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*Nec araneorum sane textus ideo melior, quia ex se fila gignunt, nec noster vilior quia ex alienis libamus ut apes.*

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## INTRODUCTORY LECTURE

FOR THE

### Miramichi Mechanics' Institute.

Delivered at Chatham on Thursday, January 2, 1851,

BY THE REV. WM. HENDERSON.

[Published by Request of the Directors.]

Mr. President—Ladies and Gentlemen:

It affords me great pleasure to meet you again on an occasion like the present. It must ever be gratifying to see a community manifesting an interest in whatever has a tendency to promote the cultivