, which is furnished to the soil in the state of manure.

All manure contains ammonia, but in the greatest quantity in animal manure. An obvious illustration may be seen—if you examine the bedding that is taken from horses, and pile it outside the stable for a week or so, till it begins to heat or decompose, then turn it over, and you will find a very pungent gas to escape from it, the same as from ammonia or hartshorn bought at the apothecary's, but not so strong. And you may see white flaky matter; this is Ammonia in a solid state, which plants or vegetable take in from the soil.

Oxygen and nitrogen form the air that surrounds the earth.—In every hundred gallons of common air, there are 20 of oxygen and 80 gallons of nitrogen.

Now, as the food of plants is derived from the atmosphere and the land in which they grow, and if any of these elements are wanting in the soil, it must be supplied by the agriculturist in the form of manure.

In order to do this, the farmer should have a knowledge of *agricultural chemistry*. The idea that the farmer requires nothing but practice and experience to ensure success, is as erroneous as to suppose the school-teacher requires no knowledge of geography, grammar, or arithmetic.

The failure of practical men in attempting to apply some new principles, is owing to the want of knowledge

and skill in combining *science* with *practice*. The man who knows the principal properties and the particular energies of the material with which he has to do, provided always he has practical skill, is obviously in a much better position, than one that knows nothing of them, and scorns the very idea of learning anything from books.

Science points out precisely the composition of both plant and soil; and the particular kind of exhaustion effected by different kinds of plants. Science tells us all our common plants contain lime, potash, soda, magnesia, sulphuric acid, chlorine, silica, oxide of iron and some others. Now, it is known these elements differ in amount in different plants: thus wheat requires larger quantities of lime, potash, &c, than some other of the several grasses. Science, not only indicates that different varieties, but that different parts of plants exhaust the soil in different proportions. Science, in a word, points out, 1st *the cause of the exhaustion*, and 2nd *the means of preventing it*.

It is not too much to assert, that the agricultural produce of this Province might be doubled, if a system of improved tillage, such as is within the power of all to adopt, were but generally practised and more liberally aided and encouraged by our Provincial Government. The individual land-owners themselves would not only be largely benefitted, but a great national advantage would occur therefrom—this is in fact the only high road to *national wealth*.

Another error is the farmers of this Province generally cultivate too much land, that is, more land is ploughed than is well and properly cultivated. Hence the low average and miserable crops of grain so generally harvested throughout the country. As an evidence of this fact, it has been shown the very low average of 8 bushels of wheat per acre for this Province—this must be admitted is far below the natural capabilities of the soil: for it has been shown, some 80 years ago, this Province produced the best wheat in America. It was the Canadian wheat that took the first prizes at the great London and Paris exhibitions some 24 years ago, and when it was debated, how it was, the conclusion came to was that it was owing in a great degree, if not all, to the climate. For wheat seed, put into the ground until it begins to blossom, requires a temperature of an average of 54 degrees, and during its blossoming 57—and from the time the blossom falls until the grain comes to maturity, an average of 68 degrees Fahrenheit, which is the temperature that Canada possesses.

Properly speaking, there are no barren soils in Canada; here and there indeed, the rocks and roots of trees sometimes obtrude themselves to prevent cultivation. There are a few soils in Canada incapable of cultivation; but none but may be vastly improved by proper culture and the judicious application of fertilizers.

Agricultural knowledge, whether you consider the nature of the soil or plant, the mode of preparing the one or cultivating the other, the instruments to be used, or the kind of plants to be grown, is daily assuming more and more importance from the fact—that the ignorant agriculturist cannot compete with his more enlightened neighbour: the more knowledge which a man applies to the cultivation of his farm, the greater will be its produce, and the better it will pay.

There are considerations arising from the position of Canada which render scientific cultivation a matter of paramount importance. Canada offers many advantages to farmers: a rich soil, in some places rich almost beyond competition—ready markets by rails, canals,

rivers and lakes—ready access to the best markets in the world—the produce of the field are nearer to European markets, by several days, than some of those of the neighbouring states.

The long winters are indeed a disadvantage to the farmers; they consume in part a great share of the produce of the summer. However, they can use this season as a season of comparative rest, and recruit themselves in health and strength; and, finally, they must spend it in studying agriculture, in acquiring a knowledge of the soil of their farms, the best manner to improve it, the plants most adapted to it, the most useful instruments, and of all other information needed in their business. In this way, the winter may be turned to real advantage.

Could not agriculture, as a science, be taught in some, if not in all our public schools, and might not some school teachers give sometimes practical instructions in Agricultural Chemistry? By this means, the germ of scientific agriculture might be sown.

If the Provincial Government would establish one or more agricultural schools with a model farm of 60 or 80 acres of land attached to each of them, with professors understanding both theory and practice, and take in, as agriculturist pupils, from 40 to 50 young men, the sons of the poorer farmers of this Province, for the term of two years, to be supported and found in everything at the expense of the government, it would be the great means of diffusing a general knowledge of scientific agriculture throughout this Province.

Good teachers are good sleepers, not by day but by night. A medical friend says: "One man may do with a little less sleep than another; but as a general rule, if you want a clerk, a lieutenant, a lawyer, a physician, a legislator, a judge, a president, or a pastor, do not trust your interests to any man who does not take on the average eight good solid hours of sleep out of every twenty-four. Whatever may be his reason for it, if he does not give himself that, he will snap some time just when you want him to be strong."

Good, sweet, sound sleep, "Airy-light from pure digestion bred," is nature's true eye-opener, and for physical vigor is the only sure tonic and preparation. Those who pay court to Somnus are seldom found in the halls of Bacchus. Glowing cheeks and ambrosial locks are the gift of Hebe to those who love an early pillow. To-morrow's labors demand the vigorous life which comes from solid forgetfulness and the dreamiest inactivity. Good sleep cures sleepiness, and sleepy-headedness. Take your fill of the pure article, undiluted with chloral, or any of the quieting drugs distilled from poppy or mandragora, or all the drowsy syrups of the world.

POETRY.

The Horizon.

By S. WADDINGTON.

I sit on the sands by the sea,
While the tired tides wearily flow.
And the waves seem to whisper to me
Strange truths that I know not, or know:
The lore of past ages they bring.
As they break on the shore at my feet,
And the finite and infinite meet
In the words of the song that they sing:
If the universe be but One,
And the bloom be one with the tree,
Though the day that has been is done,
The thing that has been shall be.

I gaze o'er the watery plain,
Till the heavens drop down to the sea.
And I cry as I gaze thus in vain
At what is not, but seemeth to be;
Ah, local and limited man!
Ever longing to travel through space.
Yet fastened and fixed in one place
Running forward the length of a span.
Though each part with the whole be one,
Yet men must patiently wait;
Though the day that has been is done,
They must labour both early and late.

Still in vain do we struggle to pass
The horizon that limits our sight,
But darkly to-day through a glass
We see, and soon cometh the night;
And what in the future shall be,
And what in the past may have been,
Ere the sun and the sunlight were seen,
Lie far on the infinite sea;
While the whispering waves sing on—
If the bloom be one with three,
Though the day that has been is done,
The thing that has been shall be.
—*Tinsley's Magazine.*

THE JOURNAL OF EDUCATION.

QUEBEC, JUNE, 1876.

Department of Public Instruction.

Quebec, 19th November, 1875.

To His Excellency the Honourable René-Edouard Caron, Lieutenant-Governor of the Province of Quebec.

SIR,

I have the honour to submit to Your Excellency, my report on public instruction in this Province, for the year 1873-74, and in part for that of 1875.

The short period which has elapsed since I was placed at the head of this department, has not enabled me to acquaint myself sufficiently with its necessities, and to investigate the improvements which are required to render our system more efficacious and better calculated to supply the wants of our population.

The position in which the Minister of Public Instruction is placed, upon assuming the direction of so important a department, and of which he necessarily must know but little, is extremely difficult. The numerous duties with which he is entrusted, hardly allow him sufficient time to follow the details of its working, or to see that, from year to year, (and which is very important) all that is calculated to improve the system by taking advantage of the experience of other nations, be introduced into it.

Hence it follows that this office can not be filled with advantage to the country, except by a man acquainted with the subject, a devoted friend of education, and in a position to give his whole time to this difficult task.

His functions being only liable to revocation at pleasure, he would have the leisure to make the necessary studies and to acquire the experience which is essential.

These reasons have determined me to re-establish the office of superintendent, completely separated from politics; and I propose to submit a law to this effect to the next parliament.

I am also of opinion that it would be advisable to confide to the superintendent the task of codifying our

various laws respecting education. He can devote to it the necessary time, examine the laws of other countries, and avail himself of the experience of competent persons.

The present report, like its predecessors, marks a certain progress, either in the number of scholars, in the degree of instruction, or in the figures connected with the superior institutions established during the year.

The number of classical and industrial colleges, 37 last year, is now 41. The number of scholars has also increased from 7,113 to 7,552, an increase of 439. These establishments are divided as follows: 21 classical colleges,—16 catholic and 5 protestant; 20 industrial colleges,—18 catholic and 2 protestant. In the former are taught all the branches of a classical education,—the latin and greek languages, literature, philosophy, mathematics, astronomy, history, political economy, &c.

In the industrial colleges, the course is commercial or academical. It includes the french and english languages, arithmetic, bookkeeping by single and double entry, history, literature, style, in so far as regards commercial correspondence, linear drawing, geography, &c.

These institutions, as also model schools, are of the highest importance, and I therefore regret that they are not more numerous.

NORMAL SCHOOLS.

These schools continue to supply a considerable contingent of male and female teachers, competent to discharge their duties, and whose merits are well appreciated, for there is never a sufficient number to satisfy the demand. They render great services, in providing our model schools and academies with persons capable of directing them.

The number of scholars who this year attended the three schools is 275, against 254 last year.

The reports of the authorities of these institutions, attest the good conduct, laboriousness and success of the pupils; as may be ascertained by reading the reports.

ACADEMIES FOR BOYS OR MIXED.

These institutions are 62 in number, 31 being catholic and 31 protestant. The number of catholic pupils is 4,028, that of the protestants 2,411, forming a total of 6,439.

It is scarcely possible to form a comparison between the present and the past years, owing to the tables of statistics having been modified. To each academy or model school is attached an elementary class. Until last year the total number of scholars, without distinction of class, was entered in the column of academies, or model schools. Now the tables have been changed, so that at present, the pupils of the elementary course are entered as connected with the primary school, and only such as pursue the superior course, are entered as belonging to the academy or model school. Thus a much more exact idea of the real state of affairs may be obtained.

The same remark applies to academies for girls; they number 67, attended by 11,260 pupils. With the exception of 7 or 8, these academies are directed by religious ladies.

In boys' academies, with very slight exceptions, the same course is pursued as in industrial colleges. In point of fact, all these institutions may be classed under the same denomination. The department has, however, thought proper to preserve the nomenclature which they have themselves adopted. In girls' academies,

recitation, french and english, arithmetic, a little book-keeping, geography, history, the elements of literature, drawing, rhetoric, philosophy, astronomy, music, domestic economy, sewing, embroidery, and other manual occupations, are carefully taught.

If an objection could be made to this system, it would be that it is too extensive. It would be doubtless much better to restrict the studies to a more limited field, with the certainty of thoroughly going over the ground. The time that is given to superfluous studies would be much more advantageously spent on solid and necessary instruction.

I however notice with pleasure that several of these institutions have profited by the remarks of my predecessors on this subject; but the number is not as yet large. I do not, however, despair of seeing before very long, a more logical system every where adopted. The new classification has greatly increased the number of primary schools, for dissentient and independent schools are classified, a course never hitherto followed. Hence there appears an increase of 19,705 in the number of pupils.

One half of these schools may be considered as first class; a part of the other half as second class, and the remainder as third class or middling.

Twenty-six new municipalities and 101 new schools have been established during the year, raising the total figure to 2,787.

The number of new buildings erected during the year was 101, giving a total of 3,482. Unhappily there are still a number of districts, which are unprovided for in this respect. I cannot too strongly urge upon school commissioners and inspectors to insist upon each school division having its school-house. A leased building is never very suitable for school purposes. In the first place, it is seldom if ever in a central position, and next, it almost invariably contains a family. This is a cause of inattention among the pupils, and the source of difficulties which inevitably retard their progress.

The inspectors should make it their care to see that all school houses are thoroughly habitable, of sufficient size, kept in good repair, and provided with necessary apparatus.

The small statistical tables, hereinafter given, show the progress made in the various branches of instruction.

MALE AND FEMALE DEAF-MUTES.

There are in the Province, three establishments for the education of male and female deaf-mutes; two for catholics and one for protestants. They are all three in Montreal. The catholics have a school or institute for boys and another for girls. The protestants have but one for both sexes.

The catholic institute established in Côteau St. Louis, is a four story building of stone, 80 feet by 45, which must soon be enlarged to supply the demands for admission. The house cost, with the ground, about \$24,000. The number of pupils this year is 77. There are seven professors for the different branches of learning. The institute is under the direction of Rev. A. Bélanger, of the order of St. Viator.

The school of female deaf-mutes, managed by the sisters of Providence, is situated at the upper end of St. Denis Street, and is a handsome stone house of three stories. The main body of the building is 105 feet by 45, with a wing of 118 feet by 55. This year, there have been 157 scholars, requiring the care of 27 nuns, as much for teaching as for other work. The house and grounds are valued at \$112,000.

The land is due to the generosity of M. C. S. Cherrier, Q. C., and the expenses of building as well as those of maintenance, are to a great extent covered by gifts of public charity.

Up to the present, the sum voted by the Legislature could only be considered as very inadequate. But I am happy to be able to state, that this year, a sum has been voted, more in keeping with the wants of the institution.

The protestant institute is under the direction of a special corporation. It possesses a property valued at \$17,000, which is much too small. On this account the directors have decided to sell it, and have bought, near the mountain, a lot of five acres, on which they propose to erect a suitable building. They have already collected, by means of subscriptions, an amount more than sufficient to pay for the new lot and the building.

There are, in this institute, two separate departments for boys and girls, under the direction of Mr. and Mrs. Widd, assisted by two professors. They have received 27 scholars this year, and want of space alone prevents them from receiving more.

The course of instruction followed in these schools is nearly the same as that in ordinary institutions. It includes reading, writing, arithmetic, geography, history, &c., and religious instruction. These different branches are more or less studied, according to the ability of the pupil and the length of his stay in the institution.

An apprenticeship to different branches of manual work is joined to the course of study, varied according to the sex of the pupils.

THE INSTITUTE FOR THE BLIND.

This establishment owes its existence, which dates fifteen years back, to the Rev. V. Rousselot, curé of Notre-Dame de Montréal. The classes were first opened in the fine building erected in St. Catherine Street, for the Nazareth Asylum. But, for about eight years, they have been transferred to a house, on the same lot, built especially for the purpose.

Mr. Rousselot brought the necessary books and instruments from Paris, to the study of which, a nun belonging to the General Hospital, devoted herself, and soon made herself acquainted with the different methods of reading, writing, and arithmetic.

She immediately commenced to instruct a young orphan girl, of whom she had charge, and as the pupil was very intelligent, her success was complete. Since then classes have been opened in which the nuns are perfecting themselves in teaching.

This institution has now thirty pupils, and the teaching which is given there, is not inferior to that of twenty-five or twenty-six similar institutions in the United States, where only one method of reading is followed. Here, they teach reading by gothic characters, and by points. The latter, according to Braille, is a french method. It has this great advantage over the others, that the blind can write to one another, and read what has been written.

Three modes of writing are taught: First, that of points, which we have mentioned. Each letter is represented by one or more raised points, which, according to their position indicate a character of the alphabet. 2nd. The ordinary writing of persons having the use of their eyes. It is done by pencil or ink, but a kind of groove is produced on the paper. 3rd. The third method requires a very ingenious preparation called "Mechanism of Faucornet." It consists of several bodkins, which, according to the way they are made to move, form

characters of the alphabet. This writing, however, cannot be read by touch, and a blind person cannot avail himself of it, except in correspondence with people who have the use of their sight.

Mr. Rousselot imported a press from Paris—characters of Braille—which cost him \$1,200. Several of his scholars studied the system and have succeeded very well. In future, the institute might print its own works.

Sister Denis has arranged, for her class, a chart of geography, and she is now occupied in making a terrestrial globe. On this, as on the other, the different parts of the world, with their mountains, plains, rivers, cities, are perfectly indicated, in a way which the children can, by touch, thoroughly learn and understand.

For arithmetic, they use tables divided into a great number of small cases, in which are placed figures of metal, which they use for addition, subtraction, &c.

Music plays a great part in all institutions of the blind. Children here are taught to read written music, which, I believe, is not done in the United States; the notes are raised, so that they can be read by touch.

Up to the present, Mr. Rousselot has only received \$400 annual assistance from the government. We can understand what is due to him, when we consider what expenses he must have had in building, furnishing and supporting the sisters and pupils, as well as assisting them in other ways. His resources are exhausted, and it is time that the legislature came to aid him, in a more efficient manner, in a work which has for its aim the education of a class of children, so worthy of our sympathies, and a great number of whom have no other means of providing for their future. I hope then that during the next session, as great assistance as our means permit, will be granted to Mr. Rousselot, whose devotion has reached its furthest limits.

These unfortunate children are, in this institution, taught some simple trade. The boys learn to make seats of chairs with reeds, also brooms and other useful articles. The girls learn to sew, to knit, to make lace and other useful work of the kind.

SCHOOL OF SCIENCE APPLIED TO ARTS, OR POLYTECHNIC.

During the administration of my predecessor, arrangements were made with the commissioners of catholic schools in Montreal, to establish in their academy of Plateau, a school of science applied to arts and industries. At least, the necessary accommodation was furnished, and the commissioners have erected a large brick building, of several stories, for their elementary course.

They have procured all the necessary material, and have engaged the services of competent professors, in order to put the school on the best possible footing. As is seen by the report of the principal, Mr. Archambault, the programme includes all that constitutes a true polytechnic school.

The number of pupils, up to the present, has not been very large: but the suggestion made by Mr. Archambault, with the concurrence of the commissioners, to take gratuitously one pupil from each county, cannot fail to produce results. Each county ought to consider it an honor to assist in the instruction of one of its children, having the necessary abilities, and chosen by order of merit upon examination.

When we remember that we require to open a new horizon to our youth, and that we are preparing a great number of employments for them, we require competent men. In this age of railways, in which,

every day, new industries arise wanting only competent men to develop them, everybody can understand the importance of a school like this, and the amount of good which it can do. Instead of being obliged to look to foreign countries to obtain men wellskilled in all the various branches of industry which includes numerous specialities, such men would then be found in our midst to the great advantage of our youth to whom are now open only those professions which are already too crowded.

It is certainly also a stimulus to the spirit of enterprise. When capitalists know that they can here find men for the execution of some branch of industry, upon whom they can rely, they will have less fear in using their capital in this way. Because it is certain that the idea alone, of placing themselves at the mercy of strangers, often hinders our capitalists from engaging in enterprises, by which the country might benefit.

Mr. Archambault, also makes some suggestions on the nomination of persons capable of superintending the studies and examining the pupils. He considers also that it would be advantageous if the department conferred diplomas upon those who pass their examinations in a satisfactory manner.

These suggestions seem to be excellent, and I hope the government will adopt them.

POLYTECHNIC SCHOOL OF MONTREAL.

Montreal, September, 1875.

The Honourable Mr. de Boucherville, Minister of Public Instruction of the Province of Quebec.

Sir,

I have the honour to submit to you my report on the Polytechnic School of the city of Montreal, since its foundation in January 1874, until the 1st July 1875.

The agreement made in the month of November 1873, between the Hon. Mr. Gédéon Ouimet, and the commissioners of the roman catholic schools of the city of Montreal, for the formation of the Polytechnic School, as also the allowances made for the said school by the government of the Province, obliges me to give in this report an account both of the working of the school, and the progress of the studies, and a statement of the accounts; these two subjects form the natural divisions of this report.

1ST THE WORKING OF THE SCHOOL AND THE STUDIES.

It was not until the month of January 1874 that the polytechnic school, attached to the catholic commercial academy of Montréal, was definitely constituted, and that the pupils commenced to attend regularly.

The course of instruction that the Commissioners of the catholic schools had founded required to be entirely changed, and the new list of studies resolved upon by the minister of public instruction, and the delegation at Quebec gave a definite form to the course of studies to be followed.

The first year of the school comprised only six months; from the 1st January to the 1st of July 1874. The new pupils were but little prepared for the studies, almost new to them, some were leaving classical colleges where they had learned the first elements of the sciences they would have to study, others coming from schools, ignorant of even the first elements, add to these the inseparable difficulties attending every new enterprise and you will have, Sir, an idea of the first troubles that the school had to overcome.

At the commencement of January 1874, ten pupils entered the school. Some of them during the first months acknowledged their want of ability for the exact sciences, and left. The others persevered and showed great willingness for the career which the Government had opened to their ambition; and the examination at the end of the year, on all the studies, which were made the object of instruction, shows clearly that the hopes, conceived at the foundation of the school, were not in vain.

In fact, the following table of work accomplished, and the points which the scholars received, justified their hopes.

The basis, for judging of the excellence of each pupil, in each portion of his studies, was the same as that adopted in the scientific schools of France. Each question either in the oral or written examination, is represented by the number 10, and the number accorded to the pupil is given according to the value of his answer; the number 5 answering for passable.

