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THE  
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FOR  
Upper Canada:

EDITED BY  
THE REVEREND EGERTON RYERSON, D.D.,  
*CHIEF SUPERINTENDENT OF EDUCATION,*  
ASSISTED BY MR. J. GEORGE HODGINS, M.A.,  
*DEPUTY SUPERINTENDENT.*

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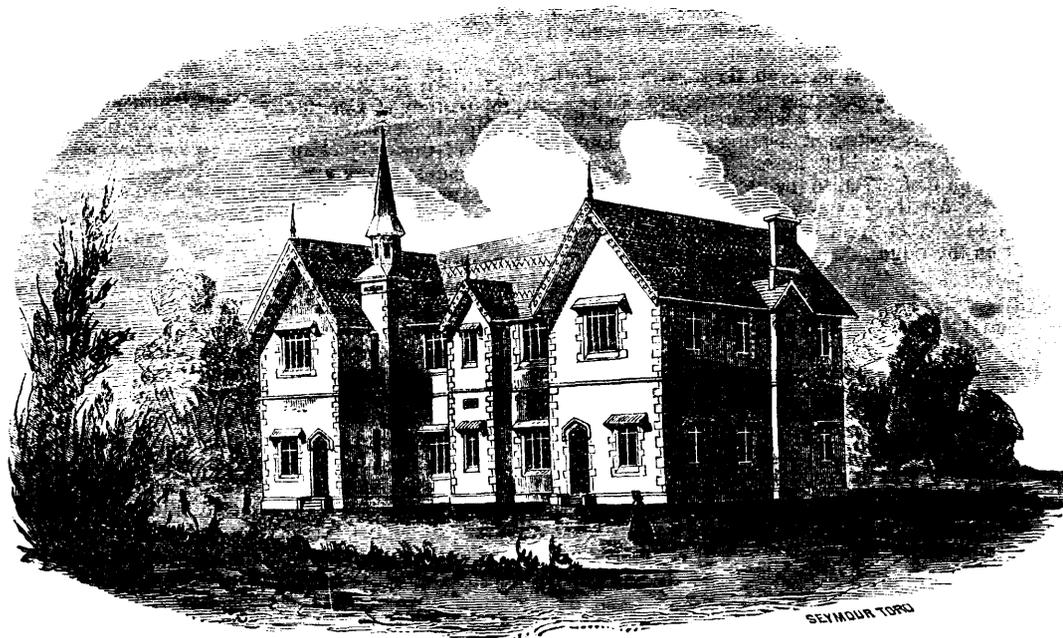
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HANDSOME NEW BRICK SCHOOL HOUSE, SIMCOE, COUNTY OF NORFOLK.

The accompanying drawings illustrate designs made by Messrs. Messer & Jones, architects, Toronto, in reply to an advertisement by the School Trustees of the Town of Simcoe, County of Norfolk, for "A two-story brick school house; cost of the building not to exceed £1,700; accommodation required for 500 or 600 children;" and to be built on a block of ground two acres in extent, near the town.

Thirteen designs were sent in from various parts of Canada and the United States; from which, Design No. 1, as shewn by ground-plan and perspective view above, was chosen.

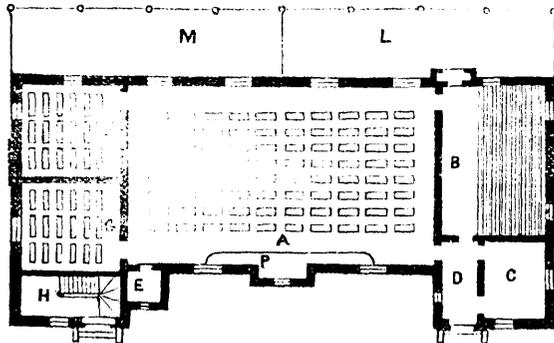
The building is designed in the Old English style,—the most appropriate for a red brick building,—and is finished with Ohio stone dressings. The overhanging roofs afford protection to the walls. The windows are covered with hoods, which shade them, making the light free from the glare of sunshine and, being glazed in small squares, are less liable to be broken.

An entirely separate entrance is provided for boys and girls: the whole of the ground floor being appropriated to the use of the latter. The cloak room, which is next to the entrance hall, is provided with two doors, so that there may be

no crowding when school is dismissed. The doors to school and class-rooms are made to open outwards, in accordance to the suggestions contained in the *Journal of Education* for December, 1851, pp. 180, 181.

The gallery-room will accommodate 120 pupils, and has a door, protected by a porch, opening on the covered play-ground. The gallery-room is an important feature in the construction of school houses, and its adoption has been strongly urged by the school authorities of Upper Canada, in various numbers of the *Journal of Education*.

The large school-room accommodates 160 pupils, with fixed seats and desks, like those manufactured by Jacques & Hay, Toronto, under the sanction of the Educational Department for Canada; and each class-room opening off it has similar desks and seats for thirty-six pupils.

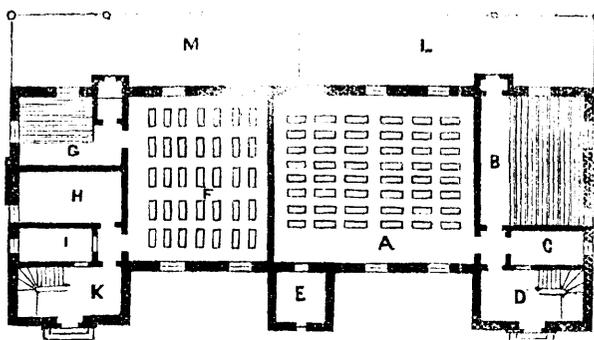


DESIGN NO. 1.—GROUND PLAN.

- |                          |                                |
|--------------------------|--------------------------------|
| A. Girls' School.        | F. G. Class Rooms.             |
| B. Gallery Room.         | H. Staircase and Boys' School. |
| C. Cloak Room.           | L. M. Covered Play Shed.       |
| D. Entrance Hall.        | P. Platform.                   |
| E. Book or Library Room. |                                |

The boys enter the door in the left wing, and ascend a broad staircase to the second floor, where there is a large school-room, with seats for 160 pupils; two class-rooms for 48 pupils each; a gallery for 112 pupils; and a large cloak room. The bell-tower contains book-closets or library rooms on each floor, with the bell-rope leading down into them.

The basement is 6 ft. 6 in. high. The whole area of the building has been excavated, so that any system of heating may be adopted. The rooms on the ground floor are 14 ft. high. The large room on the upper floor has an open roof, 17 ft. to the ceiling, and the class-rooms a height of 14 ft. All the rooms are ventilated by flues in the walls, carried up into the roof, from whence the foul air escapes by an open ventilator on the ridge.



DESIGN NO. 2.—GROUND PLAN.

- |                                 |                            |
|---------------------------------|----------------------------|
| A. Girls' School.               | G. Gallery Room.           |
| B. Gallery, or Infants' School. | H. Class Room.             |
| C. Cloak Room.                  | J. Cloak Room.             |
| D. Staircase.                   | K. Staircase.              |
| E. Book or Library Room.        | L. M. Covered Play Ground. |
| F. Boys' School.                |                            |

Design No. 2, of which the ground plan only is given, accommodates the same number of pupils as the preceding, but it is so arranged that the greatest number of pupils in any one room is ninety-six. It can be adapted to same exterior as Design No. 1, and presents another system of internal arrangement which may be adopted at pleasure. The same general remarks apply to either design.

The whole of the interior arrangements has been the result of careful study and examination on the part of the architects. The plans embrace all the valuable improvements and suggestions

which have appeared, from time to time, in the *Journal of Education* for Upper Canada. They are most creditable to the architects, Messrs. Messer & Jones, who, in the exterior and interior of the building, have united elegance of design with economy and appropriateness of arrangements.

## II. THE EARLY HISTORY OF GEOGRAPHY.

The ocean is formed by a multitude of tiny drops of water, the river and the mountain brook alike contributing their respective quotas. So is it with the science of Geography. Though, but one vast subject, it has been made up of a multitude of little facts and discoveries, drawn now singly, now many together, from a hundred different sources.

Its history is in itself of a most instructive character, particularly in its earlier branches, as it enables us to estimate more justly the amount of civilisation and knowledge possessed by our predecessors in the bygone ages of the world; and induces us to endeavour to add our mite to its ever increasing store.

Why then should this science become so frequently irksome to the young? Simply because it is often not well taught. A little child commits to memory with vast labour the names of a great number of places, of whose real character he is utterly ignorant. Perhaps he can repeat by rote every market town in his native country, and is looked upon as the pattern geographer of his class; perhaps also he can tell us for what productions each of these places are famous; but it is all learned as a parrot learns his lesson, and must not be estimated above its intrinsic value. A real knowledge of Geography embraces a far wider field than this. It teaches us not only the names of certain localities, but their character also—not only for what productions they are famous, but why they are so famous—not only of what historical events they have been the theatre, but why they were chosen to be the fields of such deeds. It teaches us not only how man may alter the face of the earth on which he dwells, may build cities, and change the wilderness into a garden; but how the earth itself may act upon man—how the love of freedom and of country is engendered by dwelling in a mountain region—that of thrift by a residence in the open plain—how the nature of the soil acts upon the vegetation with which it is clothed, and that again tells upon its human occupants—how the differences of its climate brace or enervate the mental and physical energies of man. All these, and a hundred similar topics, are included in a proper study of Geography, that world-wide science.

Our object in this paper has been simply to point out the importance of this subject and to shew in what way it may be studied to the greatest advantage.

Let us now turn our attention to ancient Geography a little more in detail, and we shall find that when rightly examined it conveys to us a vast amount of information. To understand its real value, however, we must look at it under several points of view, such as the amount of knowledge possessed by the ancients, their means of increasing their knowledge, their allegorical and traditional accounts of what was not yet clearly understood by them, and their manner of delineating or representing what they did know.

A primitive people in a state of barbarism would know little or nothing of the nations or countries that surrounded them; but as intercourse with these nations increased, their knowledge would increase also—they would begin to compare their neighbour's country with their own—to mark its differences and to notice its productions, and then they would insensibly take the first step in the knowledge of Geography beyond their own little centre. Hence it is evident that the amount of geographical information possessed by any ancient people marks the degree of intercourse it had established with others, but the character of that information will vary as the intercourse has been of a warlike or commercial character, or the result of individual labours. If of a belligerent nature, the character of the country, its warlike defences, its mountain passes, its fordable rivers, the courage or pusillanimity of its inhabitants, will be prominently noted down. If commercial, the productions of the country, its means of transport, the wants and the skill of its inhabitants will be the principal objects of notice. If the information is derived from the accounts of individual travellers it will refer principally to the remarkable features of the country, to its animal, vegetable, and mineral curiosities, and to the habits and manners of its people. Thus in the name given to our own land by the Phœnicians, "The Isles of Tin," we at once perceive that the intercourse was of a commercial character, while that given by the Spaniards to the southern extremity of South America, "Terra del Fuego," (the land of fire) equally marks a name given neither by an invading army nor a commercial company, but by individual adventurers.

We have dwelt somewhat longer on this subject because we were anxious to point out how much information might be gained by its judicious study which could not so easily be obtained from other

sources; and thus prepared, we shall be enabled to watch with redoubled interest the gradual unfolding of geographical knowledge amongst the nations of antiquity.

The first people who paid any attention to this science were the Chaldeans and Egyptians, and it is said that the first map was made by Sesostris the First, who conquered Egypt. This king, says Eustathius, having traversed great part of the earth, recorded his march in maps, and gave copies of these maps not only to the Egyptians, but to the Scythians also, to their great astonishment. The greatest geographical effort, however, made under Egyptian auspices was that commanded by Pharaoh Necho, who despatched some Phœnicians, says Herodotus, from the Arabian Gulf with orders to return by the Pillars of Hercules and the Mediterranean Sea. This they accomplished, returning to Egypt in the third year, having wintered on the coast of Libya, where they sowed and gathered in their harvest, before advancing further, a somewhat tedious method of proceeding certainly, in the eyes of our present adventurers, but an actual necessity under their circumstances. Modern geographers appear inclined to treat the whole of this narrative as fabulous, and Herodotus himself seems to cast a shade of doubt upon their assertions, for after telling us that while sailing round Libya they declared they had the sun on their right hand, he adds, this "does not appear credible, however it may seem to others." To us, however, this incredible fact appears to give veracity to the whole statement, as they would scarcely have thought of inventing such a circumstance had the expedition been a fable. But though these nations led the van in geographical discoveries, they were followed by many others, Phœnicians, Greeks, and Romans, of whose successive researches, and the motives by which they were produced, we find abundant evidence in ancient historians. We will not here attempt to follow them, our desires being merely to indicate to the student the route he ought to follow.

In judging, however, of the slow pace at which our predecessors advanced, as we trace them step by step, we must recollect that they laboured under far greater difficulties than we do. The early geographers being destitute of mathematical instruments and of astronomical observations, endeavoured at first to ascertain the situation of places according to climate, that climate being determined by them according to the form and colour of the animals inhabiting the different countries whose position they wished to point out. Thus the northern and southern limits of the Torrid Zone were marked by the appearance of negroes and of animals of a large size, such as the elephant and rhinoceros. Now it is evident that such a mode of proceeding must be slow, and liable to many mistakes for which we should be prepared to make great allowances. Thus, Herodotus having learned from Homer that the lambs of Libya have horns at their birth, and seeing that sheep in Scythia remained hornless all their lives, he concluded that a warm climate is especially favourable to the growth of horns. Had he seen the four and six horned sheep inhabiting the shores of the Baltic, he would have been strangely perplexed as to the climate of their country. Similar difficulties must have been of constant occurrence in the then limited state of general knowledge. Another great source of confusion must have arisen from so much of their information being obtained from hearsay, rather than actual observation. Thus, Herodotus, in describing India from the reports of others, related that there were ants there as large as foxes, who burrowed in golden sand, and were so extremely formidable that it was not without great danger that the soil was collected and carried off!

The geographical confusion of the old world would have been still greater had not the Egyptians and Babylonians subsequently adopted a second and surer method of determining the situation of places, or their distance from the equator, by observing the length of their longest and shortest days. This they performed by means of a gnomon erected upon a horizontal plane, by which they were enabled to measure the length and shortness of the shadow in proportion to the height of the gnomon. Thus did our ancestors proceed, feeling their way as it were in the dark, till the fourth century B.C., when the famous school of Alexandria gave a new impetus to geographical science. Timocharis and Aristillus, 295 B.C., established the position of stars according to their longitude and latitude, taken with respect to the equator; these were subsequently transferred to the ecliptic, and then by an easy transition, Hipparchus was led to dispose the different points of the earth also, according to their latitudes and longitudes, and is consequently allowed universally to have first fixed the solid foundation of geography by uniting it to astronomy, and thus rendering its principles self evident and invariable.

