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JOURNAL OF EDUCATION

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For the Journal of Education.

ON SOME OF THE COLLATERAL ADVANTAGES WHICH MAY BE DERIVED FROM A WELL ORGANIZED SYSTEM OF PUBLIC SCHOOLS.

(Continued from page 42.)

In a Circular, dated Albany, November, 19th, 1849, addressed by the Regents of the University of the State of New York, to the Trustees and Principals of various Academies in that State, the subjoined remarks and statements are offered :—

“With the progress of improvement and the development of new discoveries, this science (meteorology) has, of late, scarcely kept pace with the general increase of knowledge, and the Regents have, for several years, felt that their present arrangement was scarcely compatible with the increased demand upon it. The phenomena of Storms have attracted great and deserved attention. It is a mighty problem whether human ingenuity cannot so far discover and foretel their approach, as somewhat to prevent the fearful loss of life and property with which they are usually accompanied. The regularity or the alterations of the temperature, when accurately ascertained in various parts of our State, may, as they have been already in a certain degree, be applied with advantage to the labours of the husbandman in the introduction of new articles of culture, and in the improvement of agricultural processes. Again, a proper study of climate as to its heat and cold, dryness and moisture, and all its other incidents, can alone furnish us with safe data, by means of which we can even hope to eradicate epidemic and endemic diseases, or at least mitigate their severity. These are but a few of the considerations which justify and require the full investigation of meteorological phenomena by the public authorities.”

The work of co-operation has already commenced in the State of New York and Canada. The simultaneous indications of the barometer and thermometer are transmitted, by means of the electric telegraph, from city to city. They only approach organization, however, in the State of New York as yet.

Professor Guyot says, in 1850 :—“In compliance with the directions received from Professor J. Henry, Secretary of the Smithsonian Institution, who secured the co-operation of the Presidents of the telegraph lines, I have placed a barometer and a wind vane in the telegraph offices of New York, Albany, Syracuse, and Buffalo. . . . A storm coming from the west will be announced at any place along the line before it reaches it, and in the *maritime cities*

long before it reaches the coast. . . . This is only, it is hoped, the beginning of an extensive system, from which science, as well as the whole community, may expect the happiest results.”

The following simultaneous report of a widely extended storm is taken from a Toronto paper, (the *Patriot*,) of Dec. 24th, 1850 :
BUFFALO, December 23rd,—Thermometer 21°. Severe snow storm *last night and to-day*, with high north-east wind ; about 20 inches of snow. *No trains from the east to-day.*

ROCHESTER, December 23rd,—2½ feet snow, with wind from north,
UTICA, December 23rd,—2 feet snow ; high wind from north-east.

ALBANY, December 23rd,—Thermometer 21°. About 2 feet snow. Strong wind.

MONTREAL, 7 P. M., December 23rd,—A severe snow storm from the east. About three feet of snow have fallen last night. Thermometer 16°.

NEW YORK, December 23rd,—It is now blowing a gale from the north-west. There has not been such a sea in the North river for the last 10 years. A number of vessels have dragged their anchors, and it is feared great damage has been done. . . . 7 P. M.,—the gale is still raging with increased violence. It is feared the shipping has suffered severely.

Although the phenomena of our winter north-east storms do not appear to be well understood, yet it is reasonable to suppose that if arrangements had existed for conveying meteorological intelligence in a proper form, from Halifax and Quebec to New York, ship-owners and captains of vessels would have placed faith in the announcement, and been prepared for the reception of a tempest which occasioned so much damage. This storm is referred to, not as being the best illustration of what may be expected to result from the co-operation of magnetic telegraphs, in conveying intelligence of approaching storms, but because its occurrence is still fresh in the memories of those who witnessed its violence. Canadian merchants are necessarily greatly interested in whatever tends to diminish the risk of loss attending the shipping interest on account of storms. The Gulf of St. Lawrence and the coast of Newfoundland and Nova Scotia are peculiarly liable to the destructive visitation of tempests which show themselves inland some hours before they arrive at the coast. We have now telegraph stations in connection with one another from Port Sarnia to Quebec, and from Quebec to Halifax, covering an extent of country of more than 1,200 miles in length, and running for more than half its distance down the valley of a great river, and in a nearly uniform direction to the north-east, by east. We ask whether it would not be advisable to imitate the example of the Smithsonian Institution, and place a barometer and wind vane in a few of the most important stations along that very extensive and important line of communication ? It would at least serve to awaken ship-owners and merchants to the important services which might be rendered by an inexpensive yet complete organization to indicate the approach of storms. It would be a storm alarm on a stupendous and magnificent scale, extending over an immense tract of country, and susceptible of indefinite expansion towards the west upon the co-operation of the telegraph companies in the Western States of the Union. A knowledge of the approach and phenomena of storms, forms but a small part of the benefits to be derived from simultaneous meteorological observations. It is true that their investigation, pursued under the splendid

appliances of modern art, offers, in their probable results, an inviting illustration of the importance of one department of modern meteorology. It is, however, in special relation to climate and other contingent phenomena, alluded to in the March number of this Journal, that we desire to call the attention of those whose pursuits and inclinations may permit them to observe and record.

We have as yet no organization in Canada of meteorological observers. It is, however, gratifying to know that the prospect of a beginning is not far distant; and we trust that, in a very short time, our grammar schools and superior common schools may aid in establishing a work fraught with so great advantage to science as well as to the agricultural interests of this Province, and the commercial safety of our maritime sisters. We learn from the report of Dr. Henry, the able Secretary to the Smithsonian Institution, that, "during the past summer (1850) I visited Canada, principally for the purpose of examining the meteorological instruments, and the method of using them, employed at the Observatory of Toronto. Captain Lefroy, the director of this Institution, afforded me every facility for acquiring the desired information. He also furnished me with a list of military posts in Canada, at which observations may be made, and gave assurance of the hearty co-operation in our labours of the officers attached to these posts." The Smithsonian Institute recognizes three classes of observers,—the third class do not require the aid of instruments.

We propose in a future number of the *Journal* to describe the duties of observers belonging to this class, and to render the sketch more complete, we shall endeavour to indicate what and how to observe in Canada.—*Communicated.*

THE EARTH'S ROTATION ON ITS AXIS.

The ingenious experiment of M. Faucult of the oscillation of the pendulum as a test of the rotary motion of the earth, which has of late so much occupied the public attention, has likewise served to bring the whole subject of the earth's rotation into discussion. It is strange to think that, not more than two centuries ago, this same subject occupied the attention of men of science and intelligence throughout the whole of Europe, and we may say, the civilized world, though in a very different way. At the beginning of the seventeenth century, the doctrines of Copernicus, timidly divulged about fifty years before, were taken up by Galileo, and fully and boldly asserted. It took fifty years more, however, before they were even partially credited in Europe; and it is surprising to find the acute and learned, and, on the whole, very candid Sir Thomas Browne, even so late as 1646, denying his belief in such doctrines. In his 'Vulgar errors' is the following sentence—'Nor will it acquit the insatisfaction of those who quarrel with all things, or dispute matters concerning whose verities we have conviction from reason, or decision from the inerrable and requisite conclusions of sense. And therefore, if any affirm the earth doth move, and will not believe with us it standeth still, because he hath probable reasons for it, and I no infallible sense or reason against it, I will not quarrel with his assertion.' Now the somewhat quaint Sir Thomas was a thinker and writer in many respects far ahead of his times, yet he was on this question behind Galileo and his contemporary countryman, the immortal Milton. In his denial, however, he is not dogmatical; not so his commentator, Sir Christopher Wren, dean of Windsor, and father of the celebrated architect of St. Paul's. He denounces the new doctrine with vehemence, and without any reservation whatever, and may well be taken as a type of the prejudiced and ill-informed objectors of the time, as well as of all times, to any doctrine which disturbs the still quiet of old-fashioned and long-received opinion. It is amusing, and in some respects edifying, to glance over the various objections propounded in those days against the earth's rotation on its axis, and its annual revolution round the sun. If the earth rotates with such a velocity, say they, a stone thrown up into the air should be left a far way behind; and so should the air or atmosphere itself, and especially the water of the ocean. Now, to some extent the two latter at least of these phenomena do take place, but not in the way which the objectors suppose. In a general way the atmosphere and the ocean revolve as part and portion of the solid earth, and even the stone 'thrown up into the air' still continues to preserve its motion as a particle of the earth, and rather falls to the eastward than to the westward of its point of projection. But the chief objection was a scriptural

one; or rather a list of eighty contradictions from the Scriptures. Turn up a volume of Sir John Herschel, or any celebrated astronomer of the present day, and we shall readily find eighty such objections. With all our knowledge of the earth's rotation, we still speak of the sun 'setting and rising,' of the 'motions of the stars,' and the 'sun's course in the heavens;' in short, we still find it most convenient to use the language of the senses, not the intellectual language of the reality; and throughout the whole of Scripture nothing more is done than this.

The diurnal revolution of the earth is now one of those received and established facts which demand no proof. Abstracting our thoughts for a moment from the incongruities between vision and relative motions, we can at once discover, from watching the position of the sun, that we travel continually in this latitude at the rate of from 500 to 600 miles per hour; or at night, fixing our eye on the moon, that we far outstrip her in her progress, through the deep blue sky, though she also has her eastward course, as may be demonstrated by fixing on some far distant fixed star, when we shall find that during every passing hour and minute both the moon and earth recede, though with very different velocities, from the tiny twinkling orb.

We owe to one of England's most celebrated astronomers of former days, Dr. Halley, the first true exposition of the atmospheric currents. He first pointed out that in a current of air coming from the pole to the equator, there is a much less lateral velocity in high latitudes than in low: or, in other words, while the air at the equator is carried from west to east with a velocity of 1000 miles an hour, the air within the polar circles only moves with a velocity of 100 or 200 miles an hour, diminishing almost to nothing at the pole itself. From this circumstance arises the well-known direction of the trade-winds, north and south of the equator, which, instead of blowing directly north and south respectively, acquire a direction of north-east, and south-east. This circumstance, once ascertained, is perhaps one of the most self-evident proofs of the rotation of the earth—a proof not liable to the deception of vision, as many of the others are, but which can likewise be appreciated and confirmed by the other senses. When a current of cold, and consequently heavy air presses from the polar regions towards the equatorial, every degree it advances it comes over a portion of the earth that is revolving eastward at a greater velocity than that part which the current first left: when it arrives within the tropics, the earth's motion is from 900 to 1000 miles an hour, the motion of the wind-current is perhaps one-half less than this. The consequence is, that the earth outstrips the air-current, which, so to speak, is left behind. Now, we know that in travelling on a railway with a velocity of thirty miles an hour, if the air is not moving at all, we encounter a wind blowing at the rate of thirty miles an hour, forming a stiff breeze; but say that there is a gentle current blowing along with us of fifty miles an hour, still we outstrip it, and create for ourselves a counter current with half the velocity, or fifteen miles an hour.

Did the earth, then, not turn on its axis at all, the trade-winds ought always to blow due north and south respectively on each hemisphere.

The experiment of Faucult is, we presume, so well known to our readers, that we need not enter on it here. It derives its interest, as a proof of the earth's rotation, from the well-ascertained fact, that a pendulum continues to rotate in the same plane in which it has been set in motion. From this circumstance, and having a free motion at the point of suspension, it preserves its original plane of rotation while the point of suspension, and consequently the part of the earth's surface where it is placed, is making a daily revolution. This simple ingenious experiment has also the merit of affording a proof free from the fallacy of vision, of the earth's daily revolution on its axis.—*Edinburgh Journal.*

THE UTILITY OF KNOWLEDGE.

Not long since, while travelling through the interior of New York, we fell in company with a gentleman, who was a school officer, and the conversation very naturally related to education and its advantages. He stated, as the result of his observations, that in nearly all our schools much time and money were simply *thrown away*, in teaching children branches of knowledge which would be applied by them, in after life, to no practical purpose. And by way of illustration, he asks, what benefit can accrue from

setting boys who are to be farmers, mechanics, and day labourers—or girls who are to spend their lives in house-keeping—to studying natural sciences, the higher mathematics, or languages? In this matter our friend is only the representative of a very large class, existing everywhere in society. They profess to be strict utilitarians; and, inasmuch as their own education, and habits of thought, have not led them to see any direct connection between a knowledge of the higher branches of learning and the ordinary duties of life, they regard the time spent in the acquisition of those branches, as wasted, unless the student is designing to become a teacher or a member of one of the learned professions.

It is not our present purpose to show how much this numerous class of individuals are mistaken, in regard to the direct applicability of all branches of science to the practical advancement of every species of labour, whether in the field, the work-shop or the kitchen. It would be an easy task to show the direct bearing of natural science on agriculture, of chemistry on the duties of the household, and of the higher mathematics on all kinds of mechanical labour; but our present object is rather to show the very imperfect notions entertained concerning *utility* itself.

With perhaps a majority of mankind, anything is regarded as useful only in proportion as it tends to advance pecuniary interests, or add to external or physical comfort. Thus, with the farmer, that kind of education which he thought would enable him to reap a greater number of bushels of grain from an acre of ground, or get a higher price from each bushel would be considered strictly *utilitarian*. And so of all other classes. If men were mere physical beings, capable of only external or physical enjoyments, such a view would be correct. But man possesses a mental as well as physical nature; and it requires only a moderate share of observation to show, that a very large proportion both of the sufferings and enjoyments of civilized man, is purely mental, having little or no reference to the outward or physical condition. Our happiness, then, depends chiefly on our *mental* condition; and that again, is determined almost wholly by our education. The same Infinite Wisdom who framed the human body and made food and raiment necessary for its existence and comfort, added the mind with all its wonderful capacities, and made the acquisition of knowledge just as necessary for their development and happy guidance. Hence, the mind can no more be contented and happy without a proper and just cultivation of all its faculties, than the body without proper clothing. Knowledge is just as necessary to keep the mind fed, occupied, and developed, as bread to feed the body.

Why is it, that the farmer often lives, year after year, in the midst of fields laden with the richest harvests—tramples almost daily on flowers of the most exquisite beauty—holds in possession every physical comfort; and yet, most of his days are spent in *grumbling*, and his evenings in drowsy indifference? Meet him where you will, and you always find him dissatisfied and unhappy. The weather is too wet or too dry, his farm is too stony or too clayey, prices are too low or the market is too far off; finally, he is obliged to work so hard, that there is no comfort in living, and he has half a mind to sell out and try some other place. Thus, the precious hours of life are literally *grumbled* away, with little comfort to himself or any one around him. This is true, not of the farmer only, but of a large proportion of mankind, in whatever occupation they may be engaged.

Now, the true secret of all this is to be found in the defective mental culture of the individuals concerned. Their education has been so partial, that the higher intellectual and moral faculties remain undeveloped, and supplied with that stock of knowledge which should furnish them daily food and enjoyment. To such, the beauties of the vegetable world, the amazing combinations of the inorganic, the sublime grandeur of the celestial, and the evidences of infinite wisdom and goodness displayed throughout the whole, are all concealed behind the dark veil of ignorance.

Hence, the farmer who knows nothing of natural science, sees in the opening flower nothing but a troublesome weed. He knows not that every stone which cumpers his fields, holds in its composition valuable mineral ingredients for fertilizing the soil. He sees in the germinating seed no curious gathering of elements from the earth and the air.

All those noble faculties of the mind, which are designed by the Creator to feed on such knowledge, and afford to the possessor a pure, elevating and exhaustless source of enjoyment, are unemployed and withered; leaving an uneasy, restless, wearisome void, which

renders the whole of life unsatisfactory and burdensome, while the unfortunate sufferer, unconscious of the true inward source of his troubles, vainly complains of his outward circumstances, and as vainly seeks to make them better by changes.

If man would be happy—if he would be a *utilitarian* in a liberal and just sense, let him cultivate and feed every elevating faculty of his mind, by drinking in a knowledge of the whole wide domain of nature and science. Parents! if you would render your children not only happy, but useful in the highest degree, be careful to educate them, not merely in reference to pecuniary loss and gain, but with a view to develop, invigorate, and feed every ennobling intellectual faculty and moral sentiment which they possess.—*Eclectic Journal of Education*.

THE PROPHETIC THOUGHT.

Children are a prophecy. They contain in themselves the yet unrolled future, and they contain, too, the pre-disposing causes which give that future its general form and contour, and even its hues and tints. Coming out of one infinity, and going into another, they receive from the Divine Hand the endowments which stamp life with its image. If every one has a character of his own, the mould of that character is born with him, and in him; and he can no more depart from the type than he can throw off his humanity. And if the varieties of character are endless, then, in all their minute and mingling shades, their causes and occasions are innate—as much a part of a man's primal being as are the impulses which determine the colour of his skin, fix the outline of his features, and form and mould his stature. Circumstances are powerful, but theirs is only a secondary influence in human life: they yield to the internal pressure of the soul. They may encroach on the weak, and become masters of the wicked, but it is an usurped dominion they exert—they have no legitimate throne; and for their deposition, it is needful only that the rightful heir should awaken to the consciousness of his prerogatives.

Children are a prophecy. Their future they, in each case, bring with them into the world, as much as the rosebud, the sapling oak, the callow lark.

This prophecy, like others, is difficult to read. Children cannot read their own prophecy—who can read it for them? No one perfectly, very few well, most not at all. In order to read the prophecy, you must know the characters in which it is written. In that book of God every component element of each one's life is written down. But it is a sealed volume, although some transcripts therefrom are imprinted on the infant soul. Who has the eye to discern and the skill to decipher those dim and scattered characters? In them is *The Prophetic Thought* of each one's life. A babe lately struck my attention as it lay in its sister's arms. I believe it was the broad contrast between the two that attracted my eye. The babe itself was very lovely. Of pure Saxon blood, its large light-blue eyes, flaxen hair, and fair oval face, afforded the sweetest sight I had seen for many a day: blood of darker hue flowed in the veins of its nurse, whose face was commonplace, and almost mean. Broad as was the physical contrast between the sisters, yet more diverse was their attire, as well as their general appearance. The infant, clean in its person, was clad in white garments which might have been bleached on the Alps; the girl, with hands and face begrimed in dirt, wore an old woollen dress, in which rags and stains seemed to strive for the mastery.

Attracted by the singularity, I stopped to take a closer view of the two children; when out of the deep liquid ether of the infant's eye issued and glanced away a look which, for a child's look, was full of meaning, and struck me as a prophecy of that child's history. 'Yes,' I said to myself, 'thy future is there; dimly dost thou see it: in no distinct consciousness does it stand before thee, but I discern its general outlines—I know what thou wilt be.'

It is what the infant will *be* I know, not what it will *do*. Whom it will marry I know not; where it will dwell I know not; the number of its children I know not; yet I can tell its fortune—I have discovered its prophetic thought. I know, therefore, what will be the great bearing of its life.

Before I attempt to lay down its horoscope, I will explain myself a little as to the nature and efficacy of this prophetic thought, which, as I have intimated, envelopes the future of that child, and of every child.

Systems of philosophy have each their prophetic thought. The

imaginative which predominates in Plato laid down by anticipation the history of the Platonic philosophy; and in like manner in the common sense of Socrates was the germinating principle of his influence. If you had heard Plato lecture in the Academy, if you had seen the fire of his eye, marked the deep tones of his eloquence, observed how his chest swelled, and his figure became erect, on occasions when he was under the inspiration of a great thought, you would then have known what impression his writings would make on the world—who would be his admirers, who his opponents. Not more certain is the chemist of the result when he puts oxygen and hydrogen together in one vessel, than might you have seen that those words would have affinity for men of soaring thoughts, and delicate sensibilities, and refined speculations—with the elements of whose soul they would blend and unite, adding 'fuel to fire,' until, as with a hot iron, they would burn their own likeness on individuals, systems, and institutions.

All great men have their prophetic thought, which is a condensed summary of their lives. The classics were aware of the truth which we are endeavouring to expound. Accordingly they made the infant Hercules strangle a serpent while yet in his cradle, and tell how bees gave sweetness to the infant lips of Plato. Could we see and study the features of illustrious men ere they left their mother's arms, we should discern their essential qualities, and be able to lay down the chief outline of their history. Those smiles that pass across the countenance of the sleeping babe are sparklings of the heavenly waters of its soul; they are flashes from the past into the future: rending the veil of the inner temple, they show things to come in the shadowy light of things that are.

Some illustration and enforcement of our views may be found in the great diversities which children present in the cradle and the nursery, and long before the outward can have had any marked influence on their characters. Of the existence of these diversities every thoughtful mother is well aware. I have myself observed them in great number. Indeed every child may be said to have moral and intellectual qualities peculiar to itself; and so intimately interwoven with the fibres of his being are these qualities, that they make him what he is—forming his disposition, giving expression to his features, and determining even the tones of his voice. Any attempt to classify and describe these idiosyncrasies must fail—so minute as well as numerous are they, and so imperfect an organ is language when it has to speak of spiritual realities. Look round your own family, and you will understand what I cannot set forth. And in your fears for this child, and your hopes for that child, in the choice of a profession which already you have half-made for a son who yet sits on the lowest form in the school, you have divined the prophetic thought of each, and believe in it so firmly that you act under its suggestions.

Would that its mother and its father could discover and respect the prophetic thought of that infant whom I left nestling in its sister's arms! No ordinary history lies in embryo in its bosom. The first germs of that history may have to be sought in the blood of some distant Saxon dame—so linked to the past is our present life; and the remotest branches of that history run out into a futurity which no human being can measure, so close on the infinite does the soul of man press. But who shall estimate the weal and the woe which lie between these two extremes? Who shall say which will be the greater? Intense in that child's case will both be—the joy exquisite, the woe terrible. No, I cannot tell whether she will be an actress, and marry a coronet, or prove a castaway, and perish while yet little more than a girl. But I do know that hers will be no common lot. Her sister may become a kitchen-maid, and marry a chimney-sweep. She herself is both lovely and loving: lovely and loving will she long remain. As she is loving, so will she be loved. Such a soul as hers will burn with affection: some return, a large return it will exact. Will it be a pure return?

I see that sweet child again. No longer innocent, she sits in the corner of a prison, her face towards the door, as if to salute the comer with a look of defiance. As I contemplate her face, the prophetic thought passes in thick shadows over her brow. Once, again, in a thousand times her past determines her future; and force having done its best, or rather its worst, and found no response in a heart which would have answered to the lightest touch of love, she is set on shore in a distant land, and falls a prey to the degradations of a penal colony. Thus a human spirit which might have become an angel has to stand before its Maker in the attributes of a demon.

If in our birth we are all big with our future selves, parents at the earliest day should study, learn, and watch the prophetic thought of each of their children. Very soon is there some manifestation thereof. One child will bite and kick, another child will sulk, if interfered with. This child is forgiving, that child is vindictive. See what an affectionate nature shines forth in the eyes and looks of that little girl! That boy has the soul of a braggadocio, and that other possesses the self-denial and generosity of a hero. Do not all these qualities require cultivation? Some may be encouraged, others must be restrained; and others again must be counteracted, overcome—nay, eradicated. A wise parent has now to soften a disposition, now to give firmness and strength to a character. Here restraint is required, there impulse. In all cases proportion and harmony are of great consequence; what is weak should be fostered, what is defective should be supplemented, what is low should be raised, what is gross should be refined; all excess should be pruned away; and head, heart, and soul should be brought into a well-balanced and effective operation. If so high a work is to be accomplished, it must be begun in the very first days of our earthly existence.—*Chambers' Journal.*

EDUCATION AND IGNORANCE—THE OPPOSITE EFFECTS ON THE VALUE OF LABOUR.

Without an intelligent and instructed mind, a man may have strong arms, and other bodily powers, with little or no advantage to himself or his employers; and everything that he attempts to execute, will be performed in a clumsy manner. Just look at those parts of our own country, where the population are least educated, and see how the arts and trades in which they engage are carried on. In Bedfordshire, Sussex, and Devonshire, it has been ascertained that only about one-half of the population can write their names, and in the last-named county a few years ago, only one-fourth of the overseers of the poor were able to do so. This deplorable fact, is no doubt, the chief reason why agriculture in these counties is so very far behind the state to which it has reached elsewhere. In the county of Sussex, where I have lately been residing, when the stubble land is ploughed, a huge clumsy machine on three wheels, drawn by 6 or 8 oxen, guided by 2, sometimes 3 men, is the plan adopted. A grubber by 6 oxen and 2 men. Harrows are driven by 4 oxen and 2 men; carts for driving out manure from the curtains are driven by 2 oxen. Corn is thrashed with the flail. Look on the other hand to Yorkshire, where the proportion of persons who cannot write is only 15 or 16 to the hundred, and you find agricultural and all other trades carried on in a more efficient manner. Looking to our own country, can any doubt, that one chief cause why Scottish farmers succeed in raising better crops at less cost, is that they have intelligent servants and labourers. But though this is the general character of the Scotch farm servants and labourers,—thanks to our parochial schools—it is not equally so throughout Scotland. In some of the Highland parishes, which are extensive, at a distance from schools, a great many of the labouring classes are almost uneducated. The disadvantage to the farmers in those districts was so great, and felt to be so, that about six years ago the farmers in Aberdeenshire, at their own expense, established classes similar to the apprentice schools at Edinburgh, at which their ploughmen and other servants were taught the branches of elementary education; and I remember their applying to the directors of the Highland Society to assist them in the attempt. In their application they stated that they found it difficult to make their farm servants understand the operations of husbandry, or to get them to use implements except of the commonest kind, without breaking them; and that so long as they remained in an uneducated, unintelligent state, it was in vain for farmers to attempt to introduce any improvement in agricultural operations. These facts very clearly prove that it is not merely bone and muscles which make a good workman, but these bodily powers accompanied by a cultivated mind; and if we wish to see the great arts flourish on which the prosperity of our country depends, and our labouring classes with abundance of employment and good wages, we must afford to them facilities for obtaining education at school, and for continuing to improve their minds after they have left school.—*Lecture by David Miles, Esq., at the Eyemouth Library.*

Every man ought to aim at eminence, not by pulling others down, but by raising himself.

Miscellaneous.

A PSALM OF LIFE.

WHAT THE YOUNG MAN SAID UNTO THE PSALMIST.
BY H. W. LONGFELLOW.

Tell me not, in mournful numbers,
"Life is but an empty dream!"
For the soul is dead that slumbers,
And things are not what they seem.

Life is real! Life is earnest!
And the grave is not its goal;
"Dust thou art, to dust returnest,"
Was not spoken of the soul.

Not enjoyment, and not sorrow,
Is our destined end or way;
But to act, that each to-morrow,
Find us farther than to-day.

Art is long and time is fleeting,
And our hearts, though stout and brave,
Still, like muffled drums, are beating
Funeral marches to the grave.

In the world's broad field of battle,
In the bivouac of life,
Be not like dumb, driven cattle!
Be a hero in the strife!

Trust no future, how'er pleasant!
Let the dead Past bury its dead!
Act,—act in the living Present!
Heart within and God o'erhead!

Lives of Great Men all remind us
We can make our lives sublime,
And, departing, leave behind us
Footprints on the sands of time:

Footprints, that perhaps another,
Sailing o'er life's solemn main,
A forlorn and shipwreck'd brother,
Seeing, shall take heart again.

Let us, then, be up and doing,
With a heart for any fate;
Still achieving, still pursuing,
Learn to labour and to wait.

THE DEAD.

BY H. W. LONGFELLOW.

How they so softly rest,
All, all the holy dead,
Unto whose dwelling place,
Now doth my soul draw near!
How they so softly rest,
All in their silent graves,
Down to corruption,
Slowly down—sinking!

And they no longer weep,
Here where complaint is still!
And they no longer feel,
Here where all gladness flies!
And by the cypresses
Softly o'ershadowed,
Until the Angel
Calls them, they slumber!

THE ART OF LIFE.

Life is an art. When we consider what life may be to all, and what it is to most, we shall see how little this art is yet understood. What life may be to all, is shown us in the lives of the honoured few, whom we have learned to distinguish from the rest of mankind, and to worship as the heroes and saints of the world. What life is to most, is seen wherever we turn our eyes.

To all life may be freedom, progress, success. To most men it is bondage, failure, defeat. Some have declared all life to be a tragedy. The life of most men is rightly so termed. What can be more tragical than after long years of weary watching and ceaseless toil, in which all the joy and strength of our days had been wasted in pursuit of some distant good, to find, at last, that the good thus sought was a shadow, a sham; that the sum total of our endeavour, with no positive increase, has left us minus our youth, our faculties, our hope, and that the threescore years have been a livelong illusion. Such is the actual condition of mankind.

Look at our educated men. Of the hundreds whom every year sends forth to wander in the various paths of active life, how many are there who find or even seek the bread that alone can satisfy the hungering, dreaming heart of man? How many sell their strength and waste their days and "file their minds," for some phantom which they term a competence, or, at the best, some dream of Fame, and find, when the race is done, and the heat is won, they are no nearer than before the true end of their being, and that the great work of life is still to do!

The work of life, so far as the individual is concerned, and that to which the scholar is particularly called, is *self-culture*—the perfect unfolding of our individual nature. To this end, above all others, the art of which I speak directs our attention and points our endea-

our. There is no man, it is presumed, to whom this object is wholly indifferent, who would not willingly possess this, too, along with other prizes, provided the attainment of it were compatible with personal ease and wordly good. But the business of self-culture admits of no compromise. Either it must be made a distinct aim, or wholly abandoned.

"I respect the man," says Goethe, "who knows distinctly what he wishes. The greater part of all the mischief in the world arises from the fact that men do not sufficiently understand their own aims. They have undertaken to build a tower, and spend no more labour on the foundation than would be necessary to erect a hut." Is not this an exact description of most men's strivings?—Every man undertakes to build his tower, and no one counts the cost.

In all things the times are marked by a want of steady aim and penitent industry. There is scheming and plotting in abundance, but no considerate, persevering effort. The young man launches into life with no definite course in view. If he goes into trade, he has perhaps a general desire to be rich, but he has, at the same time, an equally strong desire for present gratification and luxurious living. He is unwilling to pay the price of his ambition. He endeavours to secure the present, and lets go the future. He turns seed-time into harvest, eats the corn which he ought to plant.

If he goes into professional life, he sets out with a general desire to be eminent, but without considering in what particular he wishes to excel, and what is the price of that excellence. So he divides his time and talents among a great variety of pursuits; endeavouring to be all things, he becomes superficial in proportion as he is universal, and having acquired a brief reputation, as worthless as it is short-lived, sinks down into hopeless insignificance.

Every thing that man desires may be had for a price. The world is truer to us than we are to ourselves. In the great bargain of life no one is duped but by his own miscalculations, or baffled but by his own unstable will. If any man fail in the thing which he desires it is because he is not true to himself, he has not sufficient inclination to the object in question. He is unwilling to pay the price which it costs.

Of self-culture, as of all other things worth seeking, the price is a single devotion to that object; a devotion which shall exclude all aims and ends that do not directly or indirectly tend to promote it. In this service let no man flatter himself with the hope of light work and ready wages. The work is hard, and the wages are slow. Better pay, in money, or in fame, may be found in any other path than this.

The motives to engage in this work are its own inherent worth, and the sure satisfaction which accompanies the consciousness of progress in the true direction toward the stature of a perfect man. Let him who would build this tower consider well the cost, whether in energy and endurance he have sufficient to finish it.

Much, that he has been accustomed to consider as most desirable, he will have to renounce. Much, that other men esteem as highest and follow after as the grand reality, he will have to forego. No emoluments must seduce him from the rigor of his devotion. No engagement beyond the merest necessities of life must interfere with his pursuit.

A meager economy must be his income. "Spare fast, that oft with gods doth diet," must be his fare. The rusty coat must be his badge. Obscurity must be his distinction. He must consent to see younger and smaller men take their places above him in Church and State. He must become a living sacrifice, and dare to lose his life in order that he may find it.

On all hands, man's existence is converted into a preparation for existence. We do not properly live in these days, but everywhere, with patent inventions and complex arrangements, are getting ready to live; like that King of Epirus, who was all his life-time preparing to take his ease, but must first conquer the world. The end is lost in the means. Life is smothered in appliances. We can not get to ourselves, there are so many external comforts to wade through.

Consciousness stops half-way. Reflection is dissipated in the circumstances of our environment. Goodness is exhausted in aids to goodness, and all the vigor and health of the soul is expended in quack contrivances to build it up. We are paying dearer than we imagined for our boasted improvements. The highest life, the highest enjoyment, the point at which, after all our wanderings, we mean to land, is the life of the mind—the enjoyment of thought,

Between this life and any one point of outward existence, there is never but one step, and that step is an act of the will, which no aids from without can supersede or even facilitate. We travel round and round in a circle of facilities, and come at last to the point from which we set out. The mortal leap remains still to be made.

With these objects and tendencies the business of self-culture has nothing to do. The scholar must expect nothing from society, but may deem himself happy, if for the day labor, which necessity imposes, society will give him his hire, and beyond that will leave him free to follow his proper calling, which he must either pursue with exclusive devotion, or wholly abandon. The more needful is it that he bring to the conflict the Promethean spirit of endurance which belongs of old to his work and line.

Beside this voluntary abstinence from temporal advantages and public affairs, the business of self-culture requires a renunciation of present notoriety, and a seclusion more or less rigorous from the public eye. The world is too much with us. We live out of door. An all-present publicity attends our steps. Our life is an imprint. At every turn we are gazetted and shown up to ourselves; Society has become a chamber of mirrors, where our slightest movement is brought home to us with a thousand fold reflections.

The consequence is a morbid consciousness, a habit of living for effect, utterly incompatible with wholesome effort and an earnest mind. No heroic character, no depth of feeling, or clearness of insight can ever come of such a life. All that is best in human attainments springs from retirement.

Whoso has conceived within himself any sublime and fruitful thought, or proposed to himself any great work of life, has been guided thereto by solitary musing. In the ruins of the capitol, Gibbon conceived his immortal "Rome." In a cavern on the banks of the Saale, Klopstock meditated his "Messiah." In the privacy of Woolsthorpe, Newton surmised the law which pervades the All. In the solitude of Erfurt, Luther received into his soul the new evangel of faith and freedom.

In retirement we first become acquainted with ourselves, our means, and ends. There, no strange form interposes between us and the truth; no paltry vanity cheats us with false shows and aims; the film drops from our eyes. While we gaze, the vision brightens; while we muse, the fire burns.

Retirement, too, is the parent of freedom. From living much among men we come to ape their views and faiths, and order our principles, our lives, as we do our coats by the fashion of the times. Let him who aspires to popular favour and the suffrage of his contemporaries court the public eye. But whoso would perfect himself and bless the world with any great work or example, must hide his young days in "some reclusive and religious life, out of all eyes, tongues, minds, and injuries."—*The Student*.

THE TRUE LIFE.—The mere lapse of years is not life. To eat, drink, and sleep; to be exposed to darkness and the light; to pace round in the mill of habit, and turn the wheel of wealth; to make reason our book-keeper, and turn thought into an implement of trade—this is not life; in all this but a poor fraction of the consciousness of humanity is awakened; and the sanctities still slumber which make it most worth to be; knowledge, truth, love, beauty, goodness, faith, alone can give vitality to the mechanism of existence; the laugh of mirth which vibrates through the heart, the tears that freshen the dry wastes within, the music that brings childhood, the prayer that calls the future near, the doubt which makes us meditate, the death which startles us with mystery, the hardship that forces us to struggle, the anxiety that ends in trust, are the true nourishment of our natural being.

LIFE'S LAST HOURS.—Life's last hours are grand testing hours. Death tries all our principles, and lays bare all our foundations. Vast numbers have been found to act the hypocrite in life, who were forced to be honest in the hour of death. What atheists have owned their madness, what infidels have denounced their principles, what worldlings have bewailed their folly when death approached! Misgivings of heart that have been kept secret through life, have come out in death; and many who seemed all fair and right for glory, have had to declare that they had only been self-deceived. It has been said, "Men may dissemble through life, but none ever

dissemble in death;" hence the value of dying testimonies. We gather the last acts, the last experiences; and we treasure them up as the indubitable evidences in favour of, or against the character of those that were their subjects. None have ever impugned their value as tests of character, and all have felt their force.

RED JACKET'S STUDY OF ORATORY.—THE INDIAN DEMOSTHENES.

We copy from the proof-sheets of Turner's forthcoming History of Phelys and Gorham's Purchase, the following "unpublished reminiscences of Red Jacket."

"Many years ago," says Thomas Maxwell, Esq., of Elmira, "in conversation with Red Jacket at Bath, after a little fire-water had thawed his reserve, the chief remarked that when a boy he was present at a great council fire held on the Shenandoah. Many nations were represented by their wise men and orators, but the greatest was Logan, who had removed from the territory of his tribe to Shemokin. He was the son of Shikelleimus, a celebrated chief of the Cayuga nation, who was a warm friend of the whites before the revolution. On the occasion alluded to, Red Jacket remarked, that he was so charmed with his manner and style of delivery, that he resolved to attain, if possible, the same high standard of eloquence, though he almost despaired of equalling his distinguished model.

"He said that after his return to his then home, at Kanadesaga, near Geneva, he sometimes incurred the reproofs and displeasures of his mother, by long absence from her cabin without any ostensible cause. When hard pressed for an answer, he informed his mother that he had been playing Logan.

"Thus in his mighty soul, the fire of a generous emulation had been kindled, not to go out until his oratorical fame threw a refulgent glory on the declining fortunes of the once formidable Iroquois. In the deep and silent forest he practised the elocution, or tone of his great master. What a singular revelation? Unconsciously the forest orator was an imitator of the eloquent Greek, who turned his voice on the wild sea beach, to the thunders of the surge and caught from nature's altar his lofty inspiration.

"Not without previous preparation, and the severest discipline, did Red Jacket acquire his power of moving and melting his hearers. His graceful attitudes, significant gestures, perfect intonation, and impressive pauses, when the lifted finger and flashing eye told more than utterance, were the results of sleepless toil; while his high acquirement was the product of stern, habitual thought, study of man, and keen observation of eternal nature.

"He did not trust to the occasion alone for his finest periods, and noblest metaphors. In the armoury of his capacious intellect the weapons of forensic warfare had been previously polished and stored away. Ever ready for the unflinching tongue, was the cutting rebuke or apt illustration. Let not the superficial candidate for fame in Senate halls, suppose for a moment, that Sa-go-yewat-ha, "The Keeper Awake," was a speaker who sprung up fully equipped for debate, without grave meditation, and cunning anticipation of whatever an adversary might advance or maintain.

"By labour, like all other great men, persevering labour, too—he achieved his renown. A profound student, though unlettered, he found 'books in the running brooks, sermons in stones.' By exercising his faculties in playing Logan when a boy,—one of the highest standards of moral eloquence, either in ancient or modern times—he has left a lesson to all ambitious aspirants, that there is no royal road to greatness; that the desired good is only to be gained by scaling rugged cliffs, and treading painful paths.

EDUCATION OF THE SIKHS.

It appears from inquiry that there is no foundation whatever for the belief so generally entertained of the universality of brooding apathy and ignorance among the Sikhs; in the Lahore division in particular a large number of children are at all times being instructed, and a strong desire for information prevails among them, of which it was most important to take advantage. In the Lahore division there were found to be 1,385 schools, with a gross attendance of 11,500 pupils, or on an average, about eight to each. In the city itself there are 28,692 houses, and 143 schools, with an attendance of 2,243 pupils; of these 16 are devoted to the instruction of Mahomedan girls, and there are no fewer than 128 of these taught to read the Koran—the teachers are women. In Kussoor

and its neighbourhood there are 102 schools, with 843 pupils. In Umritsir there are 15,206 houses, 40 schools, and 861 pupils. The population of Lahore district amounts to about 2,500,000, and about one-third of a million (385,271) of both sexes are believed to be of an age fit for school; of these, 194,135 are males, of whom 11,500, or 6 per cent., are already at school—about two per cent. more receive private instruction—say 8 per cent. in all: a state of matters brought to pass by the Sikhs themselves, and eminently creditable to those we have been accustomed to call barbarians, but still leaving ample room for the labours of the schoolmaster. We could neither give with such minuteness nor accuracy the statements of education or population in Bombay, after an occupation of two centuries, as the Lahore board can give in relation to the districts around them, after a possession of less than three years. The magnitude, wealth, intelligence, and position of the city, pointed to Umritsir as one of the most fitting places for the commencement of the Government scheme of instruction. Mr. Montgomerie, the commissioner (a man indefatigable in his exertions for the cause of native improvement, to whom the whole was intrusted,) selected Mr. Saunders, and the choice appears to have been most judicious for the carrying out of the scheme. £300 was allowed at the outset, by Government, for the erection of a school-house, and £500 a year for the maintenance of the schools. The teachers were all to be natives of the Punjab—the head master to receive £190, the first assistant to receive £70, stipends which, when the cheapness of living is considered, may be deemed most liberal; both these were to teach English as well as other branches. Persian, Oordoo, Hindee, and Sanscrit masters were also to be employed, at from £30 to £90 a year. Similar arrangements, on a scale proportioned to their wants, will be made in other cities so soon as the Umritsir scheme is at work. Lord Dalhousie seems to consider the vicinage of the schoolmaster quite as important at times as that of the Commander-in-Chief, by whose side Lord Ellenborough insisted the Governor-General ought to be.—*Times*.

JACQUES CARTIER.—The celebrated Jacques Cartier, whose name is often found in the early history of Canada, was the first Navigator who ever sailed up the River St. Lawrence, with a view of discovering the country and making settlements. He sailed from St. Malo, in France, in April, 1534, and early in May, came in sight of Newfoundland, but the earth was covered with snow, and there were great quantities of ice about the shore. He continued his voyage many degrees farther south, and when the weather became milder, again returned northward, and entered the Gulf of the St. Lawrence. The Bay des Chaleurs he so named, because the weather was oppressively warm when he first anchored there; and the Gulf he called St. Lawrence, in honor of the Saint of that name whose festival occurred on the same day he entered it. He did not then pursue his discoveries in that direction; but sailed as far north as fifty-one degrees, in the vain hope of finding a passage to China through the Northern Seas, which was an object greatly desired by the navigators of that period, who, it will be remembered, had little experience in distant Oceans, and no charts to guide them. He returned disappointed to France, but the following year sailed again, with a larger expedition under his command. He then sailed up the St. Lawrence as far as he found it navigable; took possession of the country in the name of the French King, and formed friendly alliances with the Natives. At that time he visited Montreal, which was then a large Indian Village, called Hochelega. He gave the name of Mont-Royal to the beautiful Mountain which rises behind the present city; but it was afterwards applied to the whole Island, and gradually changed to Montreal. This was the first settlement made by the French in Canada, and in remembrance of their native land called the country "New France." The first Fort built there, was near Quebec, on the River Charles; and it was called Charlesborough.—*Snow Drop*.

THE MAIN SPRING.—Here is a gold watch, which combines embellishment and utility, in happy proportions, and is usually considered a very valuable appendage to the person of a gentleman. Its hands, face, chain and case, are of chased and burnished gold. Its gold seals sparkle with the ruby, the topaz, the sapphire, the emerald. I open it, and find that the works, without which this elegant chased case would be a mere shell, those hands motionless, and

those figures without meaning, are made of brass. I investigate further and ask, what is the spring, by which all these are put in motion, made of? I am told it is made of steel. I ask what is steel? The reply is, that it is iron which has undergone a certain process. So then I find the main spring, without which the watch would be motionless, and its hands, figures, and embellishments but toys, is not of gold—that is not sufficiently good, nor of brass, that would not do—but of iron. Iron is therefore the only precious metal; and this watch is an apt emblem of society. Its hands and figures, which tell the hour, resemble the master spirits of the age, to whose movements every eye is directed. Its useless, but sparkling seals, sapphires, rubies, topaz, and embellishments, the aristocracy. Its works of brass, the middle class, by the increasing intelligence and power of which the master spirits of the age are moved: and its iron main-spring, shut up in a box always at work, but never thought of, except when it is disordered, broke nor wants winding up, symbolically the laborious classes, which, like the main-spring, we wind up by the payment of wages; and which classes are shut up in obscurity, and though constantly at work, and absolutely as necessary to the movement of society as the iron main-spring is to the watch, are never thought of except when they require their wages, or are in some want or disorder of some kind or other.—*Everett*.

SLEEPING FLOWERS.—Almost all flowers sleep during the night. The marigold goes to bed with the sun, and with him rises weeping. Many plants are so sensitive that their leaves close during the passage of a cloud. The dandelion opens at five or six in the morning, and shuts at nine in the evening. The "Gnat's Beard" wakes at three in the morning, and shuts at five or six in the afternoon. The common daisy shuts up its blossoms in the evening and opens its "day's eye" to meet the early beams of the morning sun. The crocus, tulip, and many others, close their blossoms at different hours towards evening. The ivy leaved lettuce opens at eight in the morning, and closes forever in the afternoon. The night-flowering cereus turns night into day. It begins to expand its magnificent, sweet scented blossoms in the twilight, it is full-blown at midnight, and closes never to open again, with the dawn of day. In a clover field not a leaf opens until after sunrise! So says a celebrated English author, who has devoted much time to the study of plants, and often watched them during their quiet slumbers. Those plants which seem to be awake all night, he styles "the bats and owls of the vegetable kingdom."

GOLD DROPS.—One never loses by doing a good turn. An hour in the morning is worth two in the afternoon. It costs more to revenge injuries than to bear them. Excellence in any calling is the result only of application and industry. Reading bad books is as hurtful as keeping bad company. Cultivate love in your heart and in your family, as the choicest flower of your garden. Religion does not forbid, but encourages, the highest cultivation of which the human mind and heart are susceptible.

The greatest man is he who chooses the right with invincible resolution; who resists the sorest temptations from within and from without, who bears the heaviest burthens cheerfully; who is the calmest in storms; and whose reliance on truth, on virtue, and on God, is the most unflinching.

We cannot guard too much against indulging in thoughts and actions, which, trivial as they may at first appear, would give a cast to our whole character, should they become settled habits.

A cheerful spirit makes labour light and sleep sweet, and all around happy, which is much better than being only rich.

The memories of childhood, after a mature age has been attained, are more powerful than many people are aware. And especially is this the case, in reference to the religious observances which first arrest the attention of children.

Always be good natured. A few drops of oil will do more to start the most stubborn machinery than all the vinegar in the world,

JOURNAL OF EDUCATION.

TORONTO, SEPTEMBER, 1851.

"A PEOPLE WILL BE INDUSTRIOUS IN PROPORTION TO THEIR INTELLIGENCE."

Such is the title of a chapter in Dr. WAYLAND'S admirable little work on the "ELEMENTS OF POLITICAL ECONOMY, *abridged for the use of Students from the Author's larger work*;" and we cannot more clearly and practically present the great question of universal education as one of *political economy* itself, than by re-producing and adopting in this place the chapter referred to. We are persuaded that no person can rise from an attentive perusal of the following observations without a stronger conviction than ever, that the most ample and efficient provisions for the universal and thorough education of the people in every city and township, village and neighbourhood in the country, is the best economy as well as the noblest philanthropy—the surest method of developing the resources of the country, as well as of rendering its inhabitants respectable, prosperous, and happy. Dr. WAYLAND proceeds as follows :

"A North American Indian is very indolent ; while he has food enough in his cabin, he will lie for several days together basking in the sun and dosing away his existence ; he does not go out to hunt again, until he is forced away by the pressure of hunger ; he then only procures enough for his present necessities, and relapses into his former indolent stupor.

"One reason of this is the following. He does not know of any method, in which, by labour, he can benefit his condition ; he knows of no weapon better than his bow and arrows, and of no covering better than the skins of animals slain in the chase. Hence, he has no motive for labour, beyond that amount which will procure him these simple necessities.

"But, let a benevolent man go into this tribe, and to show them how great additional benefits would be secured by additional labour, and there would at once be created a motive for that labour. If the Indian found out, that by procuring thirty or forty beaver skins more than before, he could purchase a rifle, he could easily be persuaded to labour to procure them. If he knew that by some additional labour, he could procure an axe, or a saw, and the materials for a house, and plenty of blankets for his winter-clothing, all these would be strong motives for labouring every year more and more assiduously.

"Now, this change would all be the result of knowledge. The Indian knows more, and hence he is more industrious ; knowledge has opened his eyes to see what benefits he may secure by labour, and he now labours to procure them. But the case of the Indian, is the case with every man : just in proportion as men see the advantages which they may gain by industry, just in that proportion may we expect their industry to increase. Knowledge supplies motives to labour, which did not exist in a state of ignorance ; and, just in proportion to the strength of these additional motives, will be the increase of the labour to which they give rise.

"But suppose a man have ever so strong a disposition to labour, he cannot labour unless he knows how ; and suppose that he knows how to labour in a very imperfect manner, so that his remuneration be very small, he will labour with much less zeal than he would if he could labour skilfully, and thus, with the same amount of toil, procure a much larger share of the means of happiness.

"Thus, suppose a man own a farm, and be perfectly aware of the comforts of life which he could procure by the produce of it, he would have motives sufficient to induce him to labour. But, if he did not know anything about farming, he would still be in difficulty, for, though he might desire the comforts which he might procure, and be willing to labour for them, he would, nevertheless be destitute, for he would not know how to proceed.

"Hence, we see that it is very necessary to furnish all men with the means of knowledge. The farmer ought to understand the nature of soils, of vegetables, of animals, the best modes of cultivation, and the best and cheapest manures, and everything relating to his business : the mechanic should know everything about the material

on which he labours ; the tanner should understand the chemical principles on which tanning depends ; the carpenter and house-builder should understand the principle of architecture ; the manufacturer should understand everything relating to the machinery with which he works ; the merchant should be well acquainted with the natural history of the articles in which he traffics, the mode of their production, the best places from which they can be procured, and the best articles which he can send in exchange for them.

"Besides this, every one of these person ought to be able to write a good hand, and to keep accounts skilfully, accurately and neatly. By means of this knowledge, a man is able to communicate his thoughts and wishes to persons at the greatest distance from him ; to write down his own reflections for his own benefit, and be assured that he deals honestly with others, and that others deal honestly with him.

"Let it not be said, that it is enough for the master manufacturer, the rich farmer, the extensive merchant, to understand these things ; for this is a very false notion. A labourer on a farm will earn much better wages for being intelligent, and understanding thoroughly the business in which he is employed. The case is the same with a manufacturer, a merchant's clerk, or any other person. Besides, to perform an operation understandingly, improves a man's mind ; while to perform it blindly and ignorantly, does a man's mind no good whatever. A professor in a lecture-room shows the working of a steam-engine, and teaches his class the principles on which it operates, by means of a small model of a foot or two in length ; and this is considered a very improving and valuable employment. But an engineer on board of a steamboat, if he understand the whole process and its principles, is performing the same experiment all the while. If, however, he do not understand the principles, he is in fact doing but little more than the fireman who is employed in supplying the furnace with fuel. So, the farmer, who understands the laws of vegetation, is constantly performing experiments in botany, and by every experiment he is disciplining his own mind.

"He who, in this manner, is labouring understandingly, is qualifying himself for a more lucrative employment. He who is thoroughly acquainted with the business of farming, will soon be able to procure a farm on his own account. He who is an intelligent and active clerk, will soon be qualified to be admitted as a partner. He who is a skilful and intelligent manufacturing labourer, will soon be promoted to be an overseer, or an agent. Thus we see that knowledge is desirable, not for one class, but for all classes.

"Now, in order to enable men to acquire this knowledge, every one should be taught to read, and write, and cypher. He who has obtained as much knowledge as this, is then able to inform himself concerning anything that pertains to his own department ; and, hence, he is able to qualify himself to rise from one branch of business to another, and to become a rich and well-informed man. Thus, Franklin, from being a poor printer's boy, became one of the greatest philosophers of his age ; and Sir R. Arkwright, at first a barber's boy, rose to be one of first men in Great Britain. In this manner, by skill and intelligence, all the great men who have made their own fortunes, have risen from obscurity to eminence.

"Hence, we see the reason why we should have schools for teaching these branches in every neighbourhood. If any persons be unable to procure education for themselves, it should be furnished to them for nothing ; and, in order to do this, a sufficient number of schools should be supported by the public at large. In this manner, every one pays in proportion to his ability, and every one has an equal privilege of sending his children to school. This plan is specially beneficial to those persons who are in moderate circumstances, or who are poor. The rich can easily furnish education to their children, the poor cannot always afford to do it, or if they could afford it, they could not easily unite together in such manner as to procure a proper instructor. When this is done by the public, they have the instruction at the lowest expense, and without any trouble in procuring it.

"But this is not all. I have said, that if a man have a knowledge of reading, and writing, and accounts, he can then educate himself, and acquire all the knowledge that he may need in conducting his own business. This is true. He can do it, but he will be much more likely to do it if he have been taught in youth the elements of the sciences. If he have been taught the elements of mathematics, he will be much more likely to make a good machinist. If he

have been taught the nature of plants and animals, and the best modes of cultivation, and the principles on which these things depend, he will be much more likely to make a skilful farmer. He who has some knowledge, in youth, of geography and the productions of the earth, will be much more likely to make an intelligent merchant. It is important that this knowledge be acquired in youth, for after men grow up, they are not so likely to commence the study of a new science, nor have they generally the time necessary to devote to it.

"Hence we see the importance of having some higher schools than those which I have mentioned, in which, those who choose, may learn something of these several branches. Those young persons who have gone through the lower school, and who wish for more knowledge, might here be able to obtain it. On the other hand, those who were careless about their studies, and did not wish for any more knowledge, might go to their several branches of business with what they have already obtained. These additional advantages would be a very suitable reward for diligent, studious and well-behaved young persons, and would greatly assist such persons in making their way in the world. It would, also, tend very greatly to open the road to distinction and wealth to all those who were deserving of them, and would enable the poor to rise to eminence as well as the rich, if they only were disposed to avail themselves of the advantages offered to them.

"Hence, we see that all persons, but especially the poor, have a direct interest in public schools, both common and scientific; and they should be willing to pay their proportion of the expense necessary to support them. No man, unless he be an absolute beggar, should expect or wish to receive an education, for nothing, any more than a loaf of bread. By paying what he is able, he may enjoy, freely, the advantages of education as well as the rich; while for this education he pays much less than the rich, who derive no more advantage from it than himself. Any man, whether he be poor or rich, must be very unwise, who does not wish every other man in his country to be as well educated as the circumstances of his case will allow; and he is very unwise, and very penurious, and very selfish, and very short-sighted, if he be not willing to pay his fair proportion towards rendering the means of education as universal and as good as possible.

"If we look back upon what we have said, it will readily be seen, that the principles which we have explained lead us to the following conclusions:—

"1. Nothing that is of any value on earth can be procured without labour.

"2. Labour, to be of any benefit, must be directed by knowledge. Were a man to labour ever so hard to make a house, he would not succeed unless he knew how to do it. Hence the importance of education in order to profitable labour.

"3. God has placed abundant rewards before men, to excite them to labour, and abundant penalties to deter them from idleness; and there is reason to think that these rewards and punishments, if left to themselves, will be sufficient to make men industrious.

"4. In order to do this, it is important that every man be allowed to earn as much as he honestly can, that is, to improve his condition in the best way he is able; and, that, after he has done this, he be allowed to use what he has gained in just such way as he thinks will make him the happiest, provided he does not interfere with the rights of any one else.

"5. While it is important that every man should have all that he has earned, it is equally important that he should have nothing unless he have earned it.

"6. Lastly, that every man may know both how to labour to the best advantage, and also how to improve his condition as much as possible by the results of his labour, it is important that every man shall have as much education as possible.

"The more a community adopt these principles, the more industrious and happy will they be.

"Hence, we see the importance to every country both of virtue and intelligence.

"If men be virtuous, they will, of course, be honest; that is, they will let alone whatever belongs to their neighbour, and they will, of course, be willing to labour for everything which they want themselves. Hence, we see the benefit of all the means which we use in order to make men religious, for, if they be really religious, they will, of course be both virtuous and honest. And, if men be intel-

ligent, they will know how to labour to the best advantage; that is, with the least toil, and at the smallest expense, to procure the greatest amount of the means of human happiness."

A COMPARATIVE VIEW OF THE CLIMATE OF WESTERN CANADA,

Considered in relation to its influence upon Agriculture. By HENRY YOULE HIND, Mathematical Master and Lecturer in Chemistry and Natural Philosophy, at the Provincial Normal School, Toronto.

To Mr. HIND belongs the credit of being the first person in Upper Canada who has marked out and pursued with no less ability than success, a course of instruction which connects science with agriculture; and his published *Lectures on Agricultural Chemistry; or Elements of the Science of Agriculture*, is the only work of the kind published in Canada, compressing within narrow limits a large amount of scientific and practical information, adapted to Canadian Agriculture, and valuable for Canadian Farmers.

In his *Comparative View of the Climate of Western Canada, considered in relation to its influence upon Agriculture*, Mr. HIND pursues an investigation as original as it is patriotic; it is an extensive induction of facts,—facts collected with great industry and arranged with much skill—embodying an epitome of the mineralogical data furnished by many years' observations of scientific men in the several States and Provinces of North America; and the language of nature thus ascertained and interpreted, is decisive and emphatic as to the superiority of the climate of Upper Canada for the purposes of Agriculture over that of any other portion of the North American Continent. Impressions, very generally in Europe and to some extent in America, are formed respecting the climate of Upper Canada from early voyages of discovery in the Gulf of the St. Lawrence, and later commercial intercourse between England and the ports of Quebec. As well might you determine the temperature of Paris by that of St. Petersburg, or the climate of England by that of Norway. Upper Canada lies further north than France, and the latitude of Toronto is lower than that of Florence. We cannot better state the objects and characteristics of Mr. HIND's valuable production, than in the words of his first prefatory paragraphs:

"My object, in submitting the following pages to the Canadian Public, is to draw attention to the characteristics of the climate of Western Canada in its bearings upon Agriculture, with a view to the dissemination of correct views on that important subject. The usefulness of possessing information, based upon reliable meteorological data, is enhanced by considerations of a national character. Notwithstanding the enjoyment of a soil eminently fertile, and of a climate distinguished by remarkable salubrity; notwithstanding a decided superiority for agricultural purposes over the state of New York, the northern part of Ohio and Illinois, the states of Michigan, Iowa, Wisconsin, the Far West, and the whole of New England; in a word, over the wheat growing states generally; yet the impression undoubtedly prevails among multitudes, who are desirous of emigrating from Great Britain and Ireland, that the climate of Western Canada is distinguished by the characteristics of intense and almost unendurable winter cold, together with a hot and fleeting summer, which scarcely affords the agriculturist time to secure his harvest. The European emigrant, who is still deterred from seeking a home in Western Canada, by traditionary tales of the severity of the climate of the remote Eastern portion of the United Provinces, is ignorant of the fact, that in preferring any part of the United States, to which allusion has been made, he is actually selecting for himself a climate of greater winter cold and summer heat, and not only more unhealthy, but also far more hazardous to the agriculturist than that which it obtains in the Canadian Peninsula.

Our acquaintance with the climate of Western Canada, in its true relation to agriculture, is, as yet, necessarily imperfect and

elementary. What we do know, however, is strongly confirmatory of the supposition, that FROM THE PECULIAR SITUATION OF THE PROVINCE AMONG THE GREAT LAKES, it presents adaptations to the purposes of agriculture, which are not surpassed in any other portion of North America. That this is not a statement thoughtlessly advanced in a romantic spirit of patriotism, or in idolatrous acknowledgment of the sentiment, that "there is no place like home:" but that it is one which is reasonable and susceptible of demonstration, I shall endeavour to show in the following pages.

The most important points in which the climate of Western Canada differs from those of the United States, which lie north of the forty-first parallel of latitude, may be briefly enumerated, preparatory to further elucidation, as follows:

1st. In mildness, as exhibited by comparatively high winter and low summer temperatures, and in the absence of great extremes of temperature.

2nd. In adaptation to the growth of certain cereals and forage crops.

3rd. In the uniformity of the distribution of rain over the agricultural months.

4th. In the humidity of the atmosphere, which, although considerably less than that of a truly maritime climate, is greater than that of localities situated at a distance from the Lakes.

5th. In comparative immunity from spring frosts and summer droughts.

6th. In a very favourable distribution of clear and cloudy days, for the purposes of agriculture; and in the distribution of rain over many days.

7th. In its salubrity.

The points in which the climate of Western Canada differs favourably from that of Great Britain and Ireland, are—

1st. In high summer means of temperature.

2nd. In its comparative dryness.

3rd. In the serenity of the sky.

NEW TOWNSHIPS AND ALTERATIONS IN THE BOUNDARIES OF TOWNSHIPS.

In an Act recently passed the Legislature, and published in a late *Official Gazette*, entitled "An Act to make certain alterations in the Territorial Divisions of Upper Canada", several new Townships have been created, and alterations made in the boundaries of several Townships, which must be attended to by Municipal Councils, Local Superintendents and Trustees of Schools at the commencement of the ensuing year, when the Act referred to will have force and effect. These changes will not affect any of the school operations of the present year; but the local Superintendents of the Townships in which the changes will occur, should ascertain, during their next visits to the school sections, which will be incorporated with other Townships, and distinguish them in their reports to this Department, at the close of the year, in order that the Chief Superintendent's apportionments to the several Townships next year, may be equitable according to the new divisions. The following are the provisions of the Act referred to:

New Townships.—1. Howe Island, which shall consist of the Island of that name. 2. East Nissouri, which shall include and consist of that part of the present Township of Nissouri which lies eastward of the line dividing the 7th concession thereof from the eighth. 3. West Nissouri, which shall include and consist of the residue of the present Township of Nissouri. 4. North Dumfries, which shall include and consist of the six northern concessions of the present Township of Dumfries. 5. South Dumfries, which shall include and consist of the residue of the present Township of Dumfries. 6. North Dorchester, which shall include and consist of all that part of the present Township of Dorchester, lying to the northward of the line between the 6th and 7th concessions south of the River Thames. 7. South Dorchester, which shall include and consist of the residue of the present Township of Dorchester. 8. Pilkington, which shall include and consist of that part of the present Township of Woolwich known as

the Pilkington Tract. 9. Scugog, which shall include and consist of all those parts of the present Townships of Cartwright and Reach, which compose the Island known as Scugog Island. 10. Orillia, which shall include and consist of the present Township of North Orillia, and the present Township of South Orillia. 11. Brighton, which shall include and consist of all the lots from number one to number ten, both inclusive, in the first, second, third, fourth, fifth, sixth, seventh, eighth, ninth and tenth concessions, and in the broken front of the present Township of Cramahe, and of the lots from number twenty-three to number thirty-five, both inclusive, in the first, second, third, fourth, fifth, sixth, seventh, eighth, ninth, tenth, and eleventh concessions, and in the concessions A and B, and the broken front of the present Township of Murray and the Peninsula of Presque' Isle.

Tracts detached from Townships and attached to others.—1. The lots on Yonge-street, in the present Township of West Gwillimbury, shall be detached from the said Township, and be annexed to and form part of East Gwillimbury; and the residue of that part of the said Township of West Gwillimbury, which lies on the south-east side of the west branch of the Holland River, shall be detached from the said Township of West Gwillimbury, and be annexed to and form part of the Township of King. 2. That part of the present Township of Cartwright, lying to the north of Scugog Lake, shall be detached from the said Township of Cartwright, and be annexed to and form part of the Township of Mariposa. 3. That part of the present Township of Nichol, known as the Town Plot of the Village of Elora, shall be detached from the present Township of Nichol and be annexed to and form part of the Township of Pilkington, and the boundaries of such Town Plot shall be fixed by proclamation to be issued by the Governor General in Council. 4. The Peninsula of Presque' Isle shall be detached from the present Township of Murray, and shall be annexed to and form part of the Township of Brighton. 5. The Gore of Murray, lying between the tenth concession of the Township of Murray and the Township of Seymour, shall be detached from Murray, and form part of the Township of Seymour. 6. That part of the present Township of North Dorchester, lying north of the River Thames and east of the middle of the road allowance between lots numbers eighteen and nineteen, shall be detached from the said Township, and shall be annexed to and form part of the Township of Oxford north.

BAD EFFECTS OF MISCELLANEOUS READING.

The following extract from Hillard's Address before the Mercantile Library Association is worthy of the candid attention of the young.

Of two young men of equal capacity, suppose that one occupies himself for a certain period in light reading of a miscellaneous character, and the other devotes the same time to the vigorous study of one or two works requiring close attention and continuous thought, such as Butler's Analogy, Smith's Wealth of Nations, Locke's Essay on the Human Understanding, or Mill's Logic, the amount of intellectual benefit derived by the two will be greatly in favour of the latter. The former will have gained merely a crowd of heterogeneous impressions, lying in confused masses in his memory, like the shreds and patches of a rag-bag, while the other will have been through an athletic course of mental discipline, by which every faculty is invigorated.

"Beware of the man of one book," says a Latin proverb. He knows no more than that, but that he knows thoroughly. Let me commend to every young man to form the habit of reading with a definite object, and with a concentrated attention, and not to roam over a library as one strolls through a garden, pitching upon books because there is something taking in their title, or because you are not content to be entirely ignorant of some things in order that you may know other things well.

It is better to know everything of something, than something of everything. Study, says Cicero—and no one ever had a better right to define study than he, for no man ever studied harder—is the intense and assiduous occupation of the mind, applied to some subject with earnest good will. One hour of study is worth a day of listless dawdling over a shelf of books.

METHODS OF GIVING LESSONS ON OBJECTS.

HEADS OF A LESSON ON A VEGETABLE SUBSTANCE.—CORK—THE
CORK-TREE.

1. Particulars regarding external appearances, qualities, &c.
2. Where it is found.
3. How the substance is obtained or prepared.
4. Uses to which it is applied.
5. History.

SPECIMENS OF NOTES ILLUSTRATIVE OF THESE HEADS.

1. (a) *The Tree.* Two varieties of the cork-tree—the narrow leaved and the broad leaved; attains the height of thirty feet; is an ever-green; has leaves of a bright colour; oval shape, and indented edge; tree much like common oak in form, but more beautiful; called *quercus suber*; *quercus* means an oak tree; *suber*, cork, or cork-tree.

(b) *Piece of Cork.* 1st. *The Parts:*—has two ends, two surfaces, edges, &c. 2nd. *The qualities:*—light, porous, opaque, elastic, compressible, smooth, &c.

2. Found in S. parts of France; in Spain, but most abundant in Catalonia and Valencia; in Portugal; Italy; and Barbary, in Africa.

3. Cork is the outer bark of the tree; can be removed without injuring the tree; the best taken from old trees; that of young ones being too porous; taking off bark called peeling, done every ten years; if inner bark removed, the tree would be destroyed; removed from tree by curved knife with two handles; slits are made from top to bottom, others across, then removed in large or small pieces; this depends on the number of incisions across. When taken off, soaked, and afterwards placed over a fire to char it; this blackens the surface and closes the pores; thinner layers not thus operated on, because charred cork apt to give bad flavour to liquors stopped with it.

4. Used for stopping bottles and casks, because compressible and elastic; bungs and large corks more porous than small corks; pores of the latter lie across; floats of fishing-nets often made of cork; life-preservers; insuring buoyancy of life-boats; pieces fastened together form buoys; put between soles of shoes to keep out moisture, is impervious to water; on account of its lightness is made into false legs; when burnt, obtain Spanish black; great quantities made from the cork parings.

5. Use of cork for stopping bottles introduced about the 15th century; ancient Egyptians made coffins of it; principal exports from Valencia and Catalonia; duty on Cork in a rough state in England 8s. per cwt.; price per cwt. from £20 to £70.

FORM OF QUESTIONS.

1. How many varieties are there of the cork-tree? State the difference between them. To what height does it attain? Describe the leaves. Explain what you mean by indented. What is the root of this word? What tree does the cork-tree resemble? The proper name of cork-tree. What does *quercus* mean? What do you mean by porous?—elastic?—compressible? Mention other objects having these qualities.

2. Where is the cork-tree found? Show me France on the map. How does Spain lie from France? What are Catalonia and Valencia? Show Italy, Barbary, &c.

3. What is cork? What is the best obtained from? Why are old trees better than young ones? How often is the bark stripped off? What word means taking off? How is the bark obtained from the tree? Describe the whole operation. Why is the bark charred? What is an incision?

4. Why is cork used for stopping bottles? Why are small corks less porous than large ones? Mention other uses to which it is applied. Explain the words buoyancy and impervious. To what uses are cork parings applied?

5. Where does cork principally come from? What word means to bring in? What do you understand by duty? What is the duty on cork not manufactured? The value of cork per cwt.?

REMARKS.

The upper classes should be required to write an abstract of the lesson. In order to assist them in this exercise, the teacher should write on the black-board the *Heads of the Lesson*, numbering them as in the example given above. The children are not, however, to number their answers; but each answer is to be a consecutive account of the object that has been described. They should also be

accustomed to give distinct answers to separate questions; when this is done, both the question and the answer should be numbered. The following are examples of such questions:—

1. Write the particulars concerning the external appearance of the cork-tree.
2. Mention all the qualities of cork, and clearly explain the meaning of each term.
3. Explain the mode of obtaining and preparing cork.
4. Enumerate the uses to which cork is applied.

THE SEA is the largest of all Cometeries, and its slumberers sleep without a monument. All other graveyards, in all other lands, show some symbol of distinction between the great and the small, the rich and the poor: but in that ocean cemetery the king and the clown, the prince and the peasant, are alike undistinguished. The same wave rolls over all—the same requiem by the minstrelsy of the ocean is sung to their honour. Over their remains the same storm beats, and the same sun shines; and there, unmarked, the weak and the powerful, the plumed and the unhonoured, will sleep on until awakened by the same trump when the sea will give up its dead.

OPINION OF THE FRENCH JURORS OF THE GREAT EXHIBITION.

In a recent official letter from the President of the French Commission to H. R. H. Prince ALBERT, M. DUPIN remarks:

Exhibitors and visitors of all countries, have been touched by one most gracious spectacle—the flattering curiosity and the indefatigable benevolence with which Her Majesty, conducting her august family, has, during three months, pursued to completion her inspection of the exhibitions of different nations. Husbands and fathers, we have been moved while observing how happy was the Queen to add to her crown a jewel more precious than all the rest, by conquering suffrages and good wishes among the representatives of all nations, in favour of a work which she treasured as that of the father of her children.

One word on our functions. Three hundred and forty jurors, taken from all nations, have employed sixty-two days in profound examinations, and discussions the most earnest, in order to achieve the delicate task of judging of the products of forty nations.

We, the French jurors, should have liked to see rewards of the first class given for beauty, exquisite grace, perfection, without restrictions of any kind. We have striven that restrictions and interdictions should be as limited as possible, without exciting repulsions, repugnances, and commercial apprehensions even in England. In the classes of industry in which all the orders of recompenses announced by the royal commission were possible, we have sought to secure the triumph of distributive justice.

Art is, like nature, far from showing herself exclusive. She loves to scatter her gifts among the children of great national families. We rejoice in this diversity, which permits us to honour on different grounds, genius, taste, imagination, reason, in nations whose brilliant variety constitutes the riches and splendor of the human race.

Frenchmen ourselves, and proud of the title, we are not of those cosmopolites who suppress the sentiment of country to substitute for its nebulous abstractions and adore a *fabula rasa*. We are not of those who dream of a future in which all the sacred types which characterise races and nationalities, are to disappear. Grandeur and beauty would vanish from the earth if at a magic stroke all its mountains were brought low, and its valleys exalted, while its animals, plants and men, all became of one colour and stature, would sink to a miserable state of existence under the law of uniformity. But each nation, without affecting its character, may add to its well-being, its riches, its power, by judiciously borrowing from the discoveries and the improvements of other nations, and such in reality is the nature of the service which the Universal Exhibition has been preparing us to render one another. Here each sees its products side by side with those of all others, and often sees them surpassed. Pride, which grows while favoured by isolation, is here abased, and reason profits by the opportunity. Each nation, instead of dreaming of self-sufficiency and inborn superiority, vows to improve in the future. Thus we shall see new efforts attempted in every country to ameliorate the productions of the human race.

Educational Intelligence.

CANADA.

London Schools.—The quarterly examination of the Union School took place on the 18th ult. The school trustees, several of the clergymen in town, and a number of the most respectable inhabitants and visitors, as well as the parents of the children, attended. There are about 800 pupils' names on the rolls of the Union School, 600 is the daily average attendance. There is a material increase in the number of children since the appointment of the additional teachers. Formerly the school was conducted by five teachers, and for a great part of the time by only four. Now there are seven teachers, four male and three female. There is yet another teacher most urgently wanted in the juvenile department. One female teacher has charge of upwards of 160. The Mayor with that liberality which characterises his public actions, proposes to give £10 to aid in establishing a school library. The School Act appropriates an amount of public money for assisting the establishment of such libraries, and it is expected that the trustees will consider the expediency of immediately taking steps for availing themselves of the public grant. We can now congratulate the inhabitants on the possession of what with a large majority of them has long been desired—a PUBLIC FREE SCHOOL, superior, we are convinced, to any within the Province. This has not been attained without difficulties and opposition from the commencement. To those who have worked for this end a debt of gratitude is justly due. The present board of trustees have performed their duties in a business-like manner, in taking the necessary steps for securing the control of the school, by attention to the monetary arrangements—instead of being themselves controlled in everything by an empty treasury. The fruit of the change made in this respect is already to be seen in the increased confidence which the enlarged attendance shows in the talent, efficiency, and fuller compliment of teachers. To Mr. Daniell, the energetic chairman of the Board, a full share of credit must be accorded. In conjunction with Mr. Morrill and others, he has been particularly identified with the establishment of the school, from the first motion made in the Council of this town for the erection of the building. A public examination of the pupils attending the school in St. George's Ward took place on the 20th ult., before three of the trustees, and H. Hunter, Esq., Principal of the Union School, and the other male teachers, Messrs. Wilson, Murtagh, and Harrison. The subjects upon which the children were examined, comprehended the usual branches introduced into the common schools of the country, and the children acquitted themselves creditably. In particular they evinced an intimate knowledge of geography in all its branches. Mr. Irwin, the male teacher, deserves much credit for the orderly demeanour of the children, and for the manifest progress they have made under his tuition. The appointment of a female teacher, which has been made within the last few days, will add much to the utility of the school, and it seems that the trustees have made a very judicious selection in appointing Miss Parke to that situation. The school-house is built in a healthy location, and, for the size of the house, is a very snug edifice. There are two rooms, one for boys, and the other for girls. Altogether the school, the school-rooms, and the excellent position selected for the building, reflect much credit on all concerned.

Examination of St. Catharines Grammar School.—The annual examination of the St. Catharines Grammar School was held on the 12th ultimo. Several ladies and gentlemen of the town and neighbourhood, and some of the former pupils of the institution, who have since acquired distinction in the highest seats of learning, were present. The duties of examining were conducted in an able and judicious manner, by the Rev. A. F. Atkinson, Chairman of the Board; Rev. A. Dixon, and the Principal of the institution. Much of the answering was of a highly creditable description, and the general knowledge of the boys such as to speak well for the course of education pursued. Indeed nothing can be more gratifying than the evident marks of progress which are displayed from year to year at this seminary. It is only to be regretted that more of the parents were not present. On an occasion like this, we should expect to see more general interest manifested, as we are persuaded, that it would not only be gratifying to parents themselves, but operate as an incentive to increased exertion on the part of the boys, and prove that the reputation which the institution has acquired rests upon a good and solid foundation.

Education in Canada.—Dr. Ryerson, the Chief Superintendent of Education for Canada West, has recently made a report of the state of education in that country, which shows a degree of activity unexpectedly encouraging. During the preceding year there were \$353,912 paid to teachers, and \$56,753 for erection and repairs of school-houses. The number of pupils had increased nearly 15,000—the whole number being 151,891—which, however, leaves nearly 100,000 children in the province, who never entered the door of a school-house. Of the 3,059 schools, 2,097

are in the habitual use of the Bible; and in 3,013 religious instruction of an unsectarian character is given. During the year, 3,476 teachers have been in employ, of whom 779 only are females—291 had been trained at the Normal school—858 are Presbyterian—904 Methodists—795 Episcopal—390 Catholic—238 Baptists, and 73 Congregationalists. The average of their remuneration was from \$120 to \$340 for males, and from \$80 to \$160 for females.—[N. Y. Com. Adv.]

BRITISH AND FOREIGN.

National Education in Ireland.—The 17th report of the Commissioners of National Education in Ireland (for the year 1850) has been printed by order of the House of Commons. The Commissioners report that, at the close of the year 1850, the number of schools in operation was 4,547, and of pupils on the rolls, 511,239, showing an increase in the schools in operation of 226, and an increase in the attendance of children of 30,616, as compared with 1849—the number being in that year 480,623. In addition to the 4,547 schools in operation, there are 160 schools not yet in operation, towards which, at various times, the commissioners made building grants, involving liabilities to the extent of £2,982 4s. 7d. When these 160 schools are in operation, they will afford accommodation to 15,343 additional pupils. The number of schools struck off the roll during the year 1850 was 154. Twelve schools were suspended, and 287 new schools were added to the roll. The number of national schools and the number of children has increased from 789 schools, and 107,042 pupils in 1833, to 4,547 schools, and 511,239 pupils in 1850. The average attendance of pupils is 112 to each school. The number of applications for grants to new schools in 1850 was 424. To 287 of these, the commissioners promised the requisite assistance either for building or for salaries and books. The total amount of salaries paid to national teachers in 1850 was £66,964, being an increase, as compared with 1849, of £6,567. The amount paid to monitors was £1,339. The total number of teachers employed in 1850 was 4,636, viz., 3,244 males, and 1,392 females. The teachers trained during the year were 472, viz., 214 Roman Catholics, 15 Protestants, 41 Presbyterians, and two Dissenters.

Education in Ireland.—Rudimental knowledge is being slowly diffused in Ireland, in spite of the serious impediments interposed by religious jealousy and bigotry. But this remedy, as now applied, does not reach the seat of the disease. They are mainly the better class of poor children who are educated in the national and other elementary schools: the most depraved, benighted, degraded, are still below their reach. The destitute, hungry, unemployed, unclad, despairing, cannot or do not send their children to school. The wife and mother who must work daily in the turf-bog or potatoe-field for a few pence per day, must keep her older child at home to mind the younger ones in her absence. Education in its larger, truer meaning, is the great remedy for Ireland's woes; but until the parents have steadier employment and a juster recompense, the general education of the children is impracticable.—[H. Greeley.]

Cambridge University, England.—In the year 1110, four ecclesiastics were sent to Cambridge to teach the sciences. They commenced in a barn, which was, however, soon found to be too small for the number of students seeking to profit thereby. The history of this university can be traced downward from that period till the present time, when its aggregate revenues are £90,000, besides 300 advowsons, and £47,000 from tuition, &c.

Education in Sweden.—The London Watchman publishes a full synopsis of educational operations in Sweden, translated for its columns by the Rev. George Scott, formerly Wesleyan missionary in that country. It appears, that so late as ten years ago, Sweden had no national system of education, and there were upward of a thousand parishes without a single school. Yet even then it was difficult to find a young person who could not read; that part of the instruction being sedulously cultivated under the parental roof. Since then a national system of education has been introduced. The population of the entire kingdom is estimated at 3,353,867. The number of children of "school age" is 436,678. Of these there are in fixed schools, boys, 81,422; girls, 62,104; in ambulatory schools, boys, 67,120; girls, 59,058; in public academies (including the lower grammar school, the gymnasium, and the university) 6,228; in private schools, boys, 7,087; girls, 10,378; taught at home, boys, 55,827; girls, 73,169. Total under instruction, in schools, 293,397; at home, 123,996. Without instruction, 14,285 of 436,678. The report states that 19,883, i. e., 13,119 boys and 6,764 girls, have acquired above the minimum amount of instruction fixed by the statute. Sunday schools, as known amongst us, could not be said to exist ten years ago, but now they seem to be generally introduced, and are attended by 13,177 boys, and 12,541 girls. Teachers, in fixed schools, examined 1,606, unexamined 501; in ambulatory schools, examined 682, unexamined 669; in all, 3,453, of whom 213 are clergymen, and 690 organists or parish clerks.

The Rival Schemes of Education at Manchester.—Both the associations for promoting education, whose head quarters are at Manchester, are opening the campaign anew, and lectures and local meetings to discuss the principles on which they are based, have already taken place. Dr. Hodgson, late head-master of the Chorlton high school, gave a lecture at the Town-hall, on Wednesday week, in favour of the National Public School Association's scheme, and ably dissected its leading pretensions. The lecture drew a fair attendance. The Manchester and Salford Society for promoting a local scheme had also a meeting in St. James's Church school-room, Major-street, on Wednesday evening, the very Rev. the Dean of Manchester in the chair. Mr. Salter, schoolmaster, read an interesting paper. This association propose to hold a *conversazione* towards the close of the month, when Mr. William Entwisle, banker, (of Lloyd, Entwisle, & Co.'s,) is to read a paper in favour of the scheme. The Bishop of Manchester is to preside, and the Earl of Ellesmere is expected to take part in the proceedings.

Important Educational Movements.—It has long been felt a great evil by the managers of our large public free schools, that as soon as children arrive at that age when the higher branches of an ordinary education could be imparted to them, they are compelled, in consequence of the indigence of their parents or friends, to leave school for the purpose of going to work. With a view to remedy this evil, the London Diocesan Board of Education, of which the Bishop of London is the President, have intimated to the heads of the various schools in connexion with the board, that they intend, for the future, to appropriate a portion of their funds for the purpose of enabling the most deserving children in the several schools to remain one or two years longer, and to all such who shall be deserving, the sum of 2s. per week will be allowed towards their maintenance.

Wesleyan College in Van Diemen's Land.—A gentleman named Horton has headed a subscription list for a Wesleyan College in Van Diemen's Land with £1,000.—[Australian and New Zealand Gazette.

UNITED STATES.

The Public Schools of Chicago.—They are four in number. The school houses are built of brick, and are among the largest and most substantial buildings in the city. They will accommodate from 400 to 600 children each, and are generally well filled. Indeed, they fall so far short of accommodating the rapidly increasing population, that two more buildings equally capacious are now in the process of construction. Each school is under the charge of a superintendent and a number of competent assistants. The latter are mostly females. We believe all these schools are in a good condition.—[Chicago Eclectic Journal of Education.

Biennial Meeting of Association of Graduates of N. Y. State Normal School.—On Wednesday, the 30th of July, the Association of Graduates of N. Y. Normal School held their second meeting at the Lecture Room of the Normal School, at Albany. About one hundred and fifty of the former graduates were present to participate in the re-union of kindred spirits as co-labourers in a cause second to none in interest and importance. Though yet in its infancy, this association is most successful, and will do much toward keeping alive the earnest enthusiasm which inspired its members on entering upon the duties of their vocation as they first left the halls of the Normal School. May these biennial gatherings continue to be looked forward to with much anticipation, and every meeting cement more strongly the bonds of fellowship and union among its members. During the afternoon, the exercises, consisting of music, essays, poems, and addresses, were highly interesting. The address of the late President, Ezra D. Barker, was a worthy production. The following extract is from his closing remarks on the reward of the teacher:—"There is one respect in which our profession surpasses all others. it is in the reward that it confers on the honest and faithful instructor. Not the reward of his specific salary or of visible wealth! If this were the only reward, he might indeed often be called a most persevering and self-sacrificing philanthropist. It is the remolument of kindness and affection, bestowed by ingenuous and unsophisticated hearts, before they have become practiced in the deceptive arts of maturer years; all the more valuable because bringing with them the assurance that they are genuine. "But, beside the recompense received by the teacher while actively engaged, there are rewards that follow him beyond the lapse of a single day, and attend him through life. The kind remembrance and gratitude of those for whom he has zealously toiled, in the spirit of patience and love, will ever furnish a balm for his loneliest hours, cheer him on amidst the asperities of life, and soothe the infirmities of his declining days. The very pupil that he has prompted to higher attainment by his advice and encouragement, or restrained from vice and folly by his gentle and earnest admonitions, will be a treasure in his memory, far more to be valued

than the gold in his coffers. And when the light of the sun grows dim upon his fading eyes; when the fountains of life are low, and the frosts of age descend upon his feeble frame; then, through the long vista of receding years, like

'The still sweet fall of music far away,'

will come the tender recollections that cluster around the happy throng that once listened, upon some sunny hill-side, or in some secluded valley. to the fervor of his instructions. There is yet a higher reward—a reward that comes not from earth or sublunary power—a reward conferred by the Father of Light and Knowledge—the Great Teacher above. It is the approval of a righteous conscience through life, and the hope that sustains in the hour of death. It is the blessed reflection and retrospect of months and years spent in 'the luxury of doing good;' of having borne some part in the great system of redeeming agencies that shall ultimately enlighten all mankind, and fill the earth with the knowledge of the Lord. And, finally, it is the paradise of the devout and faithful teacher, the crown of glory, and the welcome plaudit, 'Well done, good and faithful servant.'—*Student.*

Literary and Scientific Intelligence.

Interesting Fact in Chemistry.—By looking down on the top of a wax candle, a little cup full of melted wax may be seen just around the wick. The cold air keeps the outside hard so that the rim is formed, which prevents the melted wax from running down the side. The wax in the little cup goes up through the wick to be burned, just as the oil does in the wick of a lamp. It goes up through the little passage in the cotton wick, because very small channels or pores have the power in themselves of sucking up liquids. This power is called capillary attraction. When the candle is blown out, a smoke arises from the wick. If a bit of light paper be held in this smoke, the candle will again light without touching the flame to the wick. This shows that the melted wax sucked up through the wick is turned into vapour, which burns and communicates fire to the wick. When the candle is lighted, the heat of the burning vapour keeps on melting more wax, and that is sucked up within the flame, where it is turned into vapour and burned; and this process is continued until the wax is all used up, and the candle is gone, or is burned up, as it is termed. Notwithstanding the flame of the candle looks flat, it is both round and hollow, and runs up to a point. It is thus drawn up by the hot air. Hot air always rises, and that is the smoke which is taken up a chimney. The bright flame of a heated candle is often no thicker than a sheet of paper; it does not even touch the wick. That the flame is hollow may be seen by taking a piece of white paper and holding it for a second or two down upon the candle flame, keeping the flame steady. When the black from the smoke has been rubbed off, it will be seen that the paper is scorched in the shape of a ring, while inside of the ring it is only soiled and not scarcely singed at all. Inside of this hollow flame is the vapour spoken of just now. By putting one end of a bent tube into the middle of the flame, and the other end in a bottle, the vapour or gas from the candle will mix with the air in the bottle. If fire be set to this mixture of air and gas, it will explode with a report. The flame of the candle then is a little shining case with gas inside of it, and air on the outside, so that the case of flame is between the gas and the air. The gas keeps going into the flame to burn, and when the candle burns properly, none of it passes out through the flame, and none of the air gets through the gas. The greatest heat of the candle is in the case of flame. A candle will not burn without air. If it has not enough air it goes out, or burns badly, so that some of the vapour inside comes out in the form of smoke. A candle smokes because the wick is so large that in burning it makes too much fuel or vapour, in proportion to the air that can get to it; consequently some of the vapour must escape in the form of smoke. The smoke that comes out of a candle is what burns and makes the light. This smoke is a cloud of small dust, or bits of charcoal, or carbon. These are made in the flame, and burned by it, and while burning make the flame bright. They are burned the moment they are made, and the flame goes on making more of them, and that is how the flame keeps bright. These little bits of carbon are made in the case of flame itself, where the strongest heat is. The great heat separates them from the gas which comes from the melted wax, and as soon as they touch the air on the outside of the thin flame, they burn. Carbon, or charcoal, is what causes the brightness of all lamps or candles, as well as gas light; hence there must be carbon in what they are made of.

Condensed History of Steam.—About 280 years B. C., Hero, of Alexandria, formed a toy, which exhibited some of the powers of steam, and was moved by its power. A. D. 540, Anthemius, an architect, arranged several caldrons of water, each covered with the wide bottom of a leathern tube, which rose to a narrow top with pipes extended to the rafters of the adjoining building. A fire was kindled beneath the caldron, and

the house was shaken by the effect of the steam ascending the tubes. This is the first notice of the power of steam recorded. In 1543, June 17, Clasco De Garoy tried a steamboat of 209 tons, with tolerable success, at Barcelona, Spain. It consisted of a cauldron of boiling water and a moveable wheel on each side of the ship. It was laid aside as impracticable. A present, however, was made to Garoy. In 1650, the first railroad was constructed at Newcastle-on-Tyne. The first idea of a steam engine in England was in the Marquis of Worcester's "History of Inventions," A. D. 1663. In 1710, Newcomer made the first engine in England. In 1718, patents were granted to Savary for the first application of the steam engine. In 1764, James Watt made the first perfect steam engine in England. In 1736, Jonathan Hulls first set forth the idea of steam navigation. In 1778, Thomas Paine first proposed this application in America. In 1781, Marquis Jouffroy constructed one on the Saone. In 1785, two Americans published a work on it. In 1789, William Tymington made a voyage in one on the Forth and Clyde canal. In 1802, this experiment was repeated. In 1782, Ramsep propelled a boat by steam at New York. In 1787, John Fitch, of Philadelphia, navigated a boat by a steam engine on the Delaware. In 1793, Robert Fulton first began to apply his attention to steam. In 1793, Oliver Evans, a native of Philadelphia, constructed a locomotive steam engine to travel on a turnpike road. The first steam vessel that ever crossed the Atlantic was the *Savannah*, in the month of June, 1810, from Charleston to Liverpool.

The Progress of Comfort.—In the first period of the occupation of England by mankind, there is no doubt that, as the flesh of animals served for food, so their skins served for clothes. They had no woollen fabrics to use for such a purpose; they had neither manufactures of their own, nor money, nor any articles of barter, to exchange for the clothing materials made by the nations of the continent who were more advanced in knowledge and comfort. Woollen clothes (first made in the country in 1191,) and those of flax were the early products of advancing knowledge and civilization. Those of silk were not made in England till about the year 1604. Hats were not made in this country till about the year 1510. Shoes were not introduced, of the present fashion, until 1633. As to furniture, the early inhabitants of England employed leaves and dried grass for beds: logs of wood or stone served the office of chairs and tables; the earth was their floor. It was only by gradual degrees that benches and other raised seats were used. The floor was at length garnished with rushes and straw, mixed with sweet scented hay or flowers. Another long interval elapsed—before 1750—carpets were made in England. The beds on which our ancestors slept were often made of straw; even the king's beds were made of it to the year 1234. Linen was first made in England in 1253. English blankets were not made before about 1340. Calico was not manufactured in England till about the year 1762.

Volcanic Eruptions.—There is said to be an identity of origin in earthquakes and volcanic eruptions—a connection more or less intimate in the agency of the one with the other. In the case of Etna and Vesuvius, it is recorded, they rarely return to a state of activity, after an interval of repose, without some antecedent earthquake, the latter usually ceasing as soon as the volcano has once established for itself a vent whereby the elastic vapours can discharge themselves. The earthquake which destroyed Caraccas in 1812, at the same time that the shores of the Mississippi were in sympathetic commotion, was followed in eight days by the memorable eruption of the Soufriere in St. Vincent.

The Crystal Palace.—Several propositions have been made for the appropriation of the surplus fund arising from the great Exhibition. A member of the Executive Committee has published a pamphlet advocating the endowment of Schools of Design. Another proposition is for the formation of a Museum, containing specimens and drawings of all the objects of interest in the Exhibition, and such articles as exhibitors may be willing to contribute, or which may be purchased. The *Illustrated London News* proposes the endowment of a University of Art, Science, and Manufacture, which shall stand at the head of all the schools of design and scientific societies in the country, and thus give an opportunity for the recognition of talent in certain directions which does not now exist, by placing living science on an equal footing with dead literature;—the latter being recognized and rewarded in all the universities; and the former nowhere. The visit of four Canadian Indians of the Iroquois tribe to the Exhibition, created considerable interest and astonishment, for when anything of peculiar interest struck them, a "whoop" of a startling character was raised as an outward sign of their wonder. They were much concerned to find that two figures costumed in the Indian dress, which had been placed by Mr. Catlin upon a large bridge in the United States department, had been destroyed, as stated, by the freaks of a drunken woman; and after looking at the prostrate representations of their compatriots, and ascertaining the cause of their removal from the place of honour, the chief pronounced something like a moral upon the evil influences of "fire water."

Acids are usually sour, easily dissolved in water, turn most blue colours red, readily combine with alkalies and earths, and act powerfully on most metals. Acids are found in all the kingdoms of nature. The phosphoric acid existing in bone, is of animal origin; the citric and oxalic acids are products of vegetation; the carbonic and sulphuric acids are very common in mineral bodies; and the chronic and arsenious acids are found in mineral bodies only. When the name of an acid ends in *ic*, it shows that the base of the acid is combined with the acidifying principles in a higher degree than when the name ends in *ous*; (thus nitric acid is stronger than nitrous;) the former is said to be a perfect acid, the latter an imperfect one.

The Eclipse.—Professor C. W. Hackley, of Columbia College, took accurate observations of the eclipse, from the observatory of that institution, aided by all the requisite apparatus, and he reports as follows;—"The first contact, or beginning of the eclipse, took place at 7h. 35m. 55s., and the last contact, or end, at 9h. 11m. 50s. mean solar time. The time was observed by two chronometers, one keeping sidereal, the other mean time. Both were compared immediately before and immediately after the eclipse, with a sidereal clock, with mercurial pendulum in the transit room, the clock having had its error determined by transit of stars. Thirty-six observations of differences of right ascension of the cusps were made during the first portion of the eclipse, with a filar micrometer, and twelve of differences of declination toward the close of the eclipse, with the same instrument. These will each be as valuable as those of the first and last contact, for determining the accuracy of the longitude, and of the lunar table. The observations were made with an equatorial instrument of six inches aperture. The point of first contact on the sun's disc, was determined by moving one of the parallel wires to the proper distance from the north point of the disc, to pass through the point of contact."

Progress of Science during 1850.—Great progress has been made in meteorology during the past year. Observations are now regularly taken at a number of stations in North America, far distant from each other, which are afterward reduced to tabular form, for the purpose of future reference and comparison.—A Magnetic and Meteorological Observatory has been completed at St. Petersburg, which is to be the central point for magnetic and meteorological observations of the whole Russian Empire.—A movement has been made among scientific men in Europe towards the establishment of a new and universal meridian. Cape Horn has been suggested.—It is proposed to establish a Zoological and Botanical Garden in the neighbourhood of New York. The sum of \$300,000 is to be raised, and two hundred acres of land purchased for the object.—M. Despretz has ascertained by a series of experiments, that almost every solid body in nature is capable of fusion and volatilization.—M. Ulgren has added another article to the list of supposed "elementary substances," which are now 64 in number. The new substance is called *aridium*.—The use of the *pancreas* has been at length discovered. Its juice dissolves fatty substances in the food.—Three new planets have been brought to light. The number of those bodies, as at present known, is 21.—Messrs. Bond have discovered a third ring of the planet Saturn.

Ascent of Mont Blanc.—Chamonix, Aug. 14.—This quiet alpine valley has for the last week been in a most unusual state of activity and excitement. About seven days ago the people learned that three students from the University of Oxford, and an English author, were getting themselves into condition for attempting the ascent of Mont Blanc. Guides and villagers were at once on the *qui vive*, and the adventurous party were regarded with much interest wherever they went. On Tuesday morning, at seven o'clock, all the preparations being complete, the party set out from the Hotel de Londres. It included Mr. Floyd, said to be a son of the general of that name, and cousin of Sir Robert Peel; Mr. Phillips, a third Oxford man, and Mr. Albert Smith, with sixteen guides, sixteen porters, and a number of aspirants for the post of guide who attended the voyagers and their paid party for the purpose of learning the route to the summit of the mountain. After their departure, telescopes were fixed from the windows of the inn, and in other places, to watch the progress of the toilsome ascent, and before six o'clock it was evident the voyagers had crossed the great glacier, and had arrived at their resting-place for the night—on the *Grands Mulets*. Yesterday morning, as soon as the day-light afforded a clear view, the adventurers were again visible by aid of a good glass, and by twelve o'clock were seen making the final ascent. They rested on the summit for about twenty minutes, and then commenced their descent, arriving here last night about seven o'clock. The excitement during the previous twenty-four hours had been very great in Chamonix. Anxious wives and parents having husbands and sons among the party in the snows, and the interest being by no means diminished by the fact that Sir Robert Peel (who had arrived here after the departure of his relative for the ascent) invited nearly all the men remaining in the village, about sixty in number, to an entertainment provided at an *auberge*, where they were sup-

plied with wine and other popular liquids in which to drink "the health of the Englishmen who were sleeping on Mont Blanc." This ceremony was performed very zealously, and repeated in the most willing manner again and again till long after midnight. When in the evening the party from Mont Blanc approached the village, nearly all the inhabitants assembled to meet them. Guns were fired in quick succession; the harp and fiddles of the valley were in quick requisition, and a sort of a half comical, half triumphal scene ensued. The travellers and guides looked very jaded and sun-scorched, and had very bloodshot eyes and rather dilapidated costumes, but, in other respects, seemed to be in tolerable condition. This successful ascent by four Englishmen, turns the scale of numbers in favour of the English: the French tourists having been hitherto accustomed to point with satisfaction to the fact that more of their countrymen than of ours had succeeded in reaching the top of the King of the Alps. The present forms the 25th ascent—the first dating in 1787. The cost as well as the labour and danger of these daring excursions is very great. The talk of the village declares that the ascent will cost the party of four travellers fully £150.

Cleopatra's needle, a relic of the remotest period of Egyptian history remains on the sand in the harbour of Alexandria, waiting until it may suit the English to take some efficient steps for its removal. Authoritative reports from the spot informs us that the inscription is partly defaced upon one side, but in no other respect. The sand from the desert has in a great measure preserved the monument; but in the article in the *Times*, it is said that if the obelisk "be not removed at once, it will doubtless, ere long, become utterly ruined and worthless." This result will not be attributable to the ravages of time, but to the injuries inflicted by idle or mischievous persons on this valuable record and monument of by-gone days. When a proposition for effecting its removal to England was made, twenty years ago, in the House of Commons, the expense of such an undertaking was set at about £15,000. It is now stated that an offer has been made to bring the obelisk to England for £2,500. The month before last, the Marquis of Westmeath asked, in the House of Lords, at the request of many military and naval officers, who look upon this monument as a trophy of our warlike glory, if no steps were to be taken for its removal. The Marquis mentioned to the House, that the opinion of the late Sir Robert Peel, stated to himself, was, "that it was a monument which ought to be brought to London and erected as a memorial of Sir Ralph Abercromby and others who had fought and died in Egypt." The answer of the earl of Carlisle was, "that he apprehended that there were certain mechanical difficulties in the way."

Statistics of Liverpool.—It would no doubt be gratifying to those gentlemen who had honoured him with their company, to be informed how rapidly the important seaport town of Liverpool had risen into its present position, and he would therefore briefly trace its history. In the reign of Charles II., they had but fifteen boats at this port, the tonnage of which amounted to 2,560. In the reign of Queen Anne their vessels had increased to 170. He thought they had seen enough that day to form an opinion as to the present number. In 1756, their dock dues amounted to £2,200; in 1801, they had increased to £23,000; and last year they were £230,000. Their docks now cover an area of between 200 and 300 acres, and has cost in their creation no less a sum than £10,000. The population of the whole county, in 1700, was 170,000, and at present it was upward of 2,000,000; but the increase in the inhabitants of the town itself had been still more remarkable, having been in 1700 only 6,000; in 1801 it was 78,000; and in 1851 upward of 400,000. In 1760 it took 4 days to go by coach from Liverpool to London; now they were enabled to reach the metropolis in six hours, while by those splendid vessels, one of which they were then on board of, they could travel from Liverpool to New York in nine or ten days.—(From a recent civic speech by the Mayor.

Items.—The first part of a curious work has just been published in Paris—a catalogue of the manuscripts and autographs stolen from the public libraries in France. Abstractions, during the last fourteen years, have amounted to not fewer than ninety-five, comprising 58,000 pieces. M. Arago has publicly announced that he holds two valuable letters,—one of Descartes, the other of Huygens,—and that, though he obtained them honestly, he will give them up, if it can be proved that they were pilfered.—An unpublished correspondence of Charles the First with his confidential servant, Captain Titus, was lately bought at an auction sale in London, for £125. Titus was the author of the famous pamphlet against Cromwell, entitled, "*Killing no Murder.*"—The *Quarterly Review* enumerates the letters of Horace Walpole which have already seen the light, at 2,600. The publisher of the Mason correspondence announces it as "the last series,"—"on the contrary," says the *Review*, "recollecting how comparatively few of the already published letters are addressed to the persons with whom we know he delighted to correspond, we are led to hope that we are not yet *au fond du sac.*"—A Tablet has been erected to the memory of Wordsworth near the place where he lies buried. It is thus described by the *London Spectator*: "Surmounted by a band of laurel leaves is the

inscription, written by Professor Keble, under which the poet's head is sculptured in relief. The meditative line of the face, the thoughtful forehead and eye, the compressed sensitive mouth, are rendered with refined intelligence. In two narrow spaces, at each side of the head, are introduced the crocus and celandine, and the snowdrop and violet, treated with a rare union of national beauty and sculpturesque method and subordination. Throughout, the delicately-studied execution shows that the work has been a labour of love."—An artizan employed in one of the iron foundries in England, has produced a book, the leaves of which are iron, rolled so fine that they are no thicker than a piece of paper. It is neatly bound in red morocco, and contains forty-four of these iron leaves, the whole being only the fiftieth of an inch thick.—The celebrated Neapolitan Astronomer, Signor de Gasparis, has discovered another planet. This is the fifth we owe to his successful exertions. At present the planet has the appearance of a star of the ninth or tenth magnitude.—A meteor was observed at Lyons on the 13th ult., at about 11 o'clock at night. It proceeded from the East, and remained for a short time as if poised over the Plaine du Dauphine. It then followed a sort of an irregular course from south to north, and, gradually descending, disappeared at once with a loud detonation.—During the course of the ensuing winter, the Egyptian Government has determined upon running steamers regularly every fortnight from Cairo up the Nile as far as the Cataracts, making stoppages at all places of interest on the way. This will be a very great saving of time and expense.—It appears that last year there were taken 520 patents for England, 221 for Scotland, and 62 for Ireland; the proportion of patents being, for the English Patents, 444 Englishmen, 27 Scotchmen, and 3 Irishmen; for the Scotch patents, 173 Englishmen, 26 Scotchmen, and 5 Irishmen; and for the Irish patents, 44 Englishmen, 6 Scotchmen, and 4 Irishmen; or a proportion, upon the whole returns, of some 500 Englishmen to five-and-twenty Scotchmen and about five Irish inventors.—The sum of £750,000 has been spent in the ordnance survey of England, £320,000 in twenty-two years on the survey of Ireland, exclusive of £200,000, the estimated expense of revising and contouring the map of Ireland, which is now in progress, while in Scotland only 1-60th of the whole country has been surveyed and published, and the average annual expenditure in the survey since its commencement, in 1849, has been only £2,418.—The bills for establishing the European and American Telegraph Company and the United Kingdom Telegraph Company have received the royal assent.—Mr. Bennet, C. E., of Westminster, proposes that a national monument to Prince Albert should be erected to commemorate the Great Industrial Exhibition of 1851, and the chief events connected therewith—the latter to be effected by castings in relief in bronze, and by emblematical sculpture, illustrative of the noble object his royal highness had in view as the originator of the enterprise. The design exhibits a considerable amount of skill and ingenuity.—The late Dr. Lingard has left his library to St. Cuthbert's College, Ushaw.—Mrs. Harriet Lee, the joint author, with her sister, Mrs. Sophia Lee, of "The Canterbury Tales," and other works, has just died at the advanced age of 94.—An exact inventory of the Imperial and Royal Cabinet of Coins and Antique Medals, at Vienna, has just been drawn up. The total number of pieces is 107,647, of which 25,602 are Grecian, and 35,044 Roman. In the latter, the numismatic cabinet of Vienna is richer than all those which exist even in Italy.—Some Spanish professors have arrived in Germany, with commissions from their Government, to make all necessary enquiries respecting the progress of education in their respective branches, and also to purchase German works for the public libraries of Spain.—Mr. Simoudis, a Greek, pretends that he has discovered, by research among the archives of the Greek convents, a record of the spot where is deposited the original MS. of the Acts of the Apostles. He says that it is in the island of Antigonus.—A pension of £200 a-year on the civil list has been conferred upon Mr. Silk Buckingham, who has contributed much to literature, especially by his useful records of travel. A pension of £200 a-year has also been given to Colonel Torrens, the author of several works on political economy.—There are ten newspapers in Austria, fourteen in Africa, twenty-four in Spain, twenty in Portugal, thirty in Asia, sixty-five in Belgium, eighty-five in Denmark, ninety in Russia and Poland, three hundred in Prussia, three hundred and twenty in other Germanic States, five hundred in Great Britain and Ireland, and one thousand eight hundred in the United States.—Traces of the exploring expedition of Sir John Franklin have at length been discovered, and the graves of three of his companions discovered northward of Point Inuit, Wellington channel, the place of his first and protracted encampment.—A gentleman has made a calculation which shows that if every article in the Crystal Palace were to be examined for three minutes, it would occupy 26 years to examine the whole.—Lord Seymour has expended £1000 in forming a mechanics' institute, a library, and a reading room for the free use of the inhabitants of Totnes without distinction of sect or party.—A pension of £300 a-year has been conferred upon Professor Wilson. The letter of Lord John Russell, intimating the bestowal of the pension, was dated from Holyrood Palace.—During some recent excavations made at Mont

d'Arene, near Rheims, a great number of curious objects were discovered, amongst which are some statuettes of rare perfection and beauty. A few days since a workman found a small leaden vessel, in which were enclosed, in a perfect state of preservation, 199 gold coins, bearing the effigy of Charles VII., and worth from 10*l.* to 15*l.* each.—Mr. J. F. Cooper, the distinguished American writer died recently at his residence in the State of New York; also the Rev. Thomas Gallaudet, LL. D., the celebrated instructor of the deaf and dumb.—M. Morin, Director of the Conservatory of Arts and Trades, at Paris, has just made to the Academy of Arts and Sciences a very interesting communication, which proves that the *steam Locomotive Engine is a French Invention* and that the credit thereof is due to an engineer by the name of Cugnot, by whom the first machine of the kind, designed for travelling upon common roads, was constructed about 1770, which machine was deposited, and still remains in the Conservatory.

Editorial and Official Notices, &c.

LAYING THE CORNER STONE OF THE PUBLIC SCHOOL HOUSE IN CHATHAM.—On Monday, the 1st instant, the ceremony of laying the corner stone of the public school house in the town of Chatham, was performed by Mr. W. D. Eberts, merchant in the town. The inhabitants, generally, entered into the ceremonial with a great deal of enthusiasm. We have heard the number present on the ground, estimated at one thousand; and we make no doubt, inclusive of the various lodges and societies which honoured the occasion with their presence, that this number was considerably exceeded. The occasion was also graced by the presence of a great many ladies, who apparently took a kindly interest in the proceedings; and we sincerely trust that all parties were gratified in the prospect of having so handsome a public ornament commenced under such favourable auspices.

The following was the inscription on the plate covering the cavity in the corner stone:—

CANADA.

Hoc primo die Septembri, Anno Domini MDCCCLII. VICTORIAE, Dei Gratia, Fidei Defensoris, decimo quinto, anno Imperii Majestatis Magnae Britanniae et Haberniae, Regni Coniuncti, Reginae apud Cathamiae Municipium Comitatu Cantii et Canadae Provincia, subiciente atque huic Regno pertinente.

LAPIDEM ANGULAREM LOCAVIT

Edificii ad PUBLICAM SCHOLAM propositi atq, Juventutem ad edocendam Municipii Cathamiae dicati.

GULIELMUS D. EBERTS

Mercator Cathamiensis, ex principio qui viciniae liberaliter Commercio et Incrementis faverat.

Geo. Duck, junior, Praeside, And. Currie, Ric. Monck, Rowleio Pegley M. D. Alberto P. Salter, et Gulielmo Smyth, Sociis et Complentibus "Concilium Commissariorum Scholasticorum Municipii Cathamiae in Comitatu Cantii." Georgio Witherspoon, Municipii Praetore. Thoma Cross, M. D., Educationis Municipii Curator. Johanne Turner, Dillinators. Jacobo Baxter, Johanne Baxter, et Petro Brown, Edificatoribus.

The following was the inscription on the trowel presented to Mr. Eberts:—

"This trowel is presented by the Board of School Trustees of the incorporated town of Chatham, to William D. Eberts, merchant, on the occasion of laying the corner stone of the Public School House in the town of Chatham, 1st September, A. D., 1851."

The corner stone was then placed in its proper position by the workmen; and Mr. Henry Baxter having handed the mortar, Mr. William D. Eberts spread the same on the stone, with the trowel above mentioned, and then applying the level, and ascertaining the correctness of the stone, in all positions, after giving it three slight taps with the mallet, amid the deepest silence, said:—

"I hereby lay the corner stone of this public school house, dedicated to the instruction of the youth of Chatham." The assembly then dispersed.—*Kent Advertiser.*

TARDY SCHOOL TEACHERS.—We submit to our common school teachers the following fact respecting the way in which they cure tardiness in the Sandwich Islands:—"This is the law of my school," said a teacher in one of their school conventions; "if any one is tardy, or plays truant, he receives a certain number of blows

upon his hand with a ferule. If the teacher arrives at the school three minutes behind the time, then he takes the punishment from the scholars. And many a time has my hand smarted under their blows. We have now no more trouble from tardy pupils. All are on the ground before the time, and we have no noisy or unruly scholars."

SCHOOL STATISTICS—SANDWICH ISLANDS.—There are in the Sandwich Islands 441 Protestant schools, with 12,949 scholars, and 102 Roman Catholics, with 2,359 scholars: total number of schools, 543; of scholars, 15,308. The amount paid for teachers' wages, in 1850, was \$20,630 58 cents. The average yearly cost of each school was \$47 68 cents; the average wages of each teacher, \$37 99 cents. The income of the island, for the year ending March 31, 1851, was \$330,546; the expenditure, \$250,707. The revenue, in 1843, amounted to only \$41,000.

AN INTERESTING INCIDENT.—A correspondent has sent us, in an account of the late meeting in Albany, of the American Association for the advancement of Science, the following noble and touching instance of magnanimity, alike honourable to the parties concerned in it, and to human nature itself:

"At the closing meeting on Saturday afternoon, one of the most interesting occurrences ever witnessed in this association took place. It is well known to many that a difficulty has prevailed for some years among some geologists and naturalists, originating at first in professional matters, but afterwards becoming personal. A lawsuit took place in the spring, growing out of this difficulty, between Dr. Emmons, of Albany, and Professors Agassiz and Hall. Most of the scientific men in the county sided with one party or the other, and much hard feeling has been manifested.

On Saturday, after passing resolutions of respect to the memory of Dr. Morton, the distinguished naturalist of Philadelphia, Dr. Emmons, whom many considered to be deeply aggrieved, arose, and with some complimentary remarks, proposed a resolution of thanks to his heretofore bitter opponent, the president of the association, Prof. Agassiz. Such a proceeding, so unexpected, caused the president no little embarrassment.—He blushed, hesitated, and then with the whole-souled magnanimity for which he is noted, stepped forward in the assembly, and gave to Dr. Emmons, the man to whom he has not spoken for several years, a free and cordial embrace and greeting. The enthusiasm and excitement of the association manifested itself in loud applause, and this act of Prof. Agassiz was immediately followed by others, and, in a moment, the differences of years were settled. Another suit which was also pending, has in consequence of this, been withdrawn."

ONE.—One hour lost in the morning by lying in bed, will put back all the business of the day.

One hour each day gained by rising early is equal to one month of labour in a year.

One hole in the fence will cost ten times as much as it will to fix it at once.

One diseased sheep will spoil a flock.

One unruly animal will learn all others in company bad tricks; and the Bible says, "One sinner destroys much good."

One drunkard will keep a family poor and make them miserable.

One wife that is always telling how fine her neighbour dresses, and how little she can get, will look pleasanter if she will talk about something else.

WANTED, by a Teacher of many years' experience, who has had a full College Course of Education in the Mother Country, a SITUATION IN A GRAMMAR SCHOOL, or other higher Institution. He can produce testimonials of classical attainments that will prove satisfactory. Address, JOHNSTON NEILSON, Carleton Place, C. W.

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