EXAMINATION AT THE END OF THE YEAR, JUNE 1874.

Subjects.	Average of points obtained by pupils.	Fig. reprng the no. of the ques. and their value.
Geometry.....	184	280
Chemistry.....	128	200
Algebra.....	109	150
Natural Philosophy.....	129	200
Natural History.....	107	150
Arithmetic.....	62	80
General result.....	89	143

As I have mentioned above, half of the number 143, would have answered to passable, but the average greatly exceeded what might be called mediocrity, which would have been represented by the number 72 whereas the result was 89.

You will not forget that this first scholastic year, was of only six months duration, and was only preparatory to the regular instruction of the institution.

The school year 1874-75 ought, by the intention of the director, to give an exact measure of the working of the school. The era of difficulties was passed; the programme resolved on by the Minister of Public Instruction would be followed in all respects. The apparatus, instruments, scientific collections, were almost complete, and the school at last constituted.

In September 1874, the number of scholars was 12. Those of them who had formed the class of the preceding year, became the pupils of the second year; the new students according to their capacity formed the first year's class, except those who were only ready for the preparatory course.

You will remark, Sir, how the division of instruction has already increased the work. Certain classes became common to both years, while for other branches, they required two different courses; at the same time the outlay for the full strength of the programme was kept at 10 branches of instruction.

Very soon, the precious fruits, resulting from the care taken in the formation of the list of studies, became apparent. The pupils brought to their different studies, all the energy demanded, and it pleased me to notice, that some of them who had showed talent for some special studies the first year, in the second year showed it in still a more marked manner; and promised to become useful men in the industrial development of the Province.

By the examinations of the year in January 1875, you can judge of the work accomplished :

JANUARY 1875 ; STUDENTS OF THE SECOND YEAR.

Studies.	Average marks obtained by students.	Fig. exp'ing the no. of quest. and its excel.
Natural Philosophy.....	62½	100
Geometry.....	77	115
Chemistry.....	65½	100
Mechanics.....	85	110
Economics.....	36	50
Natural History.....	94	150
	69 ⁸ / ₁₀	104

Course common to students of first and second year.

Trigonometry.....	85	100
Algebra.....	515	80
Architecture.....	576	70
Geology.....	82	100
Average.....	46	58

STUDENTS OF THE FIRST YEAR.

Subjects.	Average of the scholars.	Numbers.
Natural Philosophy... ..	152	180
Geography.....	48	50
Arithmetic.....	54	70
Geometry.....	69	105
Chemistry.....	87	100
Natural History.....	90	100
Average.....	83	102

You cannot fail to remark what increase of work this division of the sciences into such numerous classes had caused. You see by the examination in the middle of the year that twenty classes, or more than twenty courses, were formed for the students, giving as much work to the professors for a small number of students, as if the number had been much larger.

The examinations at the end of the year, in June 1875, have confirmed the progress which the preceding examination had manifested.

EXAMINATIONS AT THE END OF THE YEAR, JUNE 1875.

1874-1875.	Second Year.		First Year.	
	Number obtained by students.	Number of excellence.	Number obtained by students.	Number of Excellence.
Arithmetic.....			150	170
Algebra.....	124	180	125	180
Geometry.....	86	115	131	205
Geometry applied.....	97	100		
Geometry applied to design.....			16	50
Descriptive Geometry.....	86	100		
Trigonometry.....	93	100	81	100

1874-1875.	Second Year.		First Year.	
	Number obtained by students.	Number of excellence.	Number obtained by students.	Number of excellence.
Spherical Trigonometry.....	88	100	76	100
Natural philosophy and meteorology.....	132	200	242	280
Mechanics.....	184	210		
Cosmography.....	87	100		
Chemistry.....			174	200
Analytical Chemistry.....	158	200		
Geology.....	76	100	91	100
Mineralogy.....	85	100		
Zoology and Botany.....	156	250	151	210
Geography.....			82	100
Social economy.....	38	50		
Architecture.....	115	170	145	170
Averages.....	107½	138½	133	155

Such is the result of the last examination undergone by the students of the school, on the nineteen different subjects of instruction. If you compare the three successive examinations since the formation of the school, you cannot but be astonished at the progress that has been made. At the examination in June 1874, at the end of the first year, the proportion of points obtained by the scholars, was 62½ to 100, at the examination in January 1875, the proportion was 75 to 100, and in June 1875, 81 to 100.

These are the results, to which I am happy to draw your attention. They show that the application of the students did not lessen as their studies grew more advanced, but on the contrary, are an evident proof that the opportune formation of this school will be of great benefit to our youth.

I will add that the pupils of the school, have faced the trial of a public examination, and their answers principally on mathematics and science, gained the applause of an intelligent audience.

The advantages of professional instruction commence then to be appreciated by the Canadian population : and it is principally men who in beginning their career at the outset suffered from want of such technical knowledge, who are most anxious to obtain it for the young.

Thus, Mr. Prudent Beaudry, of a Montreal family, who has established himself not without the hope of returning to his native country, at Los Angeles, California, has placed in the hands of the commissioners, a sum of \$2000 to form a perpetual sum of \$150 per annum for the polytechnic school, to be employed for the maintenance of a young man, who according to the judgment of the Principal of the academy, has shown ability for the exact sciences, and who, from the want of this annual sum, would be deprived of attending the school.

You will feel with me, very great satisfaction in seeing that not only the intention of your predecessor, in forming the school, has answered the needs of the country, that also a noble emulation has been aroused among them, and that some have set apart a portion of their fortune obtained by hard work to insure to others the advantages which they themselves felt the need of.

The example of M. Prudent Beaudry is not the only one I have to tell you of.

Before closing this portion of my report on the polytechnic school, I must ask you, why an institution which answers so well to the wants of the Province, and the importance of which has been admitted by the government, has not been attended by a larger number of scholars?

With the staff of professors it has, and the scientific appliances, with which the government and the commissioners have enriched it, the school, without increase of the expenses could give instruction to a much larger number. On the part of the commissioners, no sacrifice will seem too great to obtain such a happy result, and I submit to your enlightened judgment the following proposition:

To give to each member of the House a right to admit to the polytechnic school of Montreal, a provincial institution, a young man from his county or electoral district, provided that he passes an examination on entrance, in accordance with the list of studies, and to follow his course in French, and this without any fee. Then the real advantages of professional instruction will be extended to the whole province, and the assistance of all who desire the industrial development of Lower Canada, would be gained for the school and it would then become a really national institution. The arrangements for this increase of scholars are all made, and the teaching of 50 pupils would not be more expensive than of 151. The pupils will gain in emulation, the professors also will find that a larger number will give them encouragement, and the Province, without increase of expense, will find also, a number of young men issuing from the school every year, well educated, and able to rank among the producers of new wealth.

The question as to the maintenance and keeping of these students from the counties in Montreal, will be quickly solved. The choice of the young man to represent the county would naturally fall upon the most meritorious one, and his admission to the school, after a severe examination, will justify any pecuniary sacrifice upon the part of his family, or in their default upon some generous persons, or the county would pay for him. There is too much patriotism in Lower Canada for this project to fall through for want of support.

Another proposition seems to me to equally merit your attention. The great interest which your department has taken in the school, and the annual allowance which it receives from the Government, renders necessary the appointment of a special commission, which at the end of every year would examine the pupils. The school would gain in importance, and its studies in force, and the Government would know by the report of the commission, which pupils should be chosen for their ability and perseverance to execute government works or to fulfil positions where special knowledge is required.

Finally, Sir, the examination before the commission appointed each year, and composed of men selected on account of their special attainments would guarantee a sufficient amount of capacity in the successful student that the diploma granted to him at the termination of his

studies, either as a civil engineer, surveyor, &c, should be granted by the minister of public instruction, and invest the holder with all the privileges, and advantages of an ordinary government diploma.

These are the propositions which I humbly submit to your consideration. You will not fail to see the proofs of my care and devotion to the school intrusted to me.

It only remains for me to place before you the tables of accounts of the school, and while accounting for the funds which the Government so generously allows us, to show that the commissioners of catholic schools have on their side treated the new institution with the greatest kindness, convinced that there will be great fruits derived from it in the future.

2. ACCOUNTS.

It is useless to repeat the terms of the past agreement in the name of the provincial government, between your honorable predecessor, Hon. G. Ouimet, and the commissioners of catholic schools, entered into on the 20th November, for the foundation of the Polytechnic school.

Three thousand dollars, taken from the funds accumulated for the formation of a school of science were allowed to the commissioners, to repay them the price of the instruments, and the laboratory just purchased or ordered by them, and an annual allowance of \$3000 payable at the time of the distribution of the funds for superior education were made. Out of this annual allowance, one sixth at least must be kept for the maintenance of the school, the repairing of instruments and the purchasing of new instruments and scientific works: the balance is to be applied to the payment of the professors. The two tables annexed to this report with the accounts of 1873 to 1874 and 1874 to 1875, furnish you all the details, and justify the employment of the funds placed by the Government of the Province, conformably to the terms of the convention, at the disposal of the commissioners for the support of the school.

On examination of these accounts, you will observe that the generosity of the commissioners, enlarged in proportion to the hopes which they conceived. I will only add that the commissioners in addition to the sum mentioned in the table expended almost \$4500 for the purchase of the grounds and the building, of which a part will be used as a hall of design and workshops for the school.

I have made this report, Sir, much more exhaustive than usual, but the newness of the undertaking and the interest which the Provincial Government has taken in the formation of the school, made it my duty to enter into all the details necessary to explain the working of the institution.

With much respect, I remain,

Your very humble servant,

E. U. ARCHAMBAULT,

Principal.

OFFICIAL DOCUMENTS

APPORTIONMENT of the Supplementary Grant to poor school municipalities, for 1876.