If, however, the ancients were wanting in correct and extensive information, they amply made up for their deficiency by their superabundant store of tradition and allegory; and this is a phase well worthy of our careful consideration, as the myths of a nation are strikingly illustrative of its character. Thus, with the Greeks in Homer's time, their actual knowledge extended only to Greece,

Egypt, Asia Minor, and the adjoining islands. Beyond these limits all objects appeared to them in the prismatic hues of wonder and enchantment, and in their records we find nothing but monsters, nations of dreams and the abodes of bliss. These delusive forms were chiefly gathered in the north-western quarter of the hemisphere. All the early writers in Greece believed in the existence of certain regions situated in the west, beyond the bounds of their knowledge, and as it appears, of too fugitive a nature to be ever fixed within the circle of authentic geography. Homer describes at the extremity of the ocean the Elysian plains, "where, under a serene sky, the favourites of Jove, exempt from the common lot of mortals, enjoy eternal felicity." Hesiod, in like manner, sets the Happy Isles, the abodes of departed heroes, beyond the deep ocean. The Hesperic of the Greeks continually fled before them as their knowledge advanced, and they saw the terrestrial paradise still disappearing in the west. Now with the light these vague dreams throw upon the subject, let us compare the intellectual character of the Greeks with that of surrounding nations, the Egyptians for example.

The Grecian myth of a terrestrial paradise, the everlasting abode of departed heroes, shews us their belief in immortality after death, that this present life was not their all; it marks also that they could not conceive the soul enjoying a happy existence independent of the body; their paradise was on earth not in heaven, and those most fitted for its enjoyment were the heroes rather than the benefactors of mankind. Now let us turn to the Egyptians; we do not find with them the same glowing accounts of terrestrial paradise and the eternal felicity of the heroes upon earth, and yet they had the same knowledge of immortality and the soul, but their views were purer and of a less material nature. Their hieroglyphic paintings represent this very clearly. In these they give us a picture of what happens to the soul after death. First it is represented in the form of a bird with a human head, and bearing a sail, emblematical of flight, hovering over the body it has just quitted, and which lies stretched on a bier surrounded by weeping relatives. We then find it standing before Osiris, the judge of all the world, the incarnate Deity himself. Here it is judged, not according as it has been a hero or a warrior on earth, but is literally weighed in the balances, the good deeds being represented as placed in one scale, the emblem of truth in the other. Should the balance be in its favour then it enters at once not to a terrestrial paradise like the Greeks, but into the closest connection with the Deity; should it be otherwise, it is returned to earth in the form of a pig, there to expiate its sins in animal degradation. This is but one example of the information the scholar may draw from the wildest geographical regions of antiquity by comparing them with the allegories (even those of a mythological character) belonging to surrounding nations. It is sufficient, however, for our present purpose. There is another branch of this subject which we ought not to pass over quite unnoticed; those allegories in which the ancients so freely indulged, and which, though at first sight they appear like puerile mythological fables, really refer frequently to geographical facts. We will give an example of this also.

Diodorus Siculus and other ancient writers give us strange, and, at first sight, incomprehensible accounts of the Amazons and Gorgons, and of the strife carried on between them; but if we lift the veil of allegory that envelopes them we shall perceive that they typified the oceanic and volcanic action. The Amazons were a vast host, for the waves of the ocean are countless. The Gorgons were only three in number, because the foci of volcanic action must necessarily be few in any one place. They are represented with wings of gold, a body covered with impenetrable scales, hands of brass, their hair entwined with serpents, and to have had but one eye and one tooth between them which they use by turns. Their golden wings seem to indicate flames, the serpents in their hair, the streams of lava rushing in circuitous courses down their sides; the hands of brass and the body covered with impenetrable scales may readily be applied to their mountain structure, while the possession of but one eye and tooth plainly alludes to the fact that only one crater was in action at a time. Their names also, Stheno, Euryale and Medusa are significant in Greek of their character, Sthenos, is strength, power; Euryalos, wide-spreading; Mudos, light, airy; and Gorgos, swift, vivid.

With this key the fabulous deeds related of the Amazons and Gorgons become actual geographical facts. The conquests of the Amazons under their queen Myrina refer to the diluvial action which has so greatly altered the face of our globe.

Will not an examination of these subjects, studied in the way we have been here endeavouring to point out, enable us to see more clearly into the minds of our ancestors, and while it gives us a juster appreciation of their knowledge, enables us to look more leniently on their ignorance and deficiencies, and by the light and experience thus acquired, the more surely to dispel our own. If we do this, we shall not have studied in vain.—*English Journal of Education.*

### III. Papers on Natural History.

No. 1.

#### THE AQUARIUM, OR AQUA-VIVARIUM.

We have requested the gentleman whose name appears at the end of this description to write it for us, believing that it will prove of interest to our readers:—I will commence by giving a brief account of the history and theory of the Aquarium. The first hint on this subject is found in a book published at Leyden, in 1778, wherein it is stated that plants immersed in water, and exposed to the action of light, emit oxygen gas. In 1833, a Mr. Danbury, and in 1837 a Mr. Ward, again promulgated the practicability of supporting animal life by oxygen furnished by vegetable growth. In 1852, a Mr. Warrington and a Mr. Gorse almost simultaneously made experiments, which have resulted in the successful sustenance of animal life in connection with vegetable existence.

The Aquarium, or Aqua-Vivarium, is founded upon the principle that aquatic plants, while growing, emit sufficient oxygen gas for the support of animal life to a limited extent; the plants, in their turn, forming their solid structure by means of the carbonic acid thrown off by the animals in the process of breathing. This is the theory; the application is as follows:—A clean, tight vessel, with glass sides, is employed for a tank. The bottom is first covered an inch deep with clean, coarse sand, upon which I have found it best to put a thin covering of dark gravel. A rude rock-work adds much to the beauty of the tank and to the comfort of its inhabitants. Over the surface there should be scattered a few aquatic plants—if marine, attached to stones or shells; if fresh water, having their roots buried in the sand; and water is then added, and the whole left for a week or more until the plants are acclimatized and are growing nicely. When thus ready, the "stock" may be added by degrees, until the proper balance of animal and vegetable life is effected. In both marine and fresh water *Aquaria*, a mucous or fungous growth is soon developed, which may be kept down by pond snails, or by the buccinum or salt water snail.

My first attempt was with gold fish (*Cyprinus*); but not being able to obtain the proper plants, I stocked a confectioner's glass jar with a few other plants from the sea, and there soon appeared a large number of small animals, which, viewed by lamp-light, were very interesting. I have found that very deep and narrow tanks, of various shapes, have not succeeded so well as those having a much greater breadth and depth. The tank which I successfully stocked was of an octagonal form, of thirty inches in diameter and about eight in depth. Excepting the great difficulty of rendering it tight, this tank has succeeded admirably. After being in use for a long time, the rock-work is still covered with vegetation, and crabs, minnows, eels and mollusca still sport and wrangle in the home which they have so long occupied.

The animals which I have found to thrive most easily, and to accommodate themselves most readily to their new home, are the minnows or killy fish, the stickleback (*Gasterosteus trachurus*) the shrimp, small specimens of lobsters, hermit crabs, serpulidans, small common crabs, eels, and star fishes. I have been told that the small sheepshead (*Sargis ovis*) is also very good. The petella, the buccinum or sea snail, the purpura or whelk, and several varieties of crepidulas, have also succeeded nicely. The scallop, one of the most beautiful of animals, whose iridescent hues are marvellous in their brilliancy, I have not been able to keep for any length of time. The barnacle, also so interesting in its mode of breathing and of its catching its prey, has not lived long. The spider crab, which the ancients held emblematic of wisdom, and which is noted for his fondness of dress and mischief, has been found altogether too reckless of the consequences of his pranks, and has been banished to a tank kept for "unruly offenders."

No animal in a tank, however, has behaved with more propriety and been productive of more amusement than the small species of hermit or soldier crab. They are ever active, and constantly ready to change their shells for their own gratification or that of beholders. They seldom pass each other without disputing the right of way, and yet never injure each other at all. A little incident will show the pleasure that may be found in observing them. While watching my tank, I saw a hermit crab cogitating upon the expediency of vacating his shell for an empty one lying near him. After mature deliberation he concluded upon the exchange, and suddenly popping his tail into the vacant shell, he crowded out a cloud of particles, probably of decayed animal matter; this attracted the attention of a shoal of minnows, which immediately attacked the poor hermit, endeavoring to draw him from his shell. But a new claimant immediately appeared in the person of a common crab, who clasped the hermit in his claws and attempted to carry him off by "force of arms." The minnows, unwilling to be thus defrauded, now beset the robber, while the hermit, taking advantage of this diversion, crept quickly away from the scene of strife; doubtless convinced that "there is no place like home."

Prawns and shrimps are also objects worthy of admiration. No bird sails through the air with more gentleness than these fishes float through the water. Star fishes, likewise are very pleasing: they live long in confinement, but are, however, quite greedy, and the larger ones will soon destroy a stock of buccinums. The small sheepshead is said by those who have kept it to be very hardy. Many other aquatic animals will doubtless be found to be as suitable as those already named.

The study (for study it is) of *Aquaria* is but yet in its infancy in this country; and we may reasonably hope that when those who are close observers of nature become interested in this matter, we shall learn much more of the "private life" of the inhabitants of the ocean than we have ever hitherto known. Probably no such facilities for the study of natural history have ever been offered as are now presented by the *Aquarium*. We have in our rooms, where we may examine it at our leisure, a sort of section of the ocean, whose inhabitants may be examined in their natural abode, and under most favorable circumstances. With such facilities it will be easy to learn more in a few months' observation than we have heretofore been able to learn by years of examination of dead or dying specimens.

Tanks may be made of various forms. The simplest are made of confectioners' jars or any open-mouthed glass vessels. These will answer very well for small specimens: but the best kind, most proper for the fish, and well suited for observation, are those made in a rectangular form, with four glass sides. It has been found very difficult to make these permanently tight, and at the same time free from the taint of cement. This has, however, been remedied, I believe, by some of the dealers in tanks, so that they may now be purchased so constructed as to be put into use without fear of leakage.

In a fresh water tank we have no anemones nor hermit crabs; but we have newts, the stickleback, which builds its nest beneath the waters, the water beetles, the tadpoles, and numberless others, which fully compensate for the absence of those that are found only in sea water.

The speedy popularity of this piscatorial and botanical "institution"—the *Aquarium*—is undoubted. All that is needed is to exercise patient perseverance, regular attention, and, above all, perfect cleanliness. No decayed matter, animal or vegetable, must be permitted in the tank. A strict care to not overstock or crowd the animals, and a determination to overcome obstacles, will insure success; and the *Aquarium* will become—what it has already become to thousands in Europe—a "new pleasure."

CHAS. E. HAMMETT, JR.

Newport, R.I., Sept. 21, 1857.

[At the polite invitation of our correspondent, we were permitted, while spending some time at Newport this summer, to examine the specimens to which he alludes; and we have seldom spent an hour more pleasantly.—*Scientific American*.

### IV. Papers on Practical Education.

#### 1. COMPULSORY MEASURES FOR SCHOOL-GOING.

Those who take an interest in the education of the people, and have followed what has of late been said and written on this subject, must be aware that in several countries of the Continent where national education is more advanced and universally spread than elsewhere, a particular law enjoins the acquisition of at least a certain amount of elementary knowledge, whilst, at the same time, the means thereto are placed within the reach of every one. The object has been repeatedly mentioned, but always in a very superficial way, with a short summary remark that similar regulations are too much opposed to the feelings and institutions of this country to admit of any further consideration. A policeman driving a herd of reluctant children away from their home and family is the only image that at once stands before the imagination, as representing the nature and consequences of such a law; which latter is at the most thought an efficient one, but only worthy of a country where free institutions are unknown, and the rights of the individual may be disregarded by the will of an absolute ruler.

GERMANY.

In Germany, people take a different view of the case, and, strange as it may sound, not so abstract, but a more practical one. Education is there considered and treated as a most important state affair, and not entirely left to private exertions or speculation. A complete system of public instruction and education has been for a long time in operation, and, amongst other advantages, secured that superiority of primary as well as general instruction which it is impossible not to acknowledge. The people at large have by this time learned fully to appreciate the benefits of that system; and there is no doubt, even if more constitutional liberty were granted, it would not be made use of to overthrow that system, the abolition of which

every one must regard as a retrograde step in civilisation. However a vindication of compulsory measures necessarily prejudices many readers, who suppose that an undue attempt against their personal liberty is implied thereby, and think their opinions on all similar questions so surely settled, that there is at least presumption in endeavouring to advocate opposite views. We must indeed, in order to meet with the pretended victims, descend in the scale of society to the lowest class of people, who from more or less culpable motives neglecting their holiest duties towards their families, and careless about the consequences for all their fellow creatures, quietly contemplate through their fault, the germs of future misery, disorder, and crimes growing up and being propagated amongst them, whilst means for preventing these evils are placed within their hands. But although the reader himself, and the great majority of the people may not be immediately interested, there still remains the principle. Whatever be the social position of a person, his rights ought to be respected; any intrusion upon them must excite the just apprehension and opposition of all. Looking then at the question from this point of view as the only one from which an objection can be raised, and admitting on the one hand the undeniably desirable results derived from a system including compulsory measures: the superiority of general instruction, the instilling of sound principles into the youthful minds, training to good habits, and the consequent influence upon the material and moral welfare of the people: we have to examine whether a law imposing upon a father to let his children partake of means offered for acquiring suitable knowledge is opposed to his natural rights as a parent.

#### RIGHTS OF PARENTS.

For it is obvious that objections are chiefly based upon the supposition that parents have imprescriptible rights, and especially that of disposing according to their own views, of the education of their children, which renders any interference in this matter on the part of government, against their will, unjustifiable.

#### TWO SIDES TO THE QUESTION.

Here lies the difficulty; there are two conflicting opinions and parties, on the one hand government, or rather the community, requiring a certain share in, or eventually control over, education, on the other hand the promoters of most absolute independence. Our task then will be to weigh these two opinions and the arguments by which they are supported, against each other, in order to come to a decision about the question. Now the most simple expression of the argument upon which a person might rest in refusing to comply with the injunction of a law in this case would be: That is my child, no one has a stronger claim to it than myself. Simple and clear as this sentence may appear, a close examination will perhaps discover a great want of distinctness therein, and that the reasoning contained in it is neither tenable nor conclusive. What does it really mean?

It cannot signify anything like material property in such a sense as it was understood in antiquity, or amongst barbarous nations, where a father had unlimited power over his family, nor anything approaching to such a definition; our Christian principles reject such interpretation of the words. Otherwise, what were to become of the child at the death of his father? On whom should the right of the latter pass over? When, how, and why should the relative position undergo a change as the son grows up? Besides, other persons lay claim to similar appellations, the one calling the same individual "my brother," another "my friend," the Sovereign "my subject," we all "my fellow citizen," thus expressing all a certain right to or expectation from his person or doings. The most vehement exclamation about "my child," or even "my own child" does, therefore, on account of the vague signification of the word "my" not yet carry with itself an absolute conclusion on this point.

In short we must, in order to come to a decision, directly inquire what are the positive claims of a father to his child, how far goes his right to dispose of him according to his own will and pleasure? To so pointed a question an equally sharp answer is ready. A father ought not to speak about claims, he has only duties towards his children. However stern and harsh such a sentence may at first sound, it is fully borne out by a reflection on the nature of the relative position as well as by the spirit of Christianity, and in reality its harsh aspect is softened by the use of milder terms, and by that mutual affection which turns duties into pleasures. The signification of the words "That is my child," so far as the present inquiry is concerned, can therefore only be: Nature and Providence intrusted that child to my particular care, I am to be its special protector, guide, benefactor; I am, as far as I can contribute to it, answerable for its present and future welfare and doings. But even if we would so far abate from the strictness of our sentence as to admit that a father may call respect, obedience and eventually material assistance from his children, things which he has a right to exact from them. There is nothing in all this which gives him a title to dispose of them to his own advantage or according to his pleasure, and still less which exempts him from the strict duties imposed upon him.

Amongst the latter, one of the most prominent and indisputable is that to provide for the future, to educate and instruct; and if, therefore, by the community or otherwise, means are especially provided to that end, which cannot be dispensed with or otherwise compensated for, an exclamation against interference with personal liberty and natural rights loses all its ground, amounts almost to contradiction, and can only be looked upon as a specious pretext for evading imprescriptible duties and gaining selfish objects.

But if we thus reduce or rather entirely deny the right of a father to dispose of his child to his own advantage and according to his own will and pleasure, one might at first sight suppose that any claim of government to exact the sacrifice of time and exertions from the same child, to directly interfere with instruction and education is still less founded, and defensible. If, however, for analogy's sake, we went on in the same way as above, to examine the bearing of expressions like those alluded to, "my fellow citizen," "my subject," the result would be in favour of our views and public education. The relation between government, representing the community, and the individual, is essentially different from that between parents and children. The former is originally, and to some extent always, founded on a kind of voluntary agreement, therefore changeable, varying according to different times and circumstances; the latter based on the natural position between parent and child, and therefore unalterable. The former necessarily partakes of the nature of a mutual compact, each party, the community and the individual, taking upon themselves promises, guarantees, rights and duties. The moment a child is born it is silently received into society, and at once partakes of favours and benefits, just as, in a more ceremonious way it becomes a member of the Christian church. But as the promises given at the christening by the sponsors, are to be considered as binding, although at the time the child was unable to appreciate the respective favours and duties, so all nations agree, that in return for protection and other benefits received from society, the community is justified to expect that every one submit to their laws, and in proper time, far from being a nuisance or cause of disorder, become a useful member of that same society. Opinions as to how far liabilities go in this respect, have in different times and amongst different nations, undergone the most essential changes: they were indeed carried from one extreme to another. At one period the State, disregarding all natural ties, and setting aside every consideration of individual interests, required the exclusive disposal of life, property, all material and intellectual faculties of every one. Those times have long passed by. Then came ages of despotism, feodality, predominant church influence, each regarding the individual in a different light, and shaping their respective pretensions accordingly. Now we are living, as it were, in an age of reaction in favour of personal independence, many going in their zeal so far as to deny that, if we provide for the rising generation means most suitable and of almost absolute necessity for their own personal welfare, as well as that of the community, we may not even require any one to make use of the same. This is certainly another extreme, and truth, as usual, lies in the middle. We are undoubtedly justified to require, if only for the sake of self-preservation, as a kind of guarantee for the stability of our social existence, that the younger members of our community become acquainted with those general moral and religious principles upon which society rests, and that they, as far as public education can contribute to that object, be trained and brought up in the esteem and practice of such principles besides cultivating their minds and acquiring such elementary knowledge as may be most proficient to their own happiness. For it must not be forgotten that the aim of public education, and this refers particularly to National Schools established by Government, is not only to impart to children some primary knowledge and abilities, but to influence their feelings and form their character, keeping them from idleness, bad company and consequent evils, by occupying them suitably for a considerable portion of their time, accustoming them to good morals, and even if we would exclude any reference to a special religious creed, by infusing into their hearts an esteem and love for all that is to be respected and valuable in the private person as well as in social relations. This view of the question renders it necessary once more distinctly to mention what has several times already been hinted at. The request, that a certain proficiency in knowledge be acquired, and a moral and religious training be submitted to, supposes, that means thereto be made available for every one without inadequate inconvenience, or in other words: compulsory measures must be considered not as an isolated regulation, but as the natural result of a whole system of national education. To bring up the rising generation according to the wants of the age ought to be matter of general interest: provisions to that effect ought to be made by Government. Their efficiency controlled, care taken that improvements in the system and its working keep pace with the progress of time. The whole question thus placed is only of comparatively modern date, and owes its origin to the advanced state of national development and social intercourse, or as

it is generally termed, to the progress of civilization. The more we go back in the history of a nation the more simple we find the features of common life, as well as the relations and reciprocal duties between individuals and governments; but the development of a nation brings with it more complicated intercourse and new obligations on both sides; at first no establishments like public schools are necessary; they gradually become so for the different classes, and at last for the whole people. Even at a period not very distant the life of an individual presented a far simpler aspect than in our days; the different classes of society were more strictly separated like so many castes, every one moved in a limited sphere, with comparatively little prospect of extending the bounds of his native position, the respective acquirements and duties were circumscribed into a narrower compass, the mind and will received less excitement to stir and exert themselves. All these things have undergone an essential change, and one of the consequences is that a degree of instruction and education which was sufficient under the previous circumstances is no more so at present. The fact is acknowledged, the question remains how to supply for the increasing want. The higher schools seem less subject to the influence exercised by the spirit of the age or their institutions more sheltered by that attachment to existing forms for which this country is so distinguished. The middle classes of society felt the necessity of more suitable preparation for their respective station in life and an altered system, first and most, being as far as pecuniary means are concerned able to provide for their own wants, but left to themselves in doing so, they have mostly fallen into the hands of persons who make a speculation of education; the respective establishments are only too often managed like a tradesman's business, and fall short of that standard to which they ought to be raised. For the lower classes the same necessity of improved teaching and training is generally felt; private exertions are everywhere made, their insufficiency is acknowledged, Government has to a certain degree stepped in by granting pecuniary assistance, but as yet there is no national system established. In the meanwhile the causes which call for interference and assistance go on rapidly increasing. To remain any longer silent or inactive must sooner or later lead to a reaction, and prove prejudicial to the common interest. On the Continent the instruction of the people has far outdone us, and the people at large enjoy the advantages of a superior general instruction, the benefits derived therefrom and the constant progress in that line are clearly visible. It is therefore surely time to ask—Is not the social position of this country so far developed that elementary instruction and education have become undeniable requisites for each individual even of the lowest class; and does not this on the one hand impose upon the Government the obligation to make adequate provisions, and on the other upon the people that to avail themselves of the same? Is not the welfare of the individual as well as of the state closely connected with such institutions? Finally, is England to remain behind other nations in civilization? But here the more special question about compulsory measures must rest.—*English Journal of Education.*

H. D.

## 2. PRIZES FOR PUNCTUAL ATTENDANCE AND GOOD CONDUCT.

Very necessary is it that in giving prizes, they should avoid the manifest evil of increasing the over instruction of the forward scholars in the first class, to the certain detriment of the rest of the school.

The prizes should be given to the lower as well as to the higher classes, or they will do infinite mischief. There should be just as many prizes given to the *third* and to the *second* classes as to the first: better still if there were more. Then there should be other prizes given so as to encourage *attendance* which is a main aid to the teacher's efforts. The Dean of Hereford has seen the necessity of doing this; and has just organised in the city of Hereford this capital "SCHEMES FOR THE REGISTRATION OF SCHOOL CHILDREN."

"It is intended to establish in these Schools a system of registration of all children who have attended School regularly, and conducted themselves well for a period of two years subsequent to their ninth birthday.

No certificate will be given when the attendance is less than 170 days in the year, but two odd half-days will be allowed to count as one day.

A copy of this registration will be given to the child or parents who may require it, as a certificate of character and a recommendation to employment.

At the end of every additional period of six month's attendance by a child to whom a certificate has been given, the certificate will be added to, and will of course be increased in value as a testimonial.

A similar system has been established in Staffordshire, by Mr. NORRIS, the Inspector of Schools and has been found to work well.

Many of the employers of labour there have promised to give a pre-

ference to children holding these certificates of good conduct while at school, and find it their interest to do so. A little reflection must show that it is of the greatest importance both to parents and children—to employers and employed—that children should feel and learn the value of good conduct in the commencement of life.

In order to teach children habits of forethought, and enable them to understand the way in which small sums accumulate, a SCHOOL-SAVINGS-BANK has been commenced, in which they may deposit the pence or small earnings which their parents allow them; these will be received weekly, and repaid at the end of the year with 5 per cent. interest on the running capital, to spend or deposit in the Savings Bank for future accumulation, as the child and its parents may think fit.

The Dean will be responsible for the interest on the savings; the Masters and Mistresses in both schools have cheerfully consented to collect the money.

This is in no way intended as charity and will not be treated as such.

There is excellent sense in this. Here are stimulants to ATTENDANCE, GOOD CONDUCT, and PROVIDENCE: and no premium to the forcing system, Certes, there will be small chance in these Hereford Schools of scholars running to seed, or little prodigies perched on pedestals, reared on the neglect of the rest of the school. This is as it should be; and we can honestly wish it success.—*English Journal of Education.*

## 3. RIGHT USE OF QUESTIONING WHILE TEACHING.

Important as the preparation and arrangement of lessons are, the method of presenting them to the children is not less so, and requires equal care and study. Information may be nicely put together, the lesson may be well arranged, but more is needed to make it effective;—the manner in which the youthful mind is to be exercised upon it. In considering the science, character, and object of questioning, it is not my intention to enter into a critical disquisition on the various modes or systems of questioning; every teacher has in a great measure a system of his own, adapting some method of his own peculiar views and circumstances: my object will be fully accomplished, if I confine my few observations exclusively to the above-named divisions. A blind adherence to any system of questioning, however good, cannot be productive of permanent benefit. There is no doubt that many of the systems at present used possess good points, and also many defects, and it should be the teacher's object to select those parts best adapted to his own capacities, and the circumstances of his school. The term Education is compounded of two Latin words, *e* "out of," and *duco*, "I lead or draw," and consequently should, in its intellectual signification, refer to some such process of drawing out some latent qualities, and extending and expanding them. Now, if we connect to this the science of questioning, we shall see that the human mind is as it were a huge storehouse containing vast accumulations of ideas and facts, capable of being brought into operation by catechising, which may very appropriately be considered as the key for unlocking this storehouse. It will at once be apparent that this subject affects most closely both the school and the teacher. Its ramifications extend into every branch, both religious and secular; and on the use or abuse of this invaluable element of instruction, the success of the school, and the reputation of the teacher depends. It appeals to the mind and brings into exercise the reflecting faculties, testing the capacities of children, and supplying their wants. This is pre-eminently the teacher's vocation, not to state facts to passive minds, but by questioning and explanation to allure the mind of each scholar to unfold itself and display its hidden powers. The plan which Dr. Arnold adapted explains the science of questioning so clearly, and is so admirable in its character, that it is worthy of being carried out by every one engaged in the education of the young. "His method was founded on the principle of awakening the intellect of every individual boy. Hence arose his practice of teaching by questioning. His explanations were as short as possible, as much as would dispose of the difficulty, and no more; and his questions were of a kind at once to call the attention of the boys to the real point of every subject, to disclose to them the exact bounds of their knowledge, and their ignorance, and to cultivate in them a habit, not only of collecting facts, but of expressing themselves with facility, and of understanding the principles on which their facts rested. You come here, not to read, but to learn *how* to read, and thus, the greater part of his instructions were interwoven with the process of their own minds; there was a continual reference to their thoughts, an acknowledgment that, so far as their information and power of reasoning could take them, they ought to have an opinion of their own, a working, not for, but with the form, as if they were equally interested with himself in making out the meaning of the passage before them, a constant endeavour to set them right, either by gradually helping them on to a true answer, or by making the answers of the more advanced part of the form serve as a medium through which his instructions might be communicated to the less advanced part." Such was the system which this eminent schoolmaster practised; he lived to see the superiority of his methods of teaching in the successful management of a large public school, and they may be followed as far as practicable in our National Schools

\* The views here advocated by a learned foreigner are adverse in some respects to our own.—*Ed. English Journal of Education.*

with certainty of success. Without digressing from the subject under consideration, the following hints will, it is hoped, prove useful. In giving a collective or an object lesson, the plan generally recommended is, to present to the children a correct and perspicuous description or account of the subject under consideration, in the form of a short lecture, embracing as concisely as possible every particular connected with it, after which they are to be questioned on it, in order to show the real extent of what they have acquired. In Reading Lessons the following method will, I think present many advantages. While the class is reading, the teacher will pay attention to the tone, punctuation, accent, and correct expression of the text, and will also put such inferential or suggestive questions as the lesson supplies, together with the explanation of any difficult words or passages which may occur. Then, when the reading is finished and the books are closed, questions may be put of a self-evident character from the lesson. The former will furnish the children with fresh information, and test their general knowledge, while the latter will afford the teacher a fair criterion of what they have really remembered. — *From Notes of Lessons.*

#### 4. WHAT WE OWE TO THE CHILDREN AND HOW WE PAY THE DEBT.

The most impressive illustration of the rude reasoning of our forefathers that I have ever seen, I found once in an old work of agriculture. It was the statement made in good faith, that the use of the soil is for the plants to have a firm hold in; and the firmer the ground the better the soil, and the looser the ground the worse the soil.

In rude times like those, metaphysic and moral philosophy fared little better than scientific agriculture. Of course in those times the true use of the children did not appear. I do not know that our forefathers ever caught a glimpse of the use of the children. In good faith I say, that I believe that the use of the children is one of the great discoveries of modern philosophy.

Finding the children were not of much service in getting rich, our ancestors were induced, I suppose, to look at children in a religious light. The trial of faith worketh patience, St. Paul tells us, and it would indeed seem to be a just correlative to this, that the trial of patience worketh faith. Many and varied are the forms of discipline, and they are not to be found alone in the room of sorrow. And out of bearing with serenity all that a mother and a teacher have to bear, does come a lofty and triumphant religious faith.

We are not all preachers *now*—but we have all been preachers of righteousness and temperance, and a judgment to come. Men whose imaginations are depraved and whose tastes are corrupt, learn purity of the child on their knee. Men who cheat and men who lie, learn truth and honesty of unsuspecting, lisping, artless childhood. Men who call down their Maker's wrath upon the dumb beast that serves them, or the neighbor who unwittingly offends them, are rebuked by the gentle, winning tones of the child. The children are always preaching to us. They preach to us of tender purity as we watch them calmly sleeping on the pillow; they preach to us of faith in a higher power than we, as they instinctively run to us in moments of danger; they preach to us of cheerfulness, and animation and energy; they preach to us of simplicity, and frankness and benevolence. God bless the children! Were it not for them I do not know what would become of the world. There is no soul so noble but that it may yet be ennobled by the children. With the children is not only the hope of the future, but the salvation of the present. They light up the home with their smiles, and make it gay with their song, and happy with their spirits; they cheer up the heart of the father returning weary at night, and craving the society of the loved ones at home; they are a perpetual joy to the mother with all her cares and duties; they drive away the love of money and the desire of power; they drive away envy, and malice and discontent, and they give what better fills the place. I say to you, parents, you are very much in debt to your children. Next to what we owe to the Christian religion, I would place what we owe to the beautiful lessons in every virtue that childhood teaches us. They are a force so powerfully constraining to virtue, that I do not think that parents can ever, by the most watchful care and the most cherishing devotion, ever pay their children for the lessons which they teach, even in unspeaking infancy.

There are many ways in which we can pay the children. One is in building them commodious school houses. In many cities the large and tasteful school houses are the first objects that catch the eye, and the most pleasing on which the sight lingers. In building these edifices you are in part discharging the debt you owe to childhood, and you need have no fear of being too lavish in your expenditures. You cannot easily overpay them.

Another way to pay the children is to provide the school house, when finished, with suitable appliances. It is commonly thought that a large amount of philosophical apparatus is a desideratum; and in some towns not only is the high school supplied with these, but the grammar schools.

But in place of very costly apparatus we want other things just as costly, but more practical. One is a library of reference, valuable according to the wealth of the teacher, but yet complete so far as it goes. Every school ought to have, besides the dictionary of words, a biographical dictionary, Universal and Special Gazetteers, a dictionary of art, a classical dictionary, works on teaching and a superior Atlas. It should be such a library that the teachers and the pupils would in it find an explanation for every obscure point which should arise in any study of the school room. Such libraries can be procured for twenty dollars, and in my opinion we do not discharge our debt to the children if we do not place such library of reference in every one of our schools.

Another way in which we can discharge our debt to the children is in employing for our schools superior teachers. In vain do we spend money on costly school houses if we stint it in another direction. I suppose that the very best use of our school money that we can make is in procuring the ablest teachers. A teacher who excels in the difficult art of training the young, ought not to be allowed to go from a place for want of a higher salary.

There is another way in which parents can, in part, discharge the debt which they owe to their children, and that is by entertaining a constant interest in the school which their children attend. I gladly take advantage of my present theme to press this point. And when you have freely expended your money in erecting the school house, let not your care stop there. It is a woful evil, this habit of ours of building good school houses, and then leaving the teacher to take care of them. Parents do neglect fearfully their duty to frequently visit their schools, and cheer the teacher with their presence; and let the children see that their interest in them does not cease the moment the hour for school going arrives. The mothers ought to take their sewing and their knitting, and spend afternoons in their school room. Not, I would imply, as Argus-eyed critics, sharply judging the teacher, but as zealous co-workers with the teacher, showing her that she is not alone in the field. I have known mothers who did thus visit the school room, and a greater spur to teachers' labor and zeal, I never knew. Nor should the fathers postpone their visits to the day of examination or exhibition; they should feel at liberty, nay, they should feel happy to spend any half hour thus, which they can spare from their daily toil.

And in this connection I will say, that the teacher of your children ought to be your personal friend; the teacher of your children ought to have the freedom of your house. It may not be possible that the relation between the teacher and the parents be so close as that between the Pastor and the people; but the teacher's labors are in a large measure unpaid labors, saving as they are rewarded by your love and your active friendship. The teacher does not thoroughly do his work who does not make himself acquainted with the parents of his section, and the parent does not do his duty by the instructor of his child who does not give the teacher a warm welcome at the home, cheering words and pleasant looks.

The school room is the workshop of the soul, and God who has peopled the Universe with wonder, has made nothing more wonderful than the human soul. Simple, and yet beyond all things else, complex; ethereal, of gossamer-like fabric, and in its lighter manifestations, like the sunshine that plays on the waters, yet really deeper than the dark ocean depths; like the solemn voiced organ, capable of sounding forth measure after measure of harmonious concords—and like the organ, too, capable of measure after measure, of harsh, discordant sounds. Now clear as the brook that winds yonder, now dark and turbid as the river after the spring and Autumn rains. Gently breathing over the fields of human life like the west wind of summer—roaring and storming, and whistling like the north wind of winter. Soft and gentle and loveable as the dove that courts your footsteps in the streets—sly and cunning, and suspicious as the tiger crouching in the jungle—hard and rude, and rugged, sincere and manly, and self-poised, the human soul borrows good and evil from all the phases of the world, soars to a height where humanity and Divinity embrace each other and show their common kin, sinks to a depth below which imagined devil never sunk.

To nurture and train this great wonder, the human soul, the school house is built. Let the work in it be well done, and then the structure will be a lasting benefit among you.—*New Hampshire Journal of Education.*

#### 5. TEACHER IN LOCO PARENTIS.

In the parent's stead! Such, both in law and in fact, is the position that the teacher of your children holds. He is to them as a second parent, and has a claim upon their love and obedience but little inferior to that which you yourself possess, and if he is worthy his office he will reciprocate their affection with a parent's anxiety for their some of the parent's most sacred duties, in the rearing of his children, the teacher must, of necessity, wield the parent's authority, and exercise the parent's right.

progress and well-being. For the time he has to do with them they are his children, and the law wisely recognizes his right and duty to teach and govern—to treat and train them as his own children. The nature of his labors requires this reach of authority. Having to discharge

How carefully should you, parent, choose him who is to stand in your place as your representative, and between whom and your children you are about to establish so intimate a relationship. With what solicitude ought you to scrutinize the character of him who is to act, for a time, as the father of those darling little prattlers, or to that brave youth and blooming maiden, whom you, with a proudly swelling heart, call son and daughter. Can you conscientiously give your children, for a term, to one whom you would shudder to commit them for ever; or is it safe to allow him to train them for a year, whom you could not trust to rear them for life? Choose, then, as their teacher, one whom you are willing that your children shall love and imitate; and choose him for his real worth instead of his low price.

Let him be one in whom you can repose the fullest confidence; and whom, as far as disparity of age admits, you can welcome to the privileges of your friendship. Nay, let him be a man to whom you may look with an honoring respect. What folly to employ a teacher whom you must regard with a constant jealousy and distrust! And if he is worthy his place, how unwise and unjust to withhold from him the full and friendly confidence which is his due. However young, or inexperienced or bashful he may be, he is still *in loco parentis*, and wields, over his pupils in the school room, a parent's authority and influence. Seek his acquaintance; consult him as to his views; and plan with him the course of instruction which will best secure the progress of the children whom you should both love.

And if you would count *him* your enemy who should attempt to array your children against you, what cruelty and meanness must it be to prejudice (as some parents do,) your children against their teacher. What worse than madness to tell his pupils they need not obey him. Without their love and obedience the teacher will labor in vain to lay in your children the foundation of the intelligence and virtue which it is his sole business to cultivate.—*Mich. Jour. Education.*

#### 6. SELF-EDUCATION.

Each month's experience tends to prove more surely—it is not how much we try to tell, or teach, our pupils, but how much we enable them to do for themselves, that best promotes their welfare and our own.—*Practical Notes of a Plan to combine Education with Instruction, by Sarah Crompton.*

#### 7. SELF-HELP IN EDUCATION.

Every year we see more plainly that in education, as in other matters, self-help is the best help—that a little which men do for themselves is better than a great deal they get the State to do for them.—*Lord Stanley on Education.*

#### 8. PRECISE EXPRESSION OF IDEAS.

I hold it as a great point in self-education, that the student should be continually engaged in forming exact ideas, and in expressing them clearly by language. Such practice insensibly opposes any tendency to exaggeration or mistake, and increases the sense and love of truth in every part of life. Those who reflect upon how many hours and days are devoted by a lover of sweet sounds to gain a moderate facility upon a mere mechanical instrument ought to feel the blush of shame if convicted of neglecting the beautiful living instrument wherein play all the powers of the mind.—*Professor Faraday on Mental Cultivation.*

#### 9. THE MANUFACTURE OF WORDS.

The following sensible remarks are extracted from a clever paper in *Fraser's Magazine* :—

No permission has been so much abused in our day as that of Horace for the manufacture of words. He allows men to mould one now and then, with a modest discretion and caution; but he is addressing poets, not vendors of patent leather or dealers in marine stores. Would he not have stood aghast at the term "antigropylos?" Would it not puzzle a Scaliger or Bently? It is time, we protest, to put a stop to these vile coinages when every breeches-maker or blacking manufacturer invents a compound word of six syllables as expressive of his wares. Ladies do not wear petticoats now a days, but crinolines. What is their new name for garters? Men do not ride on horse back as aforetime—they take equestrian exercise; women are not married like their grandmothers—they are led to the hymeneal altar.

A bookseller, forsooth, becomes a bibliopole; and a servant is converted into a maniple. Barbers do not sell toothpowder and shaving soap as their fathers did, but odonto and dentifrice, and tryppopnagon; hairwash has passed away—it is capillary fluid. Can any one tell us

the meaning of "diagnosis" as applicable to disease? If it has any signification at all, we will guarantee to find half a dozen Saxon monosyllables expressive of the same idea. Medical gentlemen, too, talk of phlebotomy; we know that it has some connection with blood-letting, and for our own part, we always associate the terms with a night we once spent between the sheets, all alive O! in an Irish hotel—Who would believe that "epistaxis" means simply bleeding at the nose?

Fancy one schoolboy doubling his fist, and telling another to look out for "epistaxis?" What is meant by that fashionable word "aesthetics?" We take up the first book within reach, and open it at random. It is William Wordsworth; a Biography, by Edwin Paxton Wood. Well, what do you read? "By aesthetic biography," he says, "is simply intended a life in its ideal attitudes." Simply intended! Did ever mortal man listen to such verbiage run mad? What, again, are we to understand by the words "objective" and "subjective," which every goose with his sham metaphysics has now a days on his lips?

## V. Canadian Items.

### I. A CANADIAN BATTLE FIELD.\*

Whether we have a heroic age at present, or shall have it at some future time, we are not anxious to discuss, but that we have had a glimpse at least of what may very fitly be called by the name in past days, is beyond doubt to one who visits, as we did lately, one of the few historical districts of the Province. Close to Toronto, we are apt to overlook the interest the neighbourhood of Niagara Falls offers to any one taking the trouble to gather its traditions and memorials. The village of Drummondville, within a mile of the Falls, was the scene of one of the sternest battles of the last war—that of Lundy's Lane. The village lies on a slope, which rises behind, at a short distance, into a sandy ridge, on the crest of which now stands the Presbyterian Church. A table land runs level and open into the heart of the country. On the slope of the ridge, and reaching the crest, stretches the churchyard, beautifully free to the sun in its southern exposure. The main road, known now for ever as Lundy's Lane, climbs the ascent about the middle of the houses, and reaches back to the interior in a straight line. Anxious to pick up what we could of the recollections or memorials of the struggle which has made the locality famous, we gathered what we could of them during a recent visit.

The agony of the battle was wrought out on the slope of the hill, where the dead lie now, in the peaceful slumbers of "God's acre," as our ancestors called the graveyard. On the 25th July, 1814—forty-three years ago—there was noise and tumult enough. The Americans had landed at Chippewa, and were pressing down to drive the British from the district. General Drummond, the head of the British forces, from whom the village took its name, had his head-quarters at Beaver dams, about seven miles back, and, hearing of the invasion, at once marched to meet and repel it. Forming behind the hill, our people stretched along its height to drive back the Americans, who were determined to get possession of it. The battle began at dusk in the evening, and raged fiercely until midnight, when the Americans retreated with great precipitation to their camp beyond Chippewa. On the following day they abandoned this camp, threw the greater part of their baggage, camp equipage, and provisions into the rapids, and, having set fire to Street's mills, &c., and destroyed the bridge at Chippewa, continued their retreat, in great disorder, towards Fort Erie.

The recollections of the inhabitants of Drummondville who then lived in the neighbourhood, are very interesting, and throw light on many details of the struggle. One elderly man pointed to us a spot where eighty of the Glengarry Militia had been killed in mistake by our own side—the poor fellows having pressed quickly from Queenston, and coming up the hill in the dark night earlier than the British expected, and being mistaken for Americans endeavouring to turn our flank. Our informant was then a boy, and told us how he had sat down close to a working party, and wondered what they were doing digging a cellar in the field; and watched them without his wonder lessening till he saw them begin to put the eighty bodies in the one unshapely grave. The ground has long since been ploughed over, and every year now sees crops of wheat or corn grow over the mouldering bones of the brave. Where is there not the dust of the British soldier? It was very warm weather at the time of the battle, and there was no time to bury the dead, who were very numerous—one force having to bury for both sides. Large piles of branches and cordwood

\* For a summary notice of all the Canadian Battle Fields and fortified places in Canada, with illustrations, see the "Geography and History of British America, and of the other Colonies of the Empire." By J. George Hodgins. pp. 52, 62.

were therefore made at different points, and the bodies were heaped on them and burned. Many a fine fellow had this strange end. The conflict must have been terrific at some points, if we may judge from the number of ball-holes in a wooden house, the only one still surviving the battle. We counted certainly not less than fifty bullet holes in the one building—some of musket balls, some of larger sizes, and one a clean round hole cut by a cannon ball. What is now the churchyard was the scene of the fiercest strife. Close to the upper fence, and just where the British battery was fixed, there is a headstone, with these words:—

“Here lies the body of Abraham F. Hull, Captain of the 9th Regiment U. S. Infantry, who fell near this spot in the battle of Bridge-water, (Lundy’s Lane), July 25, 1814. *Æ* 28 years.” There is close by an older memorial—a wooden slab—somewhat differently worded: “This was erected to mark the spot where Capt. Hull, U. S. army, fell in the memorable action of Lundy’s Lane, 25th July, 1814, gallantly leading his men to the charge.” This is the only American grave stone in the church yard. A massive flat monument in the middle of the ground tells a sad story. It bears the following inscription:—“Sacred to the memory of the Hon. Cecil Bishopp, 1st Foot Guards and Inspecting Field Officer in Upper Canada, eldest and only surviving son of Sir Cecil Bishopp, Baronet; Baron de la Zouche in England. After having served with distinction in the British Army in Holland, Spain and Portugal, he died on the 16th July, 1813, aged 30 years, in consequence of wounds received in action with the enemy at Black Rock, on the 13th of same month, to the great grief of his family and friends, and is buried here. This tomb, erected at the time by his brother officers, becoming much dilapidated, is now (1846) renewed by his affectionate sisters, the Baroness de la Zouche and the Hon. Mrs. Pechell, in memorial of an excellent man and beloved brother.” On one side of the tomb are some lines:—

“Stranger, whose steps perhaps ere now have stood  
Beneath Niagara’s stupendous flood,  
Pause o’er this shrine where sleeps the young and brave,  
And shed one generous tear o’er Cecil’s grave;  
Whilst pitying angels point through deepest gloom,  
To everlasting happiness beyond the tomb,  
Thro’ Christ who died to give eternal life.”

This ends the English Baronetcy! Clay cold, but glorious; poor Cecil saw his native land no more!

Near at hand a broken board attracted our attention, and turning it up, the inscription, nearly effaced, ran thus:—“Sacred to the memory of Lieut. Thos. Andrew, 6th Regiment, who died in consequence of a wound he received when gallantly leading on his company before Fort Erie, Sept. 17, 1814. Aged 26 years.” Poor Andrew is hidden somewhere near Colonel Bishopp, but who could now tell where? A half rotten fragment of a wooden head mark, blown by the wind, is all that tells us he ever lived. O life! life! life!—what a dream art thou! It is well to keep a memorial of all who have their names left as having been laid here red from the battle. Two marble slabs, side by side, over two friends, who gave up their lives for us in that struggle, are inscribed thus:—“Sacred to the memory of Lieut. Wm. Hemp-hill, of the Royals, who fell at the battle of Lundy’s Lane, on the 25th of June, 1814. This stone was placed by his son, Lieut.-Col. Hemp-hill, of the 26th Cameronians, 17th July, 1854.” The other is thus: “To the memory of Lieut.-Col. Gordon and Captain Torrens, of the Royals, killed at Fort Erie during the Campaign of 1814. Erected by Major Barry Fox, late of said regiment,—their friend and companion, June 20, 1851.”

Captain Torrens was very likely a relative of General Torrens who died from the effects of the Crimean hardships. Here he sleeps, sweetly we trust, as he died nobly.

These are all the tomb-stones in the churchyard. Only one out of many is here and there recorded—the multitude are forgotten for ever. Yet surely they live in the gratitude of every Canadian. With their lives they defended this country and saved it to us as our heritage. All that we are and have as a British people, we owe to them and their fellow-warriors. Light lie the sod on their breasts! —*Toronto Globe*.

## 2. RETIREMENT OF COL. TACHE FROM PUBLIC LIFE.

Like Sir Allan McNab, Colonel Taché entered upon active life at a very early age. At the commencement of the last war between Britain and the United States, and when only seventeen years of age, he joined the fifth battalion of select and embodied militia, and was present in the different encounters in which that corps was engaged during the progress of that eventful period. He participated in the struggles at Chateauguay and Plattsburgh, and in numerous other contests of less importance; and in every instance won for himself distinction. Immediately after the Union of Upper and Lower Canada, Colonel Taché was returned to represent the county of L’Islet, and was re-elected by the same constituency in 1844. His early par-

liamentary services were marked by a sedulous attention to the details of duty, and by a calm good sense and unaffected simplicity and cordiality of manner which endeared him to his fellow representatives. In July, 1846, he received the appointment of Deputy Adjutant General, with the prospect of early promotion to that of Adjutant General, for which his talents and his military experience eminently qualified him. In this sphere of duty he remained until 1848, when, at the pressing solicitation of Mr.—now Sir L. H.—LaFontaine and other political friends, he was induced to surrender the permanent position he held, and to assume instead a seat in the Reform Administration of that day. Colonel Taché entered upon his ministerial labours as Chief Commissioner of Public Works, and brought to bear the same diligence and judgment that had been displayed in all his previous capacities. In Nov., 1849, he was appointed Receiver General in the room of the Hon. L. M. Viger, who resigned that office at the time of the removal of the Executive from Montreal to Toronto. Col. Taché continued to execute the duties of Receiver General until the resignation of the Hon. John Ross, and then succeeded that gentleman as Speaker of the Legislative Council. This occurred on the 24th May, 1856. Subsequently, after Mr. Cauchon’s retirement from the Government, the onerous duties of Commissioner of Crown Lands were pressed upon Col. Taché by his colleagues, and at their urgent solicitation he undertook them in June last; from then until now occupying the Commissionership, conjointly with the more easy position of Speaker of the upper branch of the Legislature.

Brief and hasty as this retrospect necessarily is, it suffices to exhibit the varied and important services which Colonel Taché has rendered to his country. In youth a soldier; in manhood an efficient departmental officer; then Chief Commissioner of Public Works; then Receiver General; then Speaker of the Legislative Council, with the position of Premier in the Cabinet; and finally Commissioner of Crown Lands. Nearly ten consecutive years of Ministerial power may be expected to happen rarely to any man in Canada. One characteristic has belonged to him throughout his public course—a disinterested devotion to his conception of duty, and a never failing resolve to regard the wishes and interests of his friends as paramount to his own. Personal advantage has never formed an element in his plans. Disregarding pecuniary considerations, he has laboured faithfully without seeking gain to himself; and he now retires from official life with no other reward than that which springs spontaneously from a good conscience, and the gratitude which will long be cherished by his colleagues and his country.—*Toronto Colonist*.

## 3. NEW UNIVERSITY BUILDINGS, TORONTO.

The buildings intended for the use of this institution, the foundation of which we alluded to a few months ago as having been laid by Messrs. Worthington, have been progressing rapidly of late, and although an earnest is alone given of what it will be, yet with the aid of a photographic view, a very fair idea of its appearance when finished may be gained. From this photograph it appears that the principal feature on the south side of the building will be a large square tower, more than a hundred feet high, twenty feet of which are already erected. Entering at the unfinished doorway, the eye is attracted by the wooden ceiling, which, in accordance with the whole building, is in the Norman way. Four arms rise from the corners and meet together in the centre. They are ornamented in what appears to the uninitiated a very peculiar style. There is no elaborate carving, such as seen in the interior of Gothic edifices; indeed all is perfectly simple, but so artistic is the way in which the different parts have been combined that they present a most beautiful whole. The attention is next drawn to the pillars supporting the archway entrance to the principal hall, and from thence to a double window on the opposite side. To describe the figures which ornament both window and door would be impossible. The architects have aimed at the grotesque, and assuredly they have accomplished their object. Passing into the centre hall itself, a doorway is seen on either side, likewise ornamented. Above them, and twenty feet from the floor, is an ornamental stone band which goes completely round the hall. The roof will be at least forty feet high, and arched. On each side of the central tower are buildings which have already reached the height of twenty feet. The windows of the east wing are flat arched, while those in the left wing are round. There is much carved stone work about them, of the same character as that in the hall, though, being on the outside, it is not so finely finished. This part of the College is Romanesque, and has a very fine appearance. The roofs (which are to be covered with coloured tiles) are known technically as “coronal.” The portion of the building now described, will, from its height and the fine proportions, rescue the structure from the somewhat heavy appearance it has now that the Chemical School rears its head above all else. Great exertions have been made to get this finished before the close of the session, and with success. It is but little ornamented, the corbels under the eaves being the principal adornment. Mrs. Stowe, when visiting

Melrose Abbey, wondered whether or not the workers of the strange heads which there peer out from amongst the ivy had carved in the stone representations of their own characters. What they did matters little now, but if the same be the case with the stone masons of the present day, it will be well to keep at a distance from them. "Gorgons, and hydras, and chimeras dire," are among the most respectable of their creation. Almost every contortion of the face which can be imagined, and some of the most fantastic forms ever conceived by the wildest dreamer, are lying in the workshops, amidst piles of rough stones, which in their turn will be gradually made to assume their ordained shape. The placing of each distinct portion of this chaos of matter in its proper position, under the direction of the presiding genius, Mr. Morris, goes on uninterruptedly. The entrance to the Chemical School is by an arcade; close by this is the belfry, a square tower, with a slanting roof, ornamented with a vane at the top. In accordance with the general style of the College, narrow dormer windows are cut in its sides. On the eastern end of the building, also, two towers are rising. Through one of these, which will be eighty-five feet in height, entrance will be gained to the servants' apartments, and the other, 100 feet in height, will constitute the main senate entrance. This eastern side is pure Norman.

In every single detail, from the shape of a tower down to the moulding of a window, acknowledged precedents may be found. Already the appearance of the building reminds the visitor of old places in England; and so entirely is the eye cheated by this appearance of antiquity, that even the presence of the workmen and the newness of the materials fail to eradicate the impression altogether. This is especially the case with the windows to the left of the tower, the arcade leading into the Chemical School, and the belfry turret with the curiously capped chimnies adjoining, already erected. But looking at the whole building as shewn in the plan, it is all of the same antique character.

Few days will elapse before the works will be closed as the weather is growing cold; but as soon as possible next season, they will be urged on with renewed vigour.—*Toronto Globe.*

#### AN INSTANCE OF THE PRACTICAL VALUE OF FREE TOWNSHIP LIBRARIES.

The *Kent Advertiser* states that out of three thousand School Sections in Canada West 2,000 are destitute of Free Libraries. Referring to the county of Kent, and the remarks apply to all counties, our contemporary says,—“Many townships in the county are fully able to raise a local apportionment of £100, and the tax not be sensibly felt, while on the other hand the good effected would be incalculable. Some may be inclined to ask, how a few small Libraries, scattered throughout the county, can produce an incalculable benefit; if they are intelligent individuals, it is only necessary for them to candidly examine the subject for themselves,—the result is easily anticipated. An instance of the utility of Free Public Libraries, of a practical character, may be supplied by the following:—a farmer desires to consult some work on Agricultural Chemistry, or Practical Agriculture, for the purpose of informing himself upon some special point which he has been discussing to himself, or to gather some necessary information on the management of Horses or Cattle, and their diseases with remedies; before he can obtain reliable information, the books must be purchased, probably at a distance, and received by mail, at a cost of \$4 or \$5. If, however, there is a Library in his School Section he can obtain them in a few minutes, without any cost, excepting his tax for its establishment, which was about \$1. Now this is a considerable advantage resulting from the Library; but it probably contains 100 volumes or even more, any of which he is free to borrow, this is better still. There is another important consideration yet, his sons and daughters, and no doubt their mother also, may wish to read some of the highly interesting and instructive books to be found upon the catalogue; nor is this an exclusive privilege, but equally free and advantageous to every family in the School Section.” (See page 16.)

#### 5. VAUGHAN EDUCATIONAL FUND—LIBERALITY TO TEACHERS.

We insert with great pleasure the following resolution, passed by the Township Council of Vaughan:—

“Resolved,—That it is highly desirable to increase the efficiency of the Common Schools of the Township, by aiding the Trustees in securing the services of the most competent Teachers by the offer of liberal salaries, and for that purpose the Treasurer be directed to pay to the Secretary-Treasurer of each School Section, within the Township, the sum of ten pounds out of the interest received or receivable, the 31st of December, on the securities in which the money received from the Government from the Clergy Reserve Fund has been invested.

## VI. Miscellaneous.

The following was adjudged the best out of upwards of thirty contributions for the prize offered by the Directors of the Mercantile Library Association of Hamilton, for the best Canadian or National Song; but no prize was awarded. The author is Mr. Baxter.

### 1. THE MAPLE LEAF.—A CANADIAN SONG.

Swiftly down the dark Ottawa,  
Glides the white man's fire canoe;  
And no more the red man's offering,  
Soothes the river Mahnitoo.

By Huron's shore the fire-horse rushing,  
Wakes no war-whoop with his scream:  
The Indian in his lone last wigwam,  
Sleeps the sleep that knows no dream.

The dismal wailing of his death-song,  
Has forever passed away:  
Now, thro' wood-lands once his war-path,  
Children culling wild flowers stray.

From beyond the mighty salt lake  
Came the Saxon: none but he  
Had sons who could with honour guard,  
The land that bears the Maple-tree.

Whose leaf is now the well-lov'd Symbol—  
in Canadian hearts enshrined—  
Of freedom, who, beneath it's shade,  
Shall sacred shelter always find.

For while Canadian "Hearts of Oak"  
Resolve to shield the Maple-tree,  
No foe's touch can e'er pollute  
Her leaf, the emblem of the free!

### 2. REMARKABLE INSTANCES OF BRITISH HEROISM.

The Rev. Mr. Scudder, of India, in a letter to the Christian Intelligencer, gives the following instances of heroism, called forth by the Indian mutinies:—

Let Americans never be ashamed that Englishmen are their forefathers. England is a noble country,—her sons are heroes and her daughters are heroines. This rebellion has brought out deeds that deserve to be associated with those valorous actions which we, with throbbing pulses, read in history. In one place, a lady and her husband fled in their carriage. He stood upright. She took the reins. She lashed the horses through a band of mutineers, while he, with a cool aim, shot dead one who seized the horses' heads, and another who climbed upon the carriage behind to cut him down. On they fled, till again they found themselves among foes, and a rope stretched across the road made further progress appear impossible. True to herself, she dashed the horses at full speed against the rope, and as they, bearing it down, stumbled, she, by rein and whip, raised them, while her husband's weapons again freed them from those who succeeded in leaping upon them. He was wounded, but both escaped with their lives. In another place, a young lady, the daughter of an officer, shot seven mutineers before they killed her. A captain, pressed by his Sepoys, with his good sword, slew twenty-six of them before he fell!

### 3. THE PECULIAR POST OF DUTY.

Every man has his own peculiar post assigned him here by Heaven, which none can exactly fill but himself; and it should be the object of each to discover what that is, and then to keep it. He has two guides in this decision,—the Providence of God, and the voice within. Let him listen to these, and rest assured that they point out to him the highest and the best path that he could walk in. Another and a different one may better befit another man, and then, though they be widely opposite to him that is the highest. One may be called to a busy, prominent position in society and active life; another's highest walk may be away from these in solitude and concealment. Let all (and that in every varying shade between these two) be careful how they pretend to add to or diminish from either; let each follow in faith the way most clearly presented to him by the two guides he is blessed with, without wilfully, or, though apparently from the best motives, turning to the right or to the left. It is very questionable how we ever really diminish our liability to temptation by mere change of circumstances. Satan's strong citadel lies in our own breast; and when we narrow the external circle of dangers we frequently only strengthen the few that remain; for the great enemy will not thus be

disappointed of his schemes; and if there is a traitor within who answers readily to the temptations without, he will not require great events or a prominent stand to carry on his work; things that we should call trifles may be made an occasion for sin.—*Truth without Prejudice.*

#### 4. READING.

"There are many," said Dr. Chalmers, addressing a meeting of his own parishioners "who have been two or three quarters at school, and have even got on as far as the Bible; but when I come to examine them, I am struck with their slovenly and imperfect mode of reading, obliged as they are to stop and to spell to blunder on their way through every verse in such a manner as to make it palpable to those who hear them that it had been very little worse for them though they had never been at school at all. Now, be assured that those who cannot read with fluency and readiness to the satisfaction of others, cannot read with satisfaction, or any real understanding of what they do read to themselves. They may go through the form of reading their Bibles, but I am sure that they do not understand them, and what is this to say but that the Bible is still a sealed book to them—that they want the key by which it is to be opened"—*Chalmers.*

#### 5. I HAVE NO TIME TO READ.

The idea about the want of time is a mere phantom. Franklin found time, in the midst of all his labour, to dive into the hidden recesses of philosophy, and to explore the untrodden paths of science. The great Frederick, with an empire at his direction, in the midst of war, on the eve of battles that were to decide the fate of his kingdom, had time to reveal the charms of philosophy and intellectual pleasures.

Bonaparte, with all Europe at his disposal, with kings in his antechamber, begging for vacant thrones, with thousands of men whose destinies were suspended on the brittle thread of his arbitrary pleasure, had time to converse with books. Cæsar, when he had curbed the spirits of the Roman people, and was thronged with visitors from the remotest kingdoms, found time for intellectual conversation and study.

Boys and girls can have time, if they are willing to improve it, to gain much valuable knowledge, while out of school, without depriving themselves of necessary play or enjoyments.

Suppose every scholar eight years of age should commence reading some interesting books, and read one hour each day, continuing to do so until he is twenty years old; he would have gained more than a year's time, or three hundred and sixty-five days of ten hours each.

Who will try this course? Young reader, will you do it? You can if you will only make the attempt, and thus lay up a vast amount of knowledge for yourself. Winter is coming on. Now is the time to read.—*The Student.*

#### 6. TWO WAYS OF TELLING A STORY,

##### A LESSON FOR UNCIVIL BOYS.

In one of the most populous cities of New England, a few years since, a party of lads, all members of the same school, got up a grand sleigh ride. The sleigh was a very large and splendid one, drawn by six gray horses.

On the day following the ride, as the teacher entered the school-room he found the pupils in high merriment, as they chatted about the fun and frolic of their excursion. In answer to some inquiries he made about the matter, one of the lads volunteered to give an account of their trip and its various incidents.

As he drew near the end of his story, he exclaimed: "O, sir, there was one little circumstance that I had almost forgotten. As we were coming home, we saw ahead of us a queer-looking affair in the road. It proved to be a rusty old sleigh, fastened behind a covered wagon, proceeding at very slow rate, and taking up the whole road.

"Finding that the owner was not disposed to turn out, we determined on a volley and a good hurrah. They produced the right effect, for the crazy machine turned out into the deep snow, and the skinny old pony started on a full trot.

"As we passed some one gave the old jilt of a horse a good crack which made him run faster than he ever did before, I'll warrant you. And, so with another volley of snowballs pitched into the front of the wagon, and three times three cheers, we rushed by.

"With that, an *old fellow* in the wagon, who was buried beneath an old hat, and who had dropped the reins, bawled out,—'Why do you frighten my horse?' 'Why don't you turn out then?' says the driver. So we gave him three rousing cheers more. His horse was frightened again, and ran up against a loaded team, and I believe almost capsized the old creature—and so we left him."

"Well, boys," replied the instructor, "take your seats and I will in my turn tell you a story, and all about a sleigh-ride, too. Yesterday afternoon, a very venerable old clergyman, was on his way from Boston to Salem, to pass the residue of the winter at the house of his son. That he might be prepared for journeying in the Spring, he

took with him his wagon, and for the winter his sleigh, which he fastened behind his wagon.

"His sight and hearing were somewhat blunted by age, and he was proceeding very slowly and quietly, for his horse was old and feeble, like its owner. His thoughts reverted to the scenes of his youth—of his manhood, of his riper years. Almost forgetting himself in the multitude of his thoughts, he was suddenly disturbed, and even terrified, by loud hurrahs from behind, and by furious pelting and clattering of balls of snow and ice upon the top of his wagon.

"In his trepidation he dropped the reins, and as his aged and feeble hands were quite benumbed with cold, he could not gather them up, and his horse began to run away. In the midst of the old man's trouble, there rushed by him, with loud shouts, a large party of boys, in a sleigh drawn by six horses." "Turn out! turn out, old fellow! Give us the road, old boy! What will you take for your pony, old daddy? Go it, frozen nose? What's the price of oats?"—were the various cries that met his ears.

"Pray do not frighten my horse?" exclaimed the infirm old driver. Turn out then! turn out! was the answer, which was followed by repeated blows and cracks from the long whip of the 'grand sleigh,' with showers of snow-balls, and three tremendous cheers from the boys who were in it. The terror of the old man and his horse was increased, and the latter ran away with him, to the imminent danger of his life. He contrived, however, to secure his reins, and to stop his horse just in season to prevent his being dashed against a loaded team.

"A short distance brought him to his journey's end, the house of his son. His old horse was comfortably housed and fed, and he himself abundantly cared for. That son, boy, is your instructor, and that *old fellow and old boy* (who did not turn out for you, but would gladly have given you the whole road had he heard you approach) that *old daddy and old frozen nose*, was your master's father."

Some of the boys buried their heads beneath their desks; some cried; and many hastened to their teacher with apologies, and regrets without end. All were freely pardoned, but they were cautioned that they should be more civil for the future, to inoffensive travellers, and more respectful to the aged and infirm.—*New Hampshire J. of E.*

#### 7. LESSON ON THE THERMOMETER.

*Derivation and definition.* The term thermometer is derived from two Greek words—*thermos*, heat, *metron*, a measure; the literal meaning is therefore a measure of heat.

*Description.*—The thermometer consists of a little hollow globe of the tube, with a tubular stem of the same size from the top to the bottom: this is made of glass, because it must be transparent, in order that we may notice the action of the liquid which it contains. The liquid which fills the ball and part of the stem is generally mercury or quick-silver. Spirits of wine are sometimes used, but the former is found to be the best, as it does not pass into vapour in low temperatures as spirits of wine. After the mercury is put into the ball and part of the tube, the whole is made intensely hot; as near the evaporating point as possible, because then it has the greatest bulk which it can have as a liquid. The end of the tube opposite the ball is then closed by melting the glass to a solid by heat, which is called sealing it hermetically, *i.e.*, perfectly close. Afterwards it is allowed to cool gradually and as it cools the liquid cools down to its proper position.

The ball must not be too large or the liquid sinks down into it altogether, and the thermometer becomes useless in low temperatures; it must not be too small or the liquid would not sink low enough into it, and it would then be useless at high temperatures. To ascertain which is the freezing point, the thermometer is plunged into cold water which is just freezing, when a mark is made on the tube just opposite the surface of the liquid which is in it. In order to ascertain the boiling point, the thermometer is plunged into boiling water and a scratch made as before. The distance between these two points is divided into a certain number of degrees. This is called scaling it.

The thermometer which is commonly used in England is Fahrenheit's, in which the interval between the boiling and freezing points is divided into 180°; the freezing point is marked 32°, and the boiling 212°.

Thermometers were in use in the seventeenth century, but it is not known by whom they were invented. Fahrenheit's was invented A. D. 1724.

*Use.*—The thermometer is used to measure heat, and by its aid we can ascertain whether there is a sufficient amount of heat in a room or whether too much. If the thermometer rises between 56° and 60° above zero when placed in a room, the room is sufficiently warm.

#### 8. PRINCIPLES OF BAROMETRIC INDICATIONS.

1. Changes of weather are indicated by changes in the height of the column, and not by its absolute height. When the mercury is low, wind and perhaps storms may be anticipated.

2. Generally the rising of the mercury indicates the approach of fair weather; the falling of it the approach of foul

3. In sultry weather the fall of the mercury indicates coming thunder. In winter the rise of the mercury indicates frost. In frost its fall indicates a thaw, and its rise, snow.

4. Whatever change of weather suddenly follows a change in the barometer, will last but a short time. Thus, if fair weather follows immediately the rise of the mercury, there will be very little of it; and if foul weather follows the fall of the mercury, it will last but a short time.

5. If fair weather continue for several days during which the mercury continually falls, a long succession of foul weather will probably ensue; and again, if foul weather continue for several days, while the mercury continually rises, a long succession of fair weather will probably succeed.

6. A fluctuating and unsettled state in the mercurial column indicates changeable weather.

Obs. These few principles are the result of the experience and observations of former ages; but no rule will hold good in every instance. —*Drew's Practical Meteorology.*

### 9. THE MORNING TWILIGHT.

BY EDWARD EVERETT.

[From his Oration at the Dedication of the Dudley Observatory.]

Much, however, as we are indebted to our observatories for elevating our conceptions of the heavenly bodies, they present, even to the unaided sight, scenes of glory which words are too feeble to describe. I had occasion, a few weeks since, to take the early train from Providence to Boston, and for this purpose rose at two o'clock in the morning. Everything around was wrapped in darkness and hushed in silence, broken only by what seemed at that hour, the unearthly clank and rush of the train. It was a mild, serene, midsummer's night, the sky was without a cloud, the winds were still. The moon, then in the last quarter, had just risen, and the stars shone with spectral lustre, but little affected by her presence. Jupiter, two hours high, the herald of the day; the Pleiades, just above horizon, shed their sweet influence in the east; Lyra sparkled near the zenith; Andromeda veiled her newly discovered glories from the naked eye in the south; the steady pointers, far beneath the Pole, looked meekly up from the depths of the North to their sovereign.

Such was the glorious spectacle, as I entered the train. As we proceeded, the timid approach of the twilight became more perceptible; the intense blue of the sky began to soften; the smallest stars, like little children, went first to rest; the sister beams of the Pleiades soon melted together; but the bright constellations of the north and west remained unchanged. Steadily the wondrous transfiguration went on. Hands of angels, hidden from mortal eyes, shifted the scenery of heaven; the glories of night dissolved into the glories of the dawn. The blue sky now turned more softly gray; the great watch stars shut up their holy eyes; the east began to kindle. Faint streaks of purple soon blushed along the sky; the whole celestial concave was filled with the inflowing tides of the morning light, which came pouring down from above, in one great ocean of radiance; till at length as we reached the blue hills, a flash of pure fire blazed out from above the horizon, and turned the dewy tear-drops of flower and leaf into rubies and diamonds. In a few seconds the everlasting gates of heaven were thrown wide open, and the lord of day, arrayed in glories too severe for the gaze of man, began his course.

I do not wonder at the superstition of the ancient Magians, who in the morning of the world went up to hill-tops of Central Asia, and ignorant of true God, adored the most glorious works of his hand. But I am filled with amazement when I am told that in this enlightened age, and in the heart of the Christian world, there are persons who can witness this daily manifestation of the power and wisdom of the Creator, and yet say in their hearts that "There is no God."

### 10. SEA GRANDEURS.

There is a peculiar charm about the sea; it is always the same, yet never monotonous. Mr. Gosse has well observed, that you soon get tired looking at the loveliest field, but never at the rolling waves. The secret perhaps is, that the field does not seem alive; the sea is life abounding. Profoundly mysterious as the field is, with its countless forms of life, the aspect does not irresistibly and at once coerce the mind to think of subjects so mysterious and so awful as the aspect of the sea does—it carries with it no ineradicable associations of terror and awe, such as are borne in every murmur of old ocean, and thus is neither so terrible nor so suggestive. As we look from the cliffs, every wave has its history; every swell keeps up suspense;—will it break now, or will it melt into that larger wave? And then the log which floats so aimlessly on its back, and now is carried under again like a drowning wretch—it is the fragment of some ship that has struck

miles and miles away, far from all help and all pity, unseen except of Heaven, and no messenger of its agony to earth except this log, which floats so buoyantly on the tide? We may weave some such tragic story, as we idly watch the fluctuating advance of the dark log; but whatever we weave, the story will not be wholly tragic, for the beauty and serenity of the scene are sure to assert their influences. O mighty and unfathomable sea! O terrible familiar! O grand and mysterious passion! In thy gentleness thou art terrible when sleep smiles on thy scarcely quiet, heaving breast: in the wrath and thunder thou art beautiful. By the light of rising or of setting suns, in grey dawn or garish day, in twilight or in sullen storms of darkness, ever and everywhere beautiful; the poets have sung of thee, the painters have painted thee—but neither the song of the poet, nor the cunning of the painter's hand, has more than caught faint reflexes of thy incommunicable grandeur, and loveliness inexhaustible! — *Blackwood's Magazine.*

### 11. GREAT BRITAIN ON THE WORLD'S MAP.

We see two little spots huddled up into one corner, awkwardly shot off to a side, as it were, yet facing the great sea, on the very verge and lip of the great waste of waters, with nothing outside of them to protect them; not like Greece or Italy, or Egypt, in a Mediterranean bounded by a surrounding shore to be coasted by timid mariners, but on the very edge and verge of the great ocean, looking out westward to the expanse. If she launches at all, she must launch with the fearless heart that is ready to brave old ocean—to take him with his gigantic western waves—to face his winds and hurricanes—his summer heats of the dead still tropics—his winter blasts—his fairy icebergs—his fogs like palpable darkness—his hail blasts and his snow. Britain has done so. From her island home she has sailed east and west, north and south. She has gone outwardly and planted empires. The States themselves, now her compeer, were an offshoot from her island territory. Her destiny is to plant out nations, and the spirit of colonisation is the genius that presides over her career. She plants out Canada, Australia, New Zealand, and the Cape. Ceylon and the Mauritius she occupies for trade. India she covers with a net work of law framed and woven in her Anglo-Saxon loom. She clutches China, and begins at least to break up the celestial solecism. She lays hold of Borneo, and straightway piratical prahus are seen wrecked and stranded on the shore, or blown to fragments in the air. She raises an impregnable fortress at the entrance of the Mediterranean, and another in its centre as security to its sea-borne trade. She does the same in embryo at the entrance of the Red Sea. Westward from Newfoundland she traverses a continent, and there, in the Pacific, Vancouver's Island—which may one day become the New Great Britain of Anglo-Saxon enterprize, destined to carry civilisation to the innumerable Islands of the great sea—bears the Union Jack for its island banner, and acknowledges the sovereignty of the British crown. At Singapore she has provisionally made herself mistress of the straits of Malacca, and thousand of miles away on the other hand at the Falkland Islands, near to the Land of Fire, the British mariner may hear the voice of praise issuing in the Anglo-Saxon tongue. In addition to this, she has representatives at every court and consuls at every sea-port. Her cruisers bear her flag on every navigable sea. Europeans, Asiatics, Africans, Americans, and Australians, are found wearing her uniform, eating her bread, bearing her arms and contributing to extend her dominion.—*North British Review.*

### 12. AN HOUR WITH AN AMBROTYPE.

Look a few seconds into the brass tube attached to that square box, on three legs, into which the operator has put a little piece of glass with some chemicals on it. Be still. There, it is over. The operator has closed the tube, taken out the little piece of glass, and gone into his dark room. In a few moments he comes out with a fine picture. It looks natural as life. Each feature perfect and distinct, even to the slight pucker of the mouth, occasioned by the effort to keep from smiling. The brow, lips, chin, good-natured smile, are all there. Now, let us see how it was done.

I don't think it necessary for me to describe the little box, called a camera, into which the operator put the little piece of glass, for you have all seen one, and you know just how it looks. But the next time you go into the room where ambrotypes or daguerreotypes are taken, ask the operator to let you look into the box when some one is sitting in the chair, and you will see how the image is formed upon a piece of ground-glass in the camera. As almost any work on philosophy explains all about this, I will not occupy space in describing what you can learn just as well anywhere else. So let us look at some things not explained in the books. I take it for granted, then, that you know all that is necessary about the camera. Let us take a picture also.

Take up this piece of glass, about three inches by four. Put some very finely pulverised rotten stone on it, and wet it with a little

alcohol. Then scour with a piece of white Canton flannel, until you get the glass perfectly clean and dry. Upon this you pour a thin film, called *collodion*. Then immerse it in the bath, or silver solution, the collodion side up. Let it remain from one-half to three minutes, until it looks smooth, and of a bluish-white colour. Place it in the *tablet*, and then expose it in the *camera* from five to thirty seconds. The time will depend upon the power of the light and the quality of the silver solution. Then take it into the dark room. Immerse in the developing solution, until faint outlines of the picture are seen. Take it out, and from a faucet let a stream of pure rain-water run upon the collodion side, washing the other side with your hand until the oily appearance disappears. Then immerse in the fixing solution, or pour this solution on it, until the bluish appearance is gone. Again wash in pure water from the faucet, and stand it upon its edge to dry. If you wish to colour the lips, use a little rouge on the collodion side. Then pour on the negative varnish in the same manner as you did the collodion, drain well, and dry with a spirit lamp; then put on the black japan, dry it, and put in the case.

Now you have gone through the process, let us see what the bath solution, &c., are composed of.

*Collodion*.—This is made of gun-cotton, alcohol, and sulphuric ether. To make the gun-cotton, use nitre, sulphuric acid, and cotton. Powder the nitre in a druggist's mortar, pour in the acid and put in the cotton, and stir it with a piece of glass. It must then be washed until it is free from the acid. This is gun-cotton.

Put the ether, ten ounces, and alcohol, eight ounces, into a bottle. Then add the gun-cotton, eighty grains, and shake well, and most of the cotton will be cut or dissolved. Let it stand and settle. Pour off, and then make it ready for use, thus:—

Dissolve iodine of potassium, twenty-four grains, and bromide of potassium, seventeen grains, in as little water as possible, then pour this into collodion, six ounces, and shake well. Then add iodide of cadmium, nine grains, and a few drops of tincture of iodine. This makes the collodion. Most operators buy this collodion already made, and thus escape the trouble and perplexity of making it.

*Bath, or Silver Solution*.—Make a solution of nitrate of silver, in the proportion of forty grains of the silver to one ounce of water.

Dissolve five grains each of iodide of potassium and nitrate of silver in an ounce of water. This will form a yellow precipitate or settling. Put this precipitate into the silver solution, shake well, let it stand over night, and then filter it. This has a tendency to keep the bath good for a long time. A few drops of nitric acid should be added to the solution.

The *tablet* is a little frame-work into which the glass is placed before it is placed in the *camera*. It has a slide to it to keep the light from it until you are ready to let the image of the one whose picture you want, fall upon it.

The *dark room* is a place in which silver solution and developing solution are kept—from which all natural light should be excluded. The light here used is that of a spirit lamp. Natural light destroys the chemicals, or changes them, so as to make them unfit for taking pictures. It is the action of the light upon the chemicals that makes the image.

*Developing Solution*.—Dissolve proto-sulphate of iron, one and a half ounces, in water, one quart, and add acetic acid, four ounces; or take five ounces of this solution, and to that add six drachms of acetic acid.

*Fixing Solution*.—With one quart of water put cyanide of potassium, one ounce; nitrate of silver, ten grains; chloride of gold, five grains.

*Transparent negative varnish* is gum-demar, thinned with spirits of turpentine.

These preparations are varied by different artists; but the ones I have showed you here will work like a charm.

The *japan*, which is gum asphaltum cut or dissolved in turpentine, is used on the glass plate to secure the picture, and at the same time make it visible—as it is very difficult to see the picture unless it has a dark substance behind it. Sometimes two glasses are used. On one is the image; the other is simply a piece of glass with the japan on it. They are held together by a strip of paper with gum-arabic on it.

—*North-Western Christian Advocate*.

### 18. HOW A MONEY PANIC WAS MADE IN LONDON.

Panics have been produced by extraordinary means. That of 1832, in Great Britain is thus described in Timbs's "Curiosities of History":—

In May, 1832, a run upon the Bank of England was produced by the walls of London being placarded with the emphatic words, "To stop the Duke, go for gold;" advice which was followed as soon as given, to a prodigious extent. The Duke of Wellington was then very unpopular; and on Monday, the 14th of May, it being currently believed that the Duke had formed a cabinet, the panic became universal, and a run upon the Bank of England for coin was so incessant that in a few hours upward of two millions of dollars was carried off. Mr. Doubleday, in his "Life of Sir Robert Peel," states it to be well known

that the above placards were "the devices of four gentlemen, two of whom were elected members of the reformed Parliament. Each put down £20, and the sum thus clubbed was expended in printing thousands of those terrible missives, which were eagerly circulated, and were speedily seen upon every wall in London. The effect is hardly to be described. It was electric."

### 14. A HEARTY LAUGH.

AFTER all, what a capital, kindly, honest, glorious thing a good laugh is! What a tonic! What a digester! What a febrifuge! What an exorciser of evil spirits! Better than a walk before breakfast or a nap after dinner. How it shuts the mouth of malice and opens the brow of kindness! Whether it discovers the gums of age, the grinders of folly or the pearls of beauty; whether it racks the sides and deforms the countenance of vulgarity, or dimples the visage or moistens the eye of refinement—in all its phases, and on all faces, contorting, relaxing, overwhelming, convulsing, throwing the human form into the happy shaking and quaking of idiocy, and turning the human countenance into something appropriate to Billy Burton's transformation—under every circumstance, and where a laugh is a glorious thing. Like "a thing of beauty," it is a "joy forever." There is no remorse in it. It leaves no sting—except in the sides, and that goes off. Even a single unparticipated laugh is a great affair to witness. But it is seldom single. It is more infectious than scarlet fever. You can not gravely contemplate a laugh. If there is one laugher and one witness, there are forthwith two laughers. And so on. The convulsion is propagated like sound. What a thing it is when it becomes epidemic.—*Dublin University Magazine*.

## VII. Educational Intelligence.

### CANADA.

— UNIVERSITY OF MCGILL COLLEGE, MONTREAL.—The Montreal *Witness* states that this institution is progressing most favourably. More pupils applied for admission to the Normal School on the day of opening than could be accommodated, although room can be found for 230. There are 62 teachers in training, and the High School department numbers 242 scholars. The Faculty of Arts has raised its number of regular students to 30. In the Medical and Law Faculties, which opened last week, the classes are scarcely fully organised, but will probably reach to 100 students in both. In all about 650 pupils and students of various grades, will, during the present session, be receiving instruction from this institution, in addition to occasional students who may attend particular courses or popular lectures.

— THE HAMILTON PUBLIC SCHOOLS.—The examinations of the different Public Schools in the city, concluded with the Primary Schools, yesterday. In those schools which we visited, we noticed that very good order was kept, and that the children cheerfully obeyed the teachers. These are also prominent characteristics at the Central. There appears to be neither oppressive harshness nor unwarrantable laxity on the part of the teachers—neither servile fear nor rudeness on the part of the children.

The pupils in the Central School number..... 850  
In the Primary Schools..... 1,150

Total..... 2,000

Such has been the progress of the various classes that it will become necessary at the commencement of the New Year to organize a new department in advance of any hitherto existing in the school, and designed for the prosecution of only the higher branches of study. Pupils in the Central School may acquire not only a good English, but a classical education, embracing, in addition to the common branches, History, Algebra, Euclid, Trigonometry. History of English Literature and Language; Latin, Greek and French Languages; Elements of Botany, Philosophy, Zoology, and Physiology, Vocal Music, Linear Drawing, &c. The classes in the Mechanics' Hall, in the evening, were examined in Electricity, Physiology, and Mental Philosophy; and the proceedings were interspersed by very excellent vocal music. Relative to the proficiency of the pupils we have nothing to add, further than that Mr. Ormiston, in his remarks at the Mechanics' Hall, said he had visited all the prominent public schools in Western Canada, and he had no hesitation in saying that the Central School of Hamilton, stood foremost among them.—*Hamilton Banner*.

— METEOROLOGICAL OBSERVATIONS.—THE EDUCATION OFFICE AND THE GRAMMAR SCHOOLS.—Some years since a clause in the school law author-

ized the establishment of stations, at the seat of the Grammar Schools in each County in Upper Canada, for making meteorological observations.

The objects of the enactment are thus briefly explained by the law itself:—"Whereas it is desirable, at Seminaries and places of Education, to direct attention to natural phenomena and to encourage habits of observation; and whereas a better knowledge of the climate and meteorology of Canada will be serviceable to agriculture and other pursuits, and be of value to scientific enquirers," &c.

The duty of procuring the necessary instruments was imposed on the Chief Superintendent of Education, but unavoidable delay has up to the present time postponed the benefits designed by the Legislature.

It appears that instruments selected in the United States were found to be unsuitable, and upon consultation with Colonel Lefroy, the Chief Superintendent deemed it advisable to have instruments expressly prepared for the purpose, and with improvements which experience in this climate had suggested.

All these instruments have now been procured—have been tested by a competent person, and approved by Colonel Lefroy, long and favourably known in connection with Her Majesty's Magnetical Observatory in Canada. They are now ready to be issued.

We think the Chief Superintendent acted wisely in waiting till the best instruments could be obtained, and until they had been subjected to a winter's test at the Toronto Observatory. The value of observations depends entirely on their accuracy, and none can be relied on as "facts" unless where properly tested instruments are employed. Further, the duty of making the requisite observations is thrown upon the Head Master in each Grammar School, and it is most important that these gentlemen, if not already fully acquainted with the use of instruments, should be properly instructed.

Whatever difference of opinion may exist amongst the gentlemen composing our Municipal Council on questions of a debatable character, we are proud to say that in matters of this kind a liberal and enlightened spirit has ever characterized their proceedings. And it is truly said by the Department of Education that "the great practical importance to a new and but partially settled country of establishing (thus early in its history, and before its physical condition is materially changed) a complete and comprehensive system of meteorological observations, need scarcely be remarked upon.

"Every enlightened country in Europe is now more or less engaged in prosecuting enquiries in this particular branch of science. In the other parts of Her Majesty's dominions, and in the United States, meteorological stations have been long since established. Although the science is yet comparatively in its infancy, yet from the aggregate of facts which have already been collected at various points, and in different countries, truths of the highest value and importance in scientific research have been unfolded; unsettled theories have been tested, and questions relating to physical phenomena which had long remained among the sealed mysteries of nature have been satisfactorily solved."—*Northern Advance*.

### BRITISH AND FOREIGN.

— **FREE CHURCH COLLEGE OF GLASGOW.**—The new Free Church College which has been lately erected in Glasgow, Scotland, was formally opened on Wednesday, the 4th of November. The Rev. Dr. Wood, Moderator of the General Assembly, presided, and the four Professors, viz., Principal Fairbairn, Professor Gibson, Prof. Hetherington, and Prof. Douglas were also present. The Moderator having opened the meeting with praise and prayer, Mr. Towers, Secretary to the Building Committee, read a report referring to the various proceedings connected with the origin and progress of the erection. It will be remembered by some of our readers that in 1855, Dr. Clark, a wealthy citizen of Glasgow, offered to contribute £20,000, provided other parties would undertake to make up a similar sum. The offer was accepted, and the necessary sum guaranteed. The Assembly sanctioned the arrangement, providing a sum of not less than £30,000 should be appropriated for the endowment of the College. A site was procured, and the building erected, Dr. Clark adding £1,900 more, with £1,000 for the purchase of books. The foundation stone was formally laid on the 21st of August, 1856. All the heavy work is now finished with the exception of the Belvidere tower. The remainder will be completed in the spring. After the reading of the report, Principal Fairbairn delivered the opening address, on the "careful study and proper interpre-

tation of the Word of God." The proceedings were closed with an eloquent speech from the Moderator on a similar topic. On the following day, the other professors delivered inaugural addresses in their respective class rooms to large audiences. No mention is made of the number of students likely to be in attendance.

— **EDUCATION IN THE WINDWARD ISLANDS.**—EXTRACT FROM THE SPEECH OF THE HON. FRANCIS HINCKES, GOVERNOR IN CHIEF, ON MEETING THE LEGISLATURE OF BARBADOES, SEPTEMBER 16TH, 1857.—"The question of Education will doubtless engage your early attention. It seems to be generally admitted that considerable improvement can be effected to the system which has been for some time in operation, and especially in that branch of it on which reliance must be placed for an adequate supply of competent teachers. I trust that the information which has been recently obtained, and which has been embodied in the Report of the late Joint Committee on Education, will be of assistance to you in legislating on this interesting subject. When providing for the education of the rising generation, you will not, I venture to hope, lose sight of the interests of those unhappy children, who, from neglect or bad example, become liable to the penalties of the law. The punishments now inflicted on juvenile offenders are wholly inadequate for the purpose of reformation, and additional legislation appears to be indispensably necessary. I attach the greatest importance to the establishment of Reformatory Institutions, and I earnestly recommend the subject to your consideration."

### UNITED STATES.

— **PRESENTATION TO TEACHERS, &c.**—The President of the Board of Education in New York recently refused to sign a check for the payment of the salary due to principal of ward school No. 2, on the ground of having violated a by-law of the Board in accepting a present from some of the pupils after he had ceased his connection and entered upon the duties of assistant superintendent of public schools. The by-law in question runs as follows:—"No teacher shall make or contribute towards any gift to a school officer or superintendent; nor shall money or other thing be in any case collected or taken from a pupil for the purpose of presenting a gift or testimonial to a teacher, school officer or superintendent, or for any other purpose, unless the same shall be for the sole benefit of the pupils, and previously sanctioned by the proper board of trustees or by this Board.

"No payment shall be made to a teacher in whose case the provisions of this by-law have not been complied with."

— **NOBLE BENEFACTIONS TO EDUCATION.**—Mr. Seth Grosvenor has left to a number of charities and libraries in this city and Buffalo, a perfect bouquet of bequests, which entitle him to a niche among the great American benefactors. Ten thousand dollars each to the following:—Lying-in Asylum, American Bible Society, American Home Mission, American Colonial Society, Presbyterian Board of Education, New York Historical Society, Deaf and Dumb Association, Aged Indigent Females, Society for Ameliorating the condition of the Jews, American Sunday School Society, American Tract Society, Merchants' Library Association, Institution for the Blind, New York Hospital, fifteen thousand dollars. Corporation of Buffalo, ten thousand dollars for a public library building, and thirty thousand dollars to provide the same with books. Board of Education, New York, thirty thousand dollars, the interest to furnish books for the Free Academy.

— **BETHANY COLLEGE DESTROYED BY FIRE.**—About one o'clock on the morning of the 10th ult., the College buildings at Bethany, Virginia, were discovered to be on fire. The entire buildings, together with the furniture, three valuable libraries, extensive laboratories and chemical apparatus, and valuable papers, were destroyed. The fire is supposed to be the work of an incendiary.

### VIII. Literary and Scientific Intelligence.

— **MANCHESTER EXHIBITION OF ART TREASURES. CLOSING SCENE.**—On Saturday, the Art-Treasures Exhibition, which has excited the envy of Londoners and the amazement of foreigners, and which, for this year at least, has quite rivalled the attractions of the capital, was closed for ever. The only alteration from the usual every-day arrangements was in a large and tasteful trophy of banners being erected at the end of the building over the orchestra, and the orchestra itself, being strengthened by

the addition of the band of the 36th Regiment, and the 4th Dragoon Guards. Aided by this addition to the fine band always in the building, a series of overtures and marches were beautifully rendered, and the crowd which thronged every part of the place, after a few vain attempts to study the pictures, were compelled to remain quiet and listen to the music whether they liked it or not. In this way the day passed without variation or incident until half-past 4 o'clock, when the bands gave the signal that the last hour of the Exhibition had commenced by playing the national anthem. Immediately all the gentlemen present respectfully uncovered, and a simultaneous movement was made from all parts of the building towards the orchestra, round which the visitors collected in a dense mass, listening to the band with a serious and marked attention, that had a striking and almost solemn effect. As the music seemed to re-echo through the building there was a moment's pause of expectation, Mr. Wm. Fairbairn the Chairman of executive committee, advancing to an open space in the front of the orchestra, amid deep silence, closed the Exhibition in these words:—

"Ladies and Gentlemen.—The time has come, when it is my duty to pronounce the last words of farewell, and to inform you that when you have all retired from this building, the Exhibition of Art Treasures, will be at an end for ever. I sincerely hope you will never forget the liberality which has enabled that Exhibition to be formed, (loud cheers,) and that the recollection of this building and the unrivalled Art Treasures it contained will assert among you the truth of the poet's line—

"A thing of beauty is a joy for ever,"

Scarcely had Mr. Fairbairn ceased speaking when, moved by an involuntary impulse, a tremendous peal of cheering arose from all parts of the building. It was renewed again and again, sometimes for the executive committee *en masse*, sometimes for Mr. Fairbairn, sometimes for Mr. Deane, the General Commissioner, but always hearty, always warm and general, and accompanied by such an enthusiastic waving of hats and handkerchiefs as would have moved the most impassive. The united bands too, seemed carried away by the same fervour, and gave vent to their feelings in another grand repetition of the national anthem. But when this was over, prodigal of applause as if they had never cheered before, the shouts of enthusiasm and farewell broke out as loud as ever. Suddenly they ceased, and the crowd made a general set towards the place of exit. Thus, then, the Manchester exhibition of Art Treasures was finally closed after a brilliant and famous career, which, though not long in point of time, has at least sufficed to achieve for itself a most marked success, and even to raise our artistic *status* as a nation in the eyes of Europe.

— A SCIENTIFIC MISSION TO INDIA.—An important paper has just been read to the Paris Academy of Sciences on a mission sent to India and Upper Asia in 1854 by the King of Prussia and the East India Company. The members of the mission consisted of three brothers, MM. Hermann, Adolphus, and Robert Schlagintweit, two of whom, MM. Hermann and Robert, returned in June last; the third, M. Adolphus, is still among the Himalaya mountains, and is expected soon to return, via the Punjab and Bombay. During the winter of 1854-55, these enterprising travellers visited the region lying between Bombay and Madras; in the following summer, M. Hermann explored the eastern parts of the Himalaya, the Sikkim, Bhootan, and Kossia mountains, where he measured the altitudes of several peaks. The highest of all the summits known throughout the world appears, by his measurements, to be the Gahoorishanka, situated in the eastern portion of Nepal; the same announced as such by Colonel Waugh, but called by him Mount Everest, because he had been unable to ascertain its real name in the plains of Hindoostan, where he effected his measurement. This peak is somewhat more than 59,000 English feet in height, and bears another name in Tibet, where it is called Chingopamaria. The other two brothers, MM. Adolphus and Robert, penetrated by different roads into the central parts of the Himalaya, Kumaon, and Gurwahl; they then visited Tibet in disguise, entered the great commercial station of Gartok, explored the environs of Lake Mansarowr, and that remarkable crest, which separates the waters of the Indus from those of the Dibang, often erroneously called the Brahmaputra. They ascended the Hsi-Gamine, 22,260 feet in height, that being an altitude never before attained in any part of the world. After having been separated from each other for a space of fourteen months, during which M. Robert ascertained that the table land of Amarkantak, in Central India, which is generally stated to be 8,000 feet above the level of the sea, is not more than 3,300 feet in height, the three brothers again met at Simla, previous to commencing the operations intended for the summer of 1856. M. Adolphus, on leaving that

place, crossed the Himalaya, went over Thibet, Baltistan, and visited the interesting spot where several mountain crests meet, and the Hindookoosh joins the range lying to the north of India. He then returned to the Punjab through the valley of Kashmere. MM. Hermann and Robert proceeded to Ladak by different routes. Under good disguises they were enabled to penetrate into Turkistan Proper, by crossing the Karakorum and the Kuenlucn mountains, and descending into the great valley of Yarkande, a reign never visited before, not even by Marco Polo. It is a vast depression of between 4,000 and 3,000 feet, separating the Kuenlucn, on the northern frontier of India, from the Syan-Chane, or mountains of Central Asia, on the southern border of Russia. They then returned to Ladak, and entered the Punjab by different routes through Cashmere. After a two years' negotiation, M. Hermann was, at the commencement of 1857, admitted into Nepal, where he determined the altitudes of the Machipoora and Mount Yassa, which have hitherto been vaguely called the Dhawalagery, which means nothing else but "snowy crests," and is applicable to all snow-capped mountains. M. Robert proceeded to Bombay through Scinde, Kutsch, and Guzerat, where he surveyed the chain called the Salt Range, and determined the changes effected in the course of centuries in the course of several rivers. Before returning to Europe he stayed three months in Ceylon. M. Adolphus visited various parts of the Punjab and Cabool, previous to returning to the Himalaya, where he still is.

The chief results obtained from this careful exploration of Asia are the following:—The Himalaya mountains everywhere exercise a decided influence over all the elements of the magnetic force; the declination everywhere presents a slight deviation, causing the needle to converge towards the central parts of that enormous mass, and the magnetic intensity is greater than it would be anywhere else under an equal latitude. In the south of India the increase of the magnetic intensity from south to north is extremely rapid. The lines of equal magnetic intensity have a remarkable form, similar and perhaps parallel to those of certain groups of isothermal lines. The three travellers have collected all the materials necessary to ascertain this important fact. Irregular local variations in terrestrial magnetism are rare in those regions. In the Deccan and Behar the rocks are magnetic. On the Himalaya at altitudes of 17,000, and even 20,000 feet, the daily maximum and minimum variations of the barometer occurred nearly about the same hours as in the plains below. Again, at the above altitudes, the inversion of the curves of daily variation, which is met with on the Alps does not take place. At the altitude of 17,000 feet the diminution of transparency produced by a stratum of air of the thickness of 3,000 feet is no longer distinguishable by the eye. During the dust storms which frequently occur in India, the disk of the sun is seen of a blue color; if small bodies are made to project their shadows on a white surface under such circumstances, the shadow is of an orange colour, that is, complementary to blue. The transparency of the waters of the Ganges, the Brahmapootra, and the Indus, was tested by letting down a stone into them, which generally became invisible at a depth of from 12 to 15 centimetres (5 to 6 inches,) showing that they are overcharged with earthy particles, for in the sea near Corfu a stone is visible to the depth of 50 feet, and in the seas under the tropics it remains visible at a depth of 30 feet.

— MEETINGS OF THE CANADIAN INSTITUTE.—At the meeting of the Canadian Institute, on the 12th December, the nominations were taken for office bearers for the ensuing year. The Chairman, on opening the proceedings, proposed the re-election of the Hon. Chief Justice Draper, as President of the Institute. The Rev. Dr. Ryerson was also re-nominated; but his name, at his own request, has subsequently been withdrawn. Various other nominations to the subordinate offices and Council then took place; after which the Rev. Professor Hineks read a brief paper on the Botany of Western Canada, and Professor Chapman contributed some additional observations. The Chairman then called upon the Rev. Dr. McCaul, President of University College, for his promised paper, entitled "Notices of some ancient inscriptions found in Britain." The learned Doctor, in responding, stated that the paper in question was of a character too purely philological to admit of being read with profit before a general audience, but that he would give an abstract of its contents, and enter into a few explanatory observations on the mode of analysis adopted by him in the interpretation of these inscriptions. The remarks which followed, and which occupied more than half-an-hour, were of a most interesting and instructive character, and Dr. McCaul was warmly applauded at their close. The paper itself will appear in full in the next number of the Journal of the Institute. On the ensuing Saturday, (Dec. 19,) the Report of the

Council was read, and the election of the following office-bearers and members of Council for 1858, proceeded with:—President, The Hon. the Chief Justice Draper, C.B.; 1st Vice-President, Colonel Baron De Rottenburg, C.B.; 2nd Vice-President, John Langton, Esq., M.A.; 3rd Vice-President, Hon. W. B. Robinson; Treasurer, D. Crawford, Esq.; Recording Secretary, Thomas Henning, Esq.; Corresponding Secretary, E. A. Meredith, LL.D.; Librarian, Professor H. Croft, D.C.L.; Curator, Professor H. Y. Hind, M.A. Council, Professor E. J. Chapman, Professor J. B. Cherriman, M.A., Sanford Fleming, C.E., J. George Hodgins, Esq., M.A., Rev. Professor W. Hincks, F.L.S., Professor D. Wilson, LL.D. A very cordial vote of thanks was unanimously given to the Office-bearers of the last year. The next meeting of the Institute will be on the 9th of January.—*Colonist and Globe Reports.*

## IX. Departmental Notices.

### To Municipal and School Corporations in Upper Canada. PUBLIC SCHOOL LIBRARIES.

The Chief Superintendent of Education is prepared to apportion *one hundred per cent.* upon all sums which shall be raised from local sources by Municipal Councils and School Corporations, for the establishment or increase of Public Libraries in Upper Canada, under the regulations provided according to law. Remittances must not be in less sums than five dollars.

In selecting from the General and Supplementary Catalogues parties will be particular to give merely the catalogue number of the book required, and the department from which it is selected. To give the names of books without their number and department, as is frequently done, causes great delay in the selection and despatch of a library. The list should be written on a distinct sheet of paper from the letter, attested by the corporate seal and signature of the Trustees; or by the corporate seal and signature of the Reeve or Clerk of the Municipalities applying for libraries. See accompanying Form.

*The Form of Application should be as follows:*

SIR,—The School Trustees [*or Reeve of Municipal Council*] of \_\_\_\_\_, being anxious to supply the Section *Township, &c.* with suitable books for school prizes, hereby make application for the books enumerated in the accompanying list, in terms of the Departmental notice, relating to Prizes in Schools. The books selected are, *bonâ fide*, for distribution as prizes in the school [*or schools of the municipality, &c.*] and the school [*or municipal*] corporation hereby pledges itself and its successors in office, not to dispose of these books, nor permit them to be disposed of to any private party or for any private purpose whatsoever; but that they shall be distributed exclusively as prizes in the school, [*or schools of the municipality, &c.*] in terms of the Regulations granting one hundred per cent. on the present remittance of \$\_\_\_\_\_.

In testimony whereof, the Trustees [*Reeve, or Chairman of Board of Trustees*] of the \_\_\_\_\_ above mentioned—hereto affix their names and seal of office this \_\_\_\_\_ day of \_\_\_\_\_, 185—, at \_\_\_\_\_ [*Name of Trustees, &c.*] [*Seal.*]

We hereby authorise \_\_\_\_\_ to procure for us the \_\_\_\_\_ above mentioned books, in terms of the foregoing application. [*Name.*]

TO THE CHIEF SUPERINTENDENT OF EDUCATION, TORONTO.

NOTE.—A Corporate Seal must be affixed to the foregoing application, otherwise it is of no legal value. Text-books cannot be furnished on the terms mentioned above. They must be paid for in full at the net catalogue price. The 100 per cent. will not be allowed on any sum less than \$5, which must be remitted in one sum.

### PRIZES IN SCHOOLS.

The Chief Superintendent will grant one hundred per cent. upon all sums not less than five dollars transmitted to him by Municipalities or Boards of School Trustees for the purchase of books or reward cards for distribution as prizes in Grammar and Common Schools.

### SCHOOL MAPS AND APPARATUS.

The Chief Superintendent will add 100 per cent. to any sum or sums, not less than five dollars, transmitted to the Depart-

ment from Grammar and Common Schools; and forward Maps, Apparatus, Charts, and Diagrams to the value of the amount thus augmented, upon receiving a list of the articles required by the Trustees. In all cases it will be necessary for any person, acting on behalf of the Trustees, to enclose or present a written authority to do so, verified by the corporate seal of the Trustees. A selection of articles to be sent can always be made by the Department, when so desired.

### SCHOOL REGISTERS.

School Registers are supplied gratuitously, from the Department, to Grammar and Common School Trustees in Cities, Towns, Villages and Townships by the County Clerks—through the local Superintendents. Application should therefore be made direct to the local Superintendents for them, and not to the Department. The present year's supply for Common Schools has been sent to the County Clerks. Those for Grammar Schools have been sent direct to the head Masters of the Schools.

### PENSIONS—SPECIAL NOTICE TO TEACHERS.

Public notice is hereby given to all Teachers of Common Schools in Upper Canada, who may wish to avail themselves at any future time of the advantages of the Superannuated Common School Teachers' Fund, that it will be necessary for them to transmit to the Chief Superintendent, without delay, if they have not already done so, their annual subscription of \$4, commencing with 1854. The law authorizing the establishment of this fund provides, "*that no teacher shall be entitled to share in the said fund who shall not contribute to such fund at least at the rate of one pound per annum.*" This proviso of the law will be strictly enforced in all cases; and intimation is thus early given to all Teachers, who have not yet sent in their subscriptions, to enable them to comply with the law, and so prevent future misunderstanding or disappointment, when application is made to be placed as a pensioner on the fund.

### TO SCHOOL TRUSTEES.

A TEACHER of several years' experience, whose present engagement expires on the 1st January next, would be glad to hear from any person requiring his services. He is competent to teach, according to the most approved method, the Common and Higher Branches of a thorough and liberal English Education, with the French, Latin, and Greek languages. Address, stating salary, X. Y. Z., Sheffield, P. O., Beverly Township, C. W. December 7th, 1857.

### AN INDISPENSABLE CANADIAN SCHOOL BOOK, BEAUTIFULLY ILLUSTRATED.

GEOGRAPHY AND HISTORY OF CANADA, NOVA SCOTIA NEW BRUNSWICK, &c.; HUDSON'S BAY TERRITORY, EAST AND WEST INDIES, and all other British Colonies, &c., &c. With Sketches of the Indian Tribes and Eminent Persons connected with the History of Canada.

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Toronto: Maclear & Co., James Campbell, and Educational Depository. Montreal: R. & A. Miller. May be ordered through any Bookseller.

*Extract from the Minutes of the Council of Public Instruction for Upper Canada, dated 4th December, 1857.*

"The Council hail with satisfaction a work so much needed in the country, and order that it be used in the Normal and Model Schools. The Council also recommend its use in the Public Schools of Upper Canada."

*Extract from the notice of the work in the August No. (1857) of the Journal of Education for Lower Canada, page 123.*

"This is a very complete and interesting little work, which the Superintendent of Education for Lower Canada has placed on his list of Prize Works for Schools."

*The work has also been adopted as an elementary Text Book in Upper Canada College, the Collegiate School of Victoria College, in many of our best Seminaries, and other Schools.*

ADVERTISEMENTS inserted in the *Journal of Education* for one penny per word, which may be remitted in postage stamps, or otherwise.

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