OFFICIAL DOCUMENTS			COUNTIES	MUNICIPALITIES	Amount Granted.
COUNTIES	MUNICIPALITIES	Amount Granted.			Amount Granted.
			Chicoutimi.....	Jonquières.....	25 00
			"	St. Prime.....	25 00
			"	St. Félicien d'Asluapmachouan	25 00
			Compton.....	Westbury.....	30 00
			"	Hereford.....	25 00
			"	Marston.....	25 00
			"	New-Port.....	25 00
			"	Clifton.....	25 00
			"	" East.....	25 00
Argenteuil.....	Harrington, No. 2.....	\$20 00	"	St. Romain.....	25 00
"	" No. 1.....	20 00	"	Hampden.....	25 00
"	Arundel.....	20 00	"	Ditton.....	25 00
"	Township Morin.....	20 00	"	Whitton.....	20 00
"	" " diss.....	15 00	"	Compton.....	25 00
"	Grenville, No. 3.....	20 00	Charlevoix.....	St. Fidèle.....	20 00
"	" No. 2, diss.....	20 00	"	Sethrington.....	20 00
"	St. André, diss.....	20 00	"	Petite Rivière.....	20 00
"	Gore.....	20 00	"	St. Placé.....	25 00
"	Mille Isles.....	20 00	"	Callières.....	20 00
Arthabaska.....	Ste. Clothilde.....	25 00	"	St. Siméon.....	25 00
"	Blandford.....	25 00	"	St. Agnès.....	20 00
"	Chester Ouest.....	25 00	"	DeSalles.....	25 00
"	" Est.....	25 00	Champlain.....	Ste. Flore.....	25 00
"	" Nord.....	25 00	"	St. Luc.....	20 00
"	Tingwick, diss.....	20 00	"	St. Tite.....	25 00
"	St. Valère.....	20 00	Chateaugny.....	Ste. Malachie, diss.....	35 00
"	St. Albert.....	25 00	"	Howick, diss.....	30 00
"	St. Christophe.....	20 00	Deux Montagnes.....	St. Columban.....	25 00
"	Victoriaville.....	20 00	"	St. Canut, No. 1.....	25 00
L'Assomption.....	Ile Bouchard.....	20 00	Dorchester.....	St. Léon.....	25 00
Bonaventure.....	Miguasha.....	20 00	"	St. Edouard.....	25 00
"	New-Richmond.....	20 00	"	St. Malachie.....	20 00
"	Port Daniel, diss.....	20 00	"	St. Justine.....	35 00
"	Hope.....	20 00	"	Ste. Germaine.....	25 00
"	Ristigouche.....	25 00	"	Cranbourne.....	20 00
"	" Indian.....	40 00	"	" diss.....	20 00
"	Rustico.....	25 00	"	Ste. Marguerite.....	25 00
"	Hamilton.....	20 00	Drummond.....	West Wickham.....	25 00
"	" diss.....	25 00	"	St. Germain.....	140 00
Bagot.....	Acton-Vale.....	40 00	"	Wendover & Simpson.....	125 00
"	St. André.....	30 00	"	St. Fulgence, diss.....	25 00
"	St. Théodore.....	30 00	"	Durham.....	25 00
"	St. Hélène <i>St. Onésime</i>	30 00	Gaspé.....	Isle Bonaventure.....	20 00
"	St. Liboire.....	30 00	"	Douglass.....	20 00
"	St. Ephrem.....	30 00	"	" diss.....	20 00
Beauce.....	Shenley.....	25 00	"	Barrachois.....	20 00
"	Aylmer.....	25 00	"	" diss.....	20 00
"	Forsyth.....	25 00	"	St. George de Masham.....	20 00
"	Sacré Cœur de Jésus.....	25 00	"	Pabos.....	20 00
Bellechasse.....	St. Cajetan.....	25 00	"	Cloridorme.....	20 00
"	Buckland <i>Maria Blain</i>	25 00	"	Haldimand.....	20 00
"	Mailloux.....	25 00	"	" diss.....	20 00
Berthier.....	St. Michel des Saints.....	30 00	"	Anse à Valeau.....	20 00
"	St. Damien.....	20 00	"	Cap Dérosiers.....	20 00
"	St. Gabriel, diss.....	20 00	"	Grande Vallée.....	20 00
Brome.....	Bolton, diss.....	30 00	"	Mont Louis.....	20 00
"	Salton, diss.....	30 00	"	Grande Grève.....	20 00
Chicoutimi.....	Harvey.....	25 00	"	Rivière-au-Renard.....	20 00
"	Grande Baie.....	25 00	"	Baie Nord.....	20 00
"	St. Anne.....	25 00	"	Roseville.....	20 00
"	St. Jérôme.....	25 00	"	Ste. Anne des Monts.....	20 00
"	Ouïatchouan.....	25 00	"	Cap Désespoir.....	20 00
"	Anse St. Jean.....	25 00	"	Perce.....	20 00
"	Hébertville.....	25 00	"	Cap-aux-Os.....	20 00
"	Métabetchouan.....	25 00	"	York.....	20 00
"	Kinogami (St. Cyriac).....	25 00	"	Grande Rivière.....	30 00
"	Chicoutimi Village.....	120 00	Huntingdon.....	Hemmingford, diss.....	30 00
"	Bagotville Village.....	25 00	"	Huntingdon, diss.....	30 00
"	St. Gédéon de Grandmont.....	25 00	"	Havelock, diss.....	20 00

COUNTIES	MUNICIPALITIES	Amount granted.	COUNTIES	MUNICIPALITIES	Amount granted.
L'Islet.....	Sto. Louise <i>L. Gagnon</i>	25 00	Ottawa.....	Lac Ste. Marie.....	25 00
"	Ste. Perpétue.....	30 00	Pontiac.....	Leslie.....	20 00
"	St. Cyrille.....	25 00	"	Chichester.....	30 00
"	Ashford.....	25 00	"	Sheen & Aberdeen.....	30 00
"	St. Pamphile.....	30 00	"	Calumets, diss.....	20 00
"	St. Eugène.....	25 00	"	Mansfield.....	30 00
Joliette.....	St. Ambroise, diss.....	25 00	"	Cawood.....	30 00
"	St. Emélie <i>M. A. Larue</i>	25 00	"	Thorne.....	30 00
"	St. Côme.....	25 00	"	Calumet.....	20 00
"	Ste. Béatrix.....	25 00	Portneuf.....	St. Raymond.....	80 00
Kamouraska.....	Mont-Carmel.....	25 00	"	Ste. Catherine.....	45 00
"	St. Onésime.....	25 00	"	St. Ubalde.....	25 00
"	St. Eleuthère.....	30 00	"	Grondines, No. 2.....	20 00
"	St. Paschal.....	35 00	"	St. Alban.....	30 00
Lotbinière.....	St. Narcisse de Beauvive.....	30 00	Québec.....	Tewkesbury, No. 1.....	25 00
"	St. Séverin.....	25 00	"	St. Dunstan.....	20 00
"	St. Agapit <i>A. Gagnon</i>	25 00	"	St. Gabriel Est, Valcartier.....	30 00
"	St. Gilles <i>A. Gagnon</i>	25 00	"	Stoneham.....	25 00
Lévis.....	Lauzon Village <i>M. A. Larue</i>	80 00	"	" diss.....	20 00
"	St. Etienne.....	30 00	"	St. Roch Sud.....	45 00
"	Bienville Village.....	40 00	"	" " diss.....	20 00
Laprairie.....	St. Constant, diss.....	20 00	"	Cap Rouge.....	50 00
Mégantic.....	Inverness, diss.....	30 00	"	St. Dunstan, diss.....	25 00
"	Leeds, diss.....	30 00	"	Tewkesbury, No. 2.....	20 00
"	Sacré Cœur.....	30 00	Rimouski.....	St. Anaclet.....	30 00
"	St. Ferdinand, diss.....	20 00	"	Ste. Angèle.....	30 00
"	Inverness West.....	25 00	"	Ste. Cécile du Bic.....	40 00
Montmorency.....	Ste. Anne de Beaupré.....	35 00	"	St. Moïse.....	30 00
"	St. Tite.....	30 00	"	St. Gabriel.....	30 00
"	St. Adolphe.....	30 00	"	Ste. Félicité.....	30 00
"	Laval.....	25 00	"	Ste. Blondine.....	20 00
"	St. Féréol.....	30 00	"	St. Donat.....	20 00
"	St. Joachim.....	25 00	"	St. Ulric.....	20 00
"	Ste. Pétronille.....	40 00	"	Cherbourg.....	25 00
Maskinongé.....	St. Paulin.....	25 00	Richmond.....	Stokes.....	40 00
"	Hunterstown.....	25 00	"	Brompton, diss.....	40 00
"	Peterborough.....	25 00	"	Windsor, diss.....	30 00
"	St. Ursule, diss.....	20 00	"	Melbourne.....	30 00
"	St. Didace.....	25 00	"	Cheveland, diss.....	30 00
Miasisquoi.....	St. Damien, diss.....	30 00	"	Shipton, diss.....	30 00
"	Dumhart, diss.....	30 00	"	St. George de Windsor.....	30 00
"	Philipburg (St. Armand ouest).....	35 00	Saguenay.....	Tadoussac.....	30 00
Brôme.....	East Farnham, diss.....	30 00	"	Escoumains.....	30 00
Montmagny.....	Grosse-Isle.....	30 00	"	Bourg Boissonnault.....	30 00
Montcalm.....	Chertsey.....	25 00	"	Sault-au-Cochon.....	20 00
"	Kilkenny.....	25 00	"	Mille-Vaches.....	20 00
"	Ste. Julienne.....	25 00	"	Petites-Bergeronnes.....	25 00
"	Wexford.....	30 00	"	Rivière-aux-Canards.....	25 00
Nicolet.....	Ste. Gertrude.....	25 00	"	Pointe-aux-Esquimaux.....	20 00
"	St. Léonard.....	30 00	Shefford.....	Ely Nord.....	70 00
"	Ste. Perpétue.....	30 00	"	Roxton.....	151 00
"	St. Vincent.....	30 00	"	Grandby, diss.....	30 00
"	Ste. Brigitte.....	30 00	"	" Village, diss.....	30 00
"	St. Marie.....	30 00	"	Ely Sud.....	72 00
"	St. Samuel.....	30 00	"	Ste. Pudentienne.....	20 00
"	Ste. Sophie de Lévrard.....	30 00	St. Maurice.....	St. Sévère.....	25 00
Ottawa.....	Ripon.....	30 00	"	Shawinigan.....	25 00
"	Montebello.....	30 00	"	Pointe-du-Lac.....	25 00
"	Eardly, diss.....	20 00	St. Jean.....	Lacolle.....	72 00
"	Waterloo Village.....	30 00	Stanstead.....	Hatley, diss.....	35 00
"	Wright & Northfield, diss.....	30 00	"	Coaticook.....	50 00
"	Bouchette.....	30 00	"	Barford.....	30 00
"	Lowé.....	30 00	Témiscouata.....	St. Antonin.....	20 00
"	Hartwell.....	35 00	"	St. Modeste.....	20 00
"	Wakefield.....	30 00	"	St. Jean de Dieu.....	20 00
"	Cantley.....	35 00	"	St. François.....	30 00
"	Rivière Gatineau.....	30 00	"	St. Honoré.....	30 00
"	East Templeton, diss.....	20 00	"	Notre-Dame-du-Lac.....	20 00
"	St. Malachie.....	20 00	"	Ste. Rose-du-Dégelé.....	30 00
"	N. D. de Laus.....	25 00	"	Notre-Dame-du-Portage.....	30 00

COUNTIES	MUNICIPALITIES	Amount granted
Témiscouata.....	St. Louis des Ha Ha.....	30 00
Terrebonne.....	St. Hyppolite.....	35 00
"	St. Sauveur, diss.....	20 00
"	St. Adèle.....	30 00
"	St. Agathe.....	30 00
"	St. Marguerite.....	20 00
Wolfe.....	Garthby.....	25 00
"	Ham Nord.....	25 00
"	Ham Sud.....	25 00
"	St. Camille.....	20 00
"	Weedon.....	20 00
"	St. Gabriel Stratford.....	20 00
Yamaska.....	St. Bonaventure.....	20 00
Total.....		\$ 7960 00

LIST No. 2.—INDUSTRIAL COLLEGES			
INSTITUTION	No. of pupils.	Grant for 1875	Grant for 1876
Laval (St. Vincent de Paul).....	112	\$ 250	\$ 200
Lévis.....	260	1197	1000
L'Islet.....	146	300	300
Longueuil.....	267	328	300
St. Césaire.....	256	300	300
St. Marie.....	134	300	300
St. Michel.....	96	300	200
St. Jérôme.....	215	200	250
Sherbrooke.....	80	1000	1200
Trois-Rivières.....	538	430	430
Varennes.....	140	254	200
Verchères.....	125	260	200
Science and art school.....		2500	2500
Total.....		\$7409	\$7380

TABLE: of the Apportionment of the Grant in Aid of Superior Education to Catholic Institutions for the years 1875 and 1876, in virtue of the provisions of Chapter 15 of the Consolidated Statutes for Lower Canada.

LIST No. 1.—CLASSICAL COLLEGES

INSTITUTION	No. of pupils	Grant for 1875	Grant for 1876
L'Assomption.....	224	\$ 1500	\$ 1500
Bourget (Rigault).....	152	800	800
Chicoutimi.....	90	1000	1500
Joliette.....	200	800	800
Nicolet.....	339	1500	1000
St. Anne Lapocatière.....	200	1637	2000
St. Germain.....	120	2000	2000
St. Hyacinthe.....	268	1500	1500
St. Laurent.....	410	800	800
St. Marie de Monnoir.....	207	700	500
St. Marie.....	325	1500	1500
St. Thérèse.....	237	1500	1500
Sorel.....	106	800	800
Trois-Rivières (Seminary).....	210	2000	2000
Total.....		\$18037	\$18200

LIST No. 3.—MIXED OR MALL ACADEMIES			
INSTITUTION	No. of pupils	Grant for 1875	Grant for 1876
Aylmer.....	97	\$ 192	\$ 192
Baie du Febvre.....	40	100	50
Baie St. Paul.....	106	142	140
Beauharnois.....	217	192	190
Belœil.....	72	150	100
Berthier en haut.....	72	285	200
Buckingham.....	90	250	250
Chambly.....	149	400	400
Dufresne, St. Thomas.....	70	223	140
Gentilly.....	57	50	50
St. Hyacinthe, Girouard.....	182	100	100
Kamouraska.....	82	200	150
Laprairie.....	118	250	250
Montréal, Commercial Academy.....	507	1000	500
Roxton Falls.....	56	112	112
Sorel.....	350	332	330
St. André.....	102	150	150
St. Columban de Sillery.....	91	223	200
St. Cyprien.....	115	100	100
St. Eustache.....	125	192	100
St. Grégoire.....	100	95	90
St. Joseph Pointe-aux-Trembles.....	85	150	150
St. Jean.....	259	400	400
St. Jean, Montmorency.....	108	128	100
St. Louis, Ecole Fleury.....	18	200	200
St. Marthe, Vaudreuil.....	85	128	120
St. Michel, Vaudreuil.....	76	128	128
St. Romuald, West Farnham.....	232	170	170
St. Timothée.....	130	186	180
St. Thomas, Montmagny.....	198	212	212
Yamachiche.....	146	300	300
Total.....		\$6740	\$5754

LIST No. 4.—FEMALE ACADEMIES

INSTITUTION	No. of pupils.	Grant for 1875	Grant for 1876
Baie St. Paul.....	160	97	97
Belœil.....	109	89	89
Berthier (en haut).....	141	96	96
Boucherville.....	111	89	89
Cacouna.....	93	143	143
Les Cèdres.....	95	89	89
Chambly.....	191	129	129
Châteauguay.....	100	89	89
Huntingdon.....	75	73	100
Isle Verte.....	74	113	100
Kamouraska.....	80	130	100
Lachine.....	297	178	178
Laprairie.....	170	89	89
L'Assomption.....	185	115	110
Lévis (Notre-Dame).....	280	102	100
L'Islet.....	70	115	110
Longueuil.....	305	256	250
Longue Pointe.....	44	61	64
Pointe-aux-Trembles, Hochelaga.....	115	150	150
Pointe-aux-Trembles, Portneuf.....	125	150	150
Pointe-Claire.....	130	75	75
Rivière Ouelle.....	106	100	100
Sherbrooke.....	437	256	256
Sorel.....	531	296	296
St. Aimé.....	200	97	97
St. Ambroise.....	100	89	89
Ste. Anne de la Pérade.....	189	100	100
St. Benoît (Hospice Youville).....	90	100	100
St. Césaire.....	143	100	100
St. Charles Borromée.....	345	170	170
St. Clément.....	218	128	120
Ste. Croix.....	103	128	120
St. Cyprien.....	169	89	89
St. Denis (Academy).....	220	100	80
St. Denis.....	139	89	89
Ste. Elizabeth.....	130	150	150
St. Eustache.....	140	91	94
Ste. Famille.....	63	90	90
Ste. Geneviève.....	120	128	120
St. Germain.....	215	194	191
St. Grégoire.....	212	191	191
St. Henri de Mascouche.....	127	89	89
St. Hilaire.....	101	89	89
St. Hyacinthe (Sœurs de la Présentation).....	223	115	115
St. Hyacinthe (Hôtel-Dieu).....	385	115	115
St. Hugues.....	86	150	150
St. Jacques de l'Achigan.....	192	170	170
St. Jean.....	500	194	194
St. Joseph.....	360	200	200
St. Laurent.....	175	170	170
St. Lin.....	172	89	89
Ste. Marie.....	150	270	270
Ste. Marie de Monnoir.....	173	128	128
St. Martin.....	100	73	70
St. Michel.....	125	150	150
St. Nicholas.....	96	89	89
St. Paul de l'Industrie.....	74	89	89
Ste. Scholastique.....	130	150	150
Ste. Thérèse.....	160	89	89
St. Thomas.....	230	191	190
St. Thimothée.....	100	114	100
Terrebonne.....	177	89	89
Trois-Pistoles.....	106	113	100
Trois-Rivières (Ursulines).....	362	191	191
Varennas.....	100	100	80
Vaudreuil.....	100	89	89
Yamachiche.....	135	128	100
		\$8563	\$8902

LIST No. 5.—MODEL SCHOOL

INSTITUTION	No. of pupils.	Grant for 1875	Grant for 1876
Acton Vale, convent.....	295	138	138
Acton Vale.....	119	50	50
Arthabaskaville.....	135	233	250
Aylmer, convent.....	184	138	150
L'Assomption.....	154	50	50
Anso au Gascon, Port Daniel.....	70	50	50
Bagotville.....	98	56	66
Baie du Febvre, convent.....	163	73	73
Beaumont.....	84	73	73
Beauport.....	142	73	73
Bécancourt.....	75	114	114
Berthier.....	98	73	73
Boucherville.....	115	73	73
Buckingham, convent.....	70	73	73
Cacouna.....	65	56	56
Cap St. Ignace.....	100	60	60
Cap Santé.....	38	73	73
Cap Rouge, boys.....	57	100	100
Cap Rouge, girls.....	61	75	75
Carleton.....	62	100	100
Carleton, convent.....	51	150	150
Champlain, village, boys.....	60	73	73
Champlain, convent.....	72	73	73
Charlesbourg, boys.....	86	56	56
Charlesbourg, girls.....	52	56	56
Chateau Richer, boys.....	72	73	73
Chateau Richer, boys.....	110	51	51
Chicoutimi, convent.....	65	100	100
Coaticook, convent.....	205	100	100
Côtes des Neiges.....	106	73	73
Côte des Neiges, convent.....	120	56	56
Coteau St. Louis.....	312	73	73
Deschambault, <i>par J. A. Gauthier</i>	82	100	100
Deschambault, convent.....	83	73	73
Eboulements.....	60	73	73
Escoumains.....	92	73	73
Etchemin, village, convent.....	250	100	100
Fraserville, do do.....	122	73	73
Fraserville, do.....	87	73	73
Gentilly, convent.....	93	130	150
Grande Baie, boys.....	45	73	73
Grande Baie, girls.....	55	56	56
Grande Rivière.....	56	73	73
Grantham.....	71	73	73
Gronclines, No. 2.....	81	56	56
Hébertville.....	30	100	100
Hemmingsford, convent.....	55	73	73
Hereford, convent.....	60	80	80
Lachine, boys.....	150	73	73
Lacolle.....	145	73	73
Lauzon, village, <i>par J. P. Gray</i>	268	111	141
Longue Pointe.....	32	73	73
Lorette, Indian School, boys.....	20	162	162
Lorette, do girls.....	21	162	162
Malbaie.....	65	73	73
Maria.....	50	73	73
Matane.....	98	56	56
Marianites, sœurs de Ste. Croix.....	149	100	100
Montreal, école St. Jacques, convent.....	685	712	712
Montreal, maîtrise St. Pierre.....	154	188	188
Montreal, catholic commissioners.....	351	889	889
Montebello, convent.....	188	138	138
Nelson.....	40	50	50
Nicolet, convent.....	273	56	56
Notre-Dame de Hull, No. 1.....	160	50	50
Notre-Dame de Hull, No. 2.....	145	50	50
Notre-Dame de toutes Grâces de Hull, girls.....	400	73	73
		\$7136	\$7183

LIST No. 5.—MODEL SCHOOL (continued)

INSTITUTION	No. of pupils	Grant for 1875	Grant for 1876
Notre-Dame de Laterrière.....	70	\$7136	\$7187
Notre-Dame du Portage.....	53	60	100
Nouvelle, St. Jean l'Évangéliste.....	21	56	56
Percé.....	70	100	100
Pointe-aux-Trembles.....	70	66	56
Pointe Claire.....	71	71	60
Pointe du Lac.....	50	73	70
Portneuf, boys.....	85	73	73
Portneuf, girls.....	110	56	56
Quebec, œuvre du patronage.....	85	56	56
Quebec, catholics commissioners.....	137	150	150
Quebec, St. John suburb.....	1210	286	286
Quebec, société d'éducation.....	104	73	73
Rawdon.....	475	944	944
Rawdon, convent.....	55	50	50
Rigaud, convent.....	52	50	50
Rivière du Loup.....	40	73	73
Rivière Ouelle.....	106	100	100
Stanford.....	59	56	56
St. Agapit.....	43	56	56
St. Agathe No. 2.....	68	56	56
St. Agnès.....	80	50	50
St. Aimé.....	48	56	56
St. Alexandre.....	160	200	200
St. Alexandre, convent.....	103	73	73
St. Ambroise.....	134	56	56
St. André.....	41	40	40
St. Angèle de Merici.....	34	56	73
St. Anicet, boys.....	61	56	56
St. Anne de Beauport, convent.....	58	56	56
St. Anne de Bellevue, girls.....	50	56	56
St. Anne de Bellevue, boys.....	80	56	56
St. Anne.....	78	73	73
St. Anne des Monts.....	88	56	56
St. Anne des Plaines.....	55	80	80
St. Anne la Pérade.....	110	73	73
St. Anne Lapocatière, convent.....	114	151	151
St. Anselme, convent.....	130	188	188
St. Athanase, convent.....	120	73	73
St. Antoine de Tilly.....	201	56	56
St. Appollinaire.....	104	56	76
St. Arsène.....	80	73	73
St. Augustin.....	80	73	73
St. Barthélemi.....	35	60	50
St. Brigitte.....	79	73	60
St. Bruno.....	76	56	56
St. Calixte de Somerset, G.....	82	60	60
St. Calixte de Somerset, convent.....	36	150	100
St. Catherine.....	94	100	149
St. Cécile du Bic.....	17	50	50
St. Cécile, boys.....	84	56	56
St. Cécile, girls.....	225	73	73
St. Célestin, convent.....	249	130	130
St. Charles, girls, Bellechasse.....	87	100	100
St. Charles, St. Hyacinthe.....	62	56	56
St. Claire.....	126	70	100
St. Columban de Sillery, convent.....	138	150	150
St. Christophe, convent.....	227	188	188
St. Constant.....	153	183	183
St. Cuthbert.....	90	97	97
St. David.....	52	80	80
St. Denis, Kamouraska.....	14	56	50
St. Denis, No. 1, St. Hyacinthe.....	73	73	73
St. Edouard.....	88	73	73
St. Elizabeth.....	102	73	73
St. Fabien.....	66	73	73
St. Famille.....	88	50	50
St. Herbas.....	59	56	56
	53	72	72
		\$13596	\$13699

LIST No. 5.—MODEL SCHOOL (continued)

INSTITUTION	No. of pupils	Grant for 1875	Grant for 1876
St. Félix de Valois.....	98	\$13596	\$13699
St. Flavie.....	65	56	56
St. Foye.....	131	73	73
St. François, village.....	123	56	50
St. François, parish.....	122	56	56
St. François-Xavier.....	80	72	72
St. François, Rivière du Sud C.....	28	142	142
St. François, Indian School.....	119	56	56
St. Gabriel de Brandon, convent.....	72	56	56
St. Gabriel.....	102	73	73
Ste. Geneviève de Batiscan.....	62	56	56
Ste. Geneviève.....	84	73	73
St. George de Henryville.....	144	56	56
St. George de Henryville, convent.....	30	73	60
Ste. Gertrude.....	44	73	60
St. Gervais.....	60	73	73
St. Gervais, convent.....	40	70	70
St. George.....	40	75	75
St. Grégoire le Grand.....	53	56	56
Ste. Hélène, K.....	906	56	56
St. Henri, convent.....	304	73	73
St. Henri, boys.....	104	100	75
St. Henri.....	70	73	70
St. Henri de Mascouche.....	75	100	100
St. Hilaire.....	56	70	70
St. Hubert.....	57	56	56
St. Hubert, convent.....	125	56	56
St. Ignace, Côteau du Lac.....	56	73	73
St. Ignace, convent.....	60	56	56
St. Irénée.....	51	73	73
St. Isidore.....	72	73	70
St. Jacques le Mineur.....	112	97	97
St. Jean-Baptiste.....	384	140	140
St. Jean des Ecureuils.....	110	56	56
St. Jean, salle d'asile.....	250	100	100
St. Jean Chrysostôme.....	208	100	100
St. Jean Chrysostôme, Lévis.....	35	56	56
St. Jean Deschailions.....	75	73	73
St. Jean Port Joli, boys.....	55	56	56
St. Jean Port Joli, girls.....	50	56	56
St. Jérôme, convent.....	207	100	100
St. Joachim, D. M.....	81	73	73
St. Joachim, C.....	60	56	56
St. Joachim, M.....	82	60	60
St. Joseph, B.....	33	73	60
St. Joseph de S.....	35	73	73
Ste. Julie de Somerset.....	75	56	56
St. Lambert.....	76	100	125
St. Laurent.....	98	73	73
St. Léon.....	51	56	56
St. Liguori, convent.....	122	138	138
St. Lin.....	120	56	56
St. Louis de Gonzague.....	120	56	56
St. Louis de Gonzague, convent.....	120	56	56
St. Louis.....	36	73	73
St. Louis, girls.....	80	73	73
St. Luc.....		56	56
Ste. Luce.....	90	56	56
St. Marc.....	17	73	73
Ste. Marguerite, l'Acadie.....	80	73	73
St. Martin.....	90	73	73
Ste. Martine, girls.....	66	56	56
Ste. Martine, boys.....	75	56	56
St. Mathias.....	76	56	56
St. Maurice.....	68	73	73
Ste. Mélanie.....	104	73	73
St. Michel, convent.....	98	90	90
		\$18414	\$18066

LIST No. 5.—MODEL SCHOOL (continued)

INSTITUTION	No. of pupils	Grant for 1875	Grant for 1876
St. Michel, boys.....	36	\$18114	\$18066
Ste. Monique.....	75	56	56
St. Narcisse.....	133	73	73
St. Nicolas.....	73	73	73
St. Norbert.....	65	73	73
St. Octave, Métis.....	79	70	70
St. Ours, convent.....	155	100	100
St. Ours, boys.....	96	73	73
St. Paschal.....	108	73	73
St. Paulin, convent.....	68	50	50
St. Philippe.....	64	73	73
Ste. Philomène.....	45	56	56
St. Pierre les Recquets.....	35	56	56
St. Pierre de Broughton.....	62	56	56
St. Pierre de Durham.....	70	56	56
St. Pierre.....	76	56	56
St. Pierre de Charlesbourg, convent.....	112	100	100
St. Placide.....	100	56	56
St. Polycarpe, convent.....	140	100	100
St. Polycarpe, boys.....	65	100	100
St. Rémi, convent.....	164	70	70
St. Roch l'Achigan, boys.....	109	73	73
St. Roch l'Achigan, convent.....	112	130	130
St. Roch des Aulnets, girls.....	30	56	56
St. Romuald de West Farnham.....	276	70	70
St. Romuald.....	70	73	73
Ste. Rosalie.....	60	100	100
Ste. Rose.....	100	73	73
St. Sauveur, convent.....	473	100	100
St. Sauveur, maison Maria Joseph.....	465	158	158
Ste. Scholastique.....	102	150	150
St. Sévère.....	73	73	73
St. Stanislas.....	111	73	73
St. Stanislas Kostka.....	118	73	73
St. Sylvestre, convent.....	117	70	70
St. Thomas de Pierreville.....	90	128	128
Ste. Ursule, convent.....	55	56	56
Ste. Ursule.....	86	56	56
St. Urbain.....	56	56	56
St. Valentin.....	80	100	100
St. Valier, girls.....	54	73	73
St. Vincent de Paul.....	52	56	56
St. Vincent de Paul, convent.....	140	73	73
St. Zotique.....	110	100	60
Sault-au-Roccollet.....	80	56	56
Shawinigan.....	82	56	56
Sherrington, St. Patrice.....	85	89	89
Trois Pistoles.....	77	73	73
Trois-Rivières, girls.....	120	100	100
Victoriaville.....	30	56	56
Waterloo.....	104	100	100
Waterloo, village.....	110	72	72
Waterloo village, convent.....	160	73	100
Wotton, convent.....	40	100	140
		\$22652	\$21980

ADDITIONEL SUPPLY

Collège de Levis.....	200
École du Patronage.....	50
Comres Cath: de Québec.....	200
" " de Hull.....	127
Collège de Varennes.....	51
" de Ste. Marie de Mannoir.....	200
Convent de St. Athanasé.....	54
" de St. Germain de Rimouski.....	106
" de Sherbrooke.....	44
Collège industriel de St. Jérôme.....	50
Convent de St. Paulin.....	50
" de Deschambault.....	50
	\$1175

NEW APPLICANTS

INSTITUTION	No. of pupils	Grant for 1876
Ancienne Lorette.....	60	\$ 56
Côte St. Paul.....	180	56
Lanoraie, convent.....	175	73
Leclercville.....	76	56
Maniwaki Notre-Dame du désert.....	195	73
St. Anicet, convent.....	89	56
St. Bonaventure d'Hamilton.....	46	73
Ste. Cécile de Masham.....	48	60
St. Charles Lachenaie.....	75	56
St. Cuthbert, convent.....	53	56
Ste. Emilie.....	84	56
St. Ferdinand d'Halifax, convent.....	73	126
St. François du Lac, commercial academy.....	56	56
St. Jean Baptiste.....	73	56
Lanoraie, académie.....	118	73
St. Raphaël.....	107	73
Sœurs du Bon Pasteurs de Québec.....	50	50
Sœurs de Charité de Québec.....	56	50
La Congrégation, St. Roch de Québec.....	697	50
Québec drawing and arts school.....		1000
		\$2205

TABLE of the Apportionment of the Grant in aid of Superior Education to Protestant Institutions for the years 1875 and 1876, in virtue of the provisions of Chapter 15 of the Consolidated Statutes for Lower Canada.

LIST No. 1.—UNIVERSITIES

INSTITUTION	No. of pupils	Grant for 1875	Grant for 1876
McGill College.....		\$ 1369 49	\$ 1369 49
Contingent expenses.....		271 00	271 00
Bishop's College.....	100	979 18	979 18
			\$2619 67

LIST No. 2.—CLASSICAL COLLEGES

		\$ cts.	\$ cts.
High School, Montréal.....	344	1185 00	1185 00
High School, Québec.....	113	1285 00	1285 00
Morrin.....	88	369 98	369 98
Stanstead.....	183	405 00	405 00
St. François.....	85	587 66	587 66
			\$3832 64

LIST No. 3.—INDUSTRIAL COLLEGES

		\$ cts.	\$ cts.
Lachute.....	156	184 19	184 19
		184 19	184 19

LIST No. 4.—MIXED OR MALE ACADEMIES

INSTITUTION	No. of pupils	Grant for 1875		Grant for 1876	
		cts.	\$	cts.	\$
Adamsville, East Farnham.....	33	86	00	86	00
Aylmer.....	31			129	52
Barnston.....	51	86	35	86	35
Bedford.....	116	90	06	90	06
Charleston.....	55	173	92	173	92
Clarencerville.....	56	170	82	170	82
Clarendon.....	65	86	35	86	35
Coaticook.....	175	75	91	75	91
Compton.....	45	86	35	86	35
Cookshire.....	53	86	35	86	35
Cowansville, girls.....	76	131	98	131	98
Cowansville.....	50	86	95	86	95
Danville.....	157	129	52	129	52
Dudswell.....	18	40	00		
Dunham.....	135	170	00	170	00
Eaton.....	36	115	66	115	66
Freligsburg.....	31	114	07	114	07
Georgeville.....	38	56	00		
Granby.....	113	170	83	170	83
Huntingdon.....	125	291	00	291	00
Knowlton.....	45	170	83	170	83
Lacolle.....	161	100	00	100	00
Mansonville.....	47	100	00	100	00
Philipsburg.....		88	14		
St. Andrew's.....	42	86	00	86	00
Ste. Foye.....	38	86	35	86	35
St. Jean.....	75	150	00	150	00
Sherbrooke.....	95	189	00	189	00
Sorel.....	11	76	49	76	49
Stanbridge.....	57	100	00	100	00
Sutton.....	35	86	00	86	00
Shefford.....	125	100	00	100	00
		\$3610	93	\$3556	31

LIST No. 5.—MODEL SCHOOLS

INSTITUTION	No. of pupils	Grant for 1875		Grant for 1876	
		cts.	\$	cts.	\$
Berthier en haut.....	60	60	00	60	00
Bury.....		45	05		
Coteau Landing.....	41	31	57	31	57
Gouham.....	85	61	76	61	76
Lachine.....	88	60	00	60	00
LaPêche.....	68			56	00
Leeds.....	61	45	05	45	05
Magog.....	128	115	05	115	05
Maple grove, Ireland.....	52	50	00	50	00
Montreal Colonial Church School Society.....	759	381	80	381	80
Marbleton.....		50	00	50	00
Notre-Dame de Hull.....	298	100	00	100	00
Quebec Infants School, uppertown.....		96	23	96	23
Quebec British Canadian School Society.....	197	121	78	121	78
Quebec National School.....	180	213	99	213	99
Rawdon.....		15	05		
St. Dunstan.....	32	73	00	73	00
St. Etienne de Chelsea.....	117	15	05	15	05
St. Henri.....	66	15	05	15	05
Sherbrooke Colonial and Continental School Society.....	118	96	86	96	86
Trois-Rivières.....	69	80	00	80	00
Valleyfield.....	85	73	00	73	00
		\$226	29	\$2192	19

NEW APPLICANTS

Compton, girls.....	\$ 30	\$100
Grenville, academy.....	18	50
Chambly.....	58	50
Total.....		\$250

OFFICIAL NOTICES.



Ministry of Public Instruction.

DIPLOMAS GRANTED BY BOARDS OF EXAMINERS.

MONTREAL (CATHOLIC BOARD).

MODEL SCHOOL, 1st class (F): Miss Esther Leriger de la Plante, Mr. Henri Vaillancourt; (E & F) Marguerite Quesnel.—2d class (F): Miss Almaïde Tétrault.

ELEMENTARY SCHOOL, 1st class (F): Misses Th. Beauchamp, Emma Benoit, Léontine Brun, Marie Fredette, Cléopée Leblanc, Anne Melançon, Adina Ménard, Marie Robert, Caroline Soucis, M. Hormisdas Ladouceur; (E & F) Miss Emma Beau-doin; (E) Miss Theresa Kelly.—2d class (F): Misses Tanaïle Fillion, Angélique Laberge, Mélina Messier.

1st February, 1876.

MODEL SCHOOL, 1st class (F): Messrs. Edmond Deracdt, George St. Jacques; (E & F) Miss Henriette Langlois.—2d class (F): Misses Anysie Beaudry, Hortense Bellerose, Azilda Cartier, Eugénie Foucrault.

ELEMENTARY SCHOOL, 1st class (F): Misses Malvina Barré, Emma Barré, Mélina Bourque, Azilda Bordia, Hermunie Bourgeault, Marie Bock, Azélie Brissette, Olivine Cardain, Eliza Charbonneau, Lucie Courtois, Mrs. Constantin born R. Brazeau; Misses Eugénie Comeau, Délina Cyr, Délina Desroches, Delphine Depetteau, M. Louise Dupuis, Rose Dupuis, Mélina Ethier, Philomène Gladu, Mathilde Hamelin, Sophie Hébert, Cornélie Hébert, Graziella Huët dit Dulude, Olivine Ladouceur, Mathilde Labelle, Marie Valentine Lafrance, Léontine Lavallée, Alphonsine Leclair, Eliza Leroux, Zéphirine Legault, Amanda Levassour, Malvina Mahou, Ellen Monakey, Guilhelmine Ouimet, Azilda Palin, Délina Paquet, Malvina Perodeau, Délina Picard, Denise Pigeon, Salomé Poirier, Edwidge Proulx, Philomène Quintin, Julie Roch, Azilda Surprenant, Sophie Thauvette, M. Alexis Deschênes, Dame Mathilde Leroux (Derouin), (E): Misses Mary Cain, Brigot Drew, Ellen McGrail, M. George Waters, (E & F): Miss Annie Donnelly.—2d class (F): Misses Clotilde Beauchamp, Emma Bricault, Alphonsine Chaperon, Dorimène Comtois, Léa Cloutier, Agnès Forget, Mathilde Guay, Priscille Hardy, Zéphirine Legault, Agnès Legault, Cécile Primeau, Adèle Picard, M. Pierre Demarteau.

2d, 3rd and 4th May, 1876.

F. X. VALADE, Secretary.

MONTREAL (PROTESTANT BOARD).

ELEMENTARY SCHOOL, 1st class (E): Misses Nancy Jameson, Margaret McDougall, Martha McWilliams.—2d class (E): Misses Susan R. McGregor, Kate Wheeler, Sarah Wheeler.

16th February, 1876.

T. A. GIBSON, Secretary.

THREE-RIVERS.

MODEL SCHOOL, 1st class (F): Miss Dina Lacourse. ELEMENTARY SCHOOL, 1st class (F): Misses Agnès Gélina, Marie Zéphise Lacerte, Elise Garceau, Octavie Benoit, Annie Lesage, Rose Délina Lefebvre, Delia Gagnon.—2d class (F): Misses Olivine Baril, Marie Caron, Athanaïs Trottièr, Marie Deshayes.

1st February, 1876.

EDREM DUFRESNE, Secretary.

QUEBEC (CATHOLIC BOARD).

MODEL SCHOOL, 2d class (F): Miss Exilda Cantin. ELEMENTARY SCHOOL, 1st class (F): Misses Louise Boilard, M. Héloïse Boilard, M. Emérisse Drapeau, Rosalie Gagnon and M. Sophie Trudel.—2d class (F): Misses M. Mathilde De Varennes, Emélie Gagnon, M. Odile Gingras, M. Stella Pelletier, M. Emma Perrault and M. Oliva Ratté; 1st class (E & F): Misses M. Céline Ratté and M. Louise Mélanie Rhéaume; 1st class (E & 2de F): M. Joseph Hargadon and Miss Mary-Jane Finn; 1st class (E & 2d F): Miss M. Philomène Dion; et 2d (E) Miss M. Joséphine Demers.

1st February, 1876.

N. LACASSE, Secretary.

DREMOND, RICHMOND AND WOLF.

ELEMENTARY SCHOOL, 1st class (F): Miss Léonide Labonté.—2d class (F): Misses Philomène Alain, Céliane Allard, Céline Desaulniers, Hanora Crow.

Danville, May 1876.

F. A. BRIEN, Secretary.

AYLMER.

MODEL SCHOOL, 1st class (F): Misses Mary Doherty, Kattie Knok, Emma O'Reilly.
Aylmer, 1st February 1876. JOHN WOOD, Secretary.

SHERBROOKE.

MODEL SCHOOL, 1st class (E): Misses Alice Fuller, Elisabeth Pallister.

ELEMENTARY SCHOOL, 1st class (E): Misses Alecia Ann Berry, Annie Gray, Keziah Mountain, Ann Jane Murray, Mary Ann Mitchell, Margaret Nutbrown.—2d class (E): Misses Edith Hurd, Maggie Diack, Sneller E. Emery, Caroline Handright, Louise P. Thompson.
2nd May 1876. S. A. HURD, Secretary.

MISCELLANY.

The Relation of Battles to Storms.—It has been observed for many centuries that storms, or meteorological changes of a striking nature, occur during or at the close of great battles. Whether these results are to be regarded as coincidences, or as the sequence of physical disturbances in the atmosphere, is a question not decisively settled. Of the fact that storms do occur in close connection with battles there is no doubt. During the late war in this country, hardly an action of any magnitude took place, which was not accompanied with wind and rain. The operations on the Peninsula under McClellan were apparently productive of continuous rains, and in the great fights around Richmond and Petersburg, meteorological disturbances occurred which at times seriously impeded military operations. So, too, abroad. The loss of the great battle of Solferino was attributed by the Austrian commander to a terrific thunder-storm which burst over the field and obscured the movements of powerful masses of the enemy. The decisive battle of Sadowa, which closed the Austro-Prussian war in 1866, was in like manner accompanied by a violent storm. Napoleon was heard to remark, that so certain was he of causing rain by the explosions of his artillery during battles, that he disposed his troops in a way to take advantage of clouds when formed.

No reasonable objection can be urged against the theory that great explosions, producing violent concussions in the air, may change its hygrometric conditions and cause condensation of moisture. Besides the disruptive effects produced in a great battle, there is the evolution of much heat, from the combustion of gunpowder and from the massing together of large bodies of men. Altogether, it is not difficult to find satisfactory causes for sudden meteorological changes during great battles, and therefore wind and rain are not to be regarded as simply coincident with active proceedings in war. It may be urged that our national anniversary, the Fourth of July, is usually clear, notwithstanding the vast amounts of gunpowder burned in all parts of the country. This does not, however, meet the case; the explosions occur all over the country, and are comparatively upon a small scale. There is not usually a decided concentration of noise at any one point. If this occurs, a shower is pretty certain to take place. Last year the day was particularly noisy in Eastern Massachusetts, and in the afternoon the most violent thunder-storm of the season burst over that section of country. The question is one of much interest to meteorologists, and is worthy of more careful consideration than it has received.

—(From the *Boston Journal of Chemistry*.)

Good manners.—'Tis a rule of manners to avoid exaggerations. A lady loses as soon as she admires too easily and too much. In man or woman the face and the person lose power when they are on the strain to express admiration. A man makes his inferiors his superiors by heat. Why need you, who are not a gossip, talk as a gossip, and tell eagerly what the neighbors or the journals say? State your opinion without apology. The attitude is the main point, assuring your companion that, come good news or come bad, you remain in your good heart and mind, which is the best news that you can possibly communicate. Self-control is the rule. You have in you there a noisy, sensual savage, which you are to keep down, and turn all his strength to beauty. For example, what a seneschal and detective is laughter! It seems to require several generations of education to train a squeaking or a shouting habit out of a man. Sometimes, when in almost all expressions the Choctaw and the slave has been worked out of him, a coarse nature still betrays itself in his contemptible squeals of joy. The great gain is, not to shine, not to conquer your companion—then you learn nothing but conceit—but to find a companion who knows what you do not; to tilt with him and be overthrown, horse and foot, with utter destruction of all your

logic and learning, there is a defeat that is final. Then you see the real and the counterfeit, and will never accept the counterfeits again. You will adopt the art of war that has defeated you. You will ride the battle horse on the very logic which you found irresistible. You will accept the fertile truth instead of the solemn customary lie. When people come to see us, we foolishly prattle, lest we be inhospitable. But things said for conversation are chalk eggs. Don't say things. What you are stands over you the while, and thunders so that you cannot hear what you say to the contrary. A lady of my acquaintance said: "I don't care so much for what they say as I do for what makes them say it." The law of the table is beauty—a respect to the common soul of all the guests. Everything is unseasonable that is private to two or three or any portion of the company. Tact never violates this law; never intrudes the order of the house, the vices of the absent or a tariff of expenses, or professional privacies; as we say, we never "talk shop" before company. Lovers abstain from caresses, and haters from insults whilst they sit in one parlour with common friends. Would we codify the laws that should reign in the households, and whose daily transgression annoys and mortifies us, and degrades our household life—we must learn to adorn every day with sacrifices. Good manners are made up of foreign sacrifices.—*Ralph Waldo Emerson*.

Going Down Hill.—Each of us occupies a certain moral platform from which we regard the world at large, and upon which we erect a standard of judgment. Some are higher, some lower, but no one ever deliberately intends to descend from his own to an inferior plane. Still these sad descents are sometimes made, and so gradual and insidious are the steps that we are hardly conscious of them till we come to compare our present with our former selves. The young man in a position of trust, for instance, looks down with horror upon fraud, dishonour, forgery and robbery. He would far sooner give up every hope of happiness, and even life itself, than sink to such a depth of degradation. But in some unguarded moment temptation arises, and in some trifling matter he blunts his fine sense of honor. Immediately his guardian angel *Shame* comes to protect him from further downfall—not the shame of being lowered in the world's opinion, for no eye may have witnessed it, but that of being no longer able to reverence himself. If he now receive the warning with humble penitence he may be saved, but, if he trust it from him as an unwelcome intruder, he has already taken one step in the downward road. He now occupies an inferior moral platform; he is reconciled to a lower code of honour, contented with a poorer grade of virtue. It is alas! only too easy to predict his continued descent. Gradually he loses sight of his former position, taking lower and lower stands, the blush each time growing fainter on his cheek, till at length he reaches those depths of deceit and infamy from the very thought of which he once shrank with abhorrence.

The Temple at Jerusalem.—It is probably no exaggeration to say that more has been written regarding the Temple at Jerusalem than in respect to any other building in the known world, and unfortunately, it may be added, more that is wild and utterly untenable. This last peculiarity arises from several causes. First, because all the earlier restorers were entirely ignorant of the ground on which the Temple stood, and of the local circumstances that governed its construction; it was not, indeed, till the spot was surveyed by the late Mr. Catherwood in 1833, and his plan published on a sufficient scale in 1862, that restorers had such a map of the ground as would enable them to adjust their measurements to the locality with anything like certainty. Though that plan was wonderfully perfect, considering the circumstances under which it was made, it has since been superseded by that made under the direction of Captain (now Major) Wilson, R. E., in 1864-2, which leaves nothing to be desired in this respect. It can be depended upon almost to inches, and has been engraved on a scale sufficiently large for all topographical, if not quite for all architectural, purposes. A second cause of the wildness of the restorations hitherto attempted is that the Temple at Jerusalem was quite unique. Not only had the Jews only this one temple, but, so far as we know, it was entirely of their own invention and utterly unlike the temples of any of the nations around them. It certainly, at all events, was quite unlike the temples of the Egyptians or Greeks. It may have had affinities with those of the Babylonians or Assyrians; but, notwithstanding all that has been done of late years, we know so very little of what the temples of Mesopotamia were that these hardly help us even at this day, and the assumption that this might be so was of no use whatever to earlier restorers. Having thus no analogies to guide them, and as it is literally and absolutely true that not one stone remains on another of the Temple, properly so called, it is not to be wondered at that early restorers failed to realize the truth and indulged in fancies which were utterly untenable. In nine cases out of ten their object was to produce a building which would be worthy Solomon in all his glory, rather than a sober reproduction of the very moderate building described in the Bible.—*Contemporary Review*.

ABSTRACT FOR THE MONTH OF APRIL, 1876.

OF TRI-HOURLY METEOROLOGICAL OBSERVATIONS TAKEN AT MCGILL COLLEGE OBSERVATORY. HEIGHT ABOVE SEA LEVEL, 187 FEET.

Day.	THERMOMETER.				BAROMETER.				† Mean Pressure of Vapour.	‡ Mean Relative Humidity.	WIND.		SKY CLOUDED IN TENTHS			Rain and Snow Melted.	Day.
	Mean.	Max.	Min.	Range.	Mean.	% Max.	% Min.	Range.			General direction	Mean Velocity in a. p. hour.	Mean.	Max.	Min.		
Sunday 1	23.04	41.6	25.0	16.6	30.1935	30.388	30.001	.387	.1212	69.2	N. W.	10.5	6.5	10	0	0.06	1
2	32.49	40.7	23.6	17.1	30.0481	30.208	29.886	.320	.1226	67.1	N. W.	9.3	6.6	10	0		2 Sunday
3	32.84	34.1	29.8	4.3	29.8742	29.959	29.803	.156	.1821	97.5	E.	7.9	10.0	10	10	0.53	3
4	35.29	40.9	28.9	12.0	29.8731	29.990	29.755	.235	.1720	83.7	E.	9.4	9.1	10	7	0.08	4
5	36.86	39.4	35.0	4.4	29.7512	29.833	29.711	.122	.1444	66.1	S. W.	19.4	10.0	10	10		5
6	34.89	37.6	32.6	5.0	29.7081	29.802	29.622	.180	.1691	83.7		12.1	10.0	10	10	0.32	6
7	26.52	33.5	21.1	12.1	29.9595	30.048	29.832	.216	.0902	62.2	N. W.	16.5	6.0	10	0		7
Sunday 8		39.1	17.0	22.1							W.	17.4					8
9	35.16	41.0	28.2	15.8	30.0430	30.079	30.992	.081	.1316	64.7	W.	14.4	3.9	10	0		9 Sunday
10	43.20	50.2	34.8	15.4	30.0565	30.093	29.995	.098	.1515	54.9	W.	10.3	2.0	9	0		10
11	44.04	52.6	33.9	18.7	29.9222	30.033	29.941	.096	.1451	50.4		4.1	0.6	2	0		11
12	42.91	51.2	28.9	25.3	29.7282	29.925	29.528	.397	.2117	74.0	S. E.	9.5	6.1	10	0	0.03	12
13	39.21	48.0	35.9	12.1	29.4625	29.537	29.343	.194	.2225	92.9	S.	12.5	10.0	10	10	0.20?	13
14	38.74	43.0	35.8	7.2	29.4667	29.576	29.414	.162	.1639	67.1	S. W.	20.1	7.5	10	1		14
Sunday 15		45.2	33.6	11.7							S. W.	11.4					15
16	35.42	39.8	32.7	7.1	29.7381	29.099	29.592	.307	.1629	78.9	S. W.	13.7	9.0	10	2	0.08	16 Sunday
17	35.76	41.1	31.0	10.1	29.9955	30.073	29.900	.173	.1435	69.1	W.	9.2	9.2	10	4	Inapp.	17
18	38.42	46.7	31.9	14.8	30.1241	30.153	30.061	.092	.1359	58.7	W.	11.6	3.9	10	0		18
19	41.39	50.9	32.3	18.6	30.1008	30.195	29.992	.633	.1361	52.7	W.	13.3	5.0	10	0		19
20	37.66	43.4	32.8	10.6	29.8659	29.998	29.785	.213	.1897	81.7		8.7	8.9	10	1	0.20	20
21	43.81	55.2	36.2	19.0	30.0336	30.069	30.007	.062	.1901	68.5	W.	4.6	8.0	10	2	0.02	21
Sunday 22		51.8	35.3	16.5								6.8					22
23	43.14	50.0	33.9	16.1	30.1526	30.195	30.089	.106	.1366	49.7	N. E.	6.2	2.4	8	0		23 Sunday
24	42.51	53.7	30.9	22.8	30.1810	30.217	30.155	.062	.1551	56.9	N. E.	5.2	4.4	10	0		24
25	41.67	53.1	31.9	21.2	30.1466	30.224	30.073	.151	.1416	49.4	N. E.	3.1	0.9	2	0		25
26	44.13	56.8	32.1	24.7	30.0401	30.113	29.966	.147	.1344	48.6	N. E.	5.1	1.0	2	0		26
27	39.45	46.1	31.1	15.0	29.7017	29.927	29.527	.400	.2026	81.4		9.8	6.5	10	0	0.43	27
28	39.72	49.0	32.9	16.1	29.7887	29.863	29.716	.147	.1564	65.5	W.	13.4	4.6	10	0	0.19	28
Sunday 29		41.1	33.0	11.1							N. W.	8.7				0.09	29
30																	30
Means	38.412	45.59	30.91	14.68	29.9207			.1894	.1567	68.0		10.58	6.1				

Barometer readings reduced to sea-level and temperature of 32° Fahr. † Pressure of vapor in inches mercury. ‡ Humidity relative saturation, 100. Observed. Ten inches of snow is taken as equal to one inch of water.

Mean temperature of month, 38.41. Mean of maxima and minima temperature, 38.25. Greatest heat was 55.2 on the 22nd; greatest cold was 17.0 below zero on the 9th,—giving a range of temperature for the month of 38.2 degrees. Greatest range of the thermometer in one day was 25.3, on the 13th, least range was 4.4 degrees on the 6th. Mean range for the month was 14.7 degrees. Mean height of the barometer was 29.9207. Highest reading was 30.388 on the 1st, lowest reading was 29.343, on the 14th—giving a range of 1.045 inches. Mean elastic force of vapor in the atmosphere was equal to .1567 inches of mercury. Mean relative humidity was 68.0. Maximum relative humidity was 100 on the 4th. Minimum relative humidity was 29, on the 27th. Mean velocity of the wind was 10.6 miles per hour; Greatest mileage in one hour was 27 on the 9th. Mean direction of the wind, West. Mean of sky clouded was 61 per cent.

Rain fell on 10 days. Snow fell on 7 days. Rain or snow fell on 13 days. Rainfall, 1.03 inches. Snowfall 12.0 inches. Total precipitation in inches of water was 2.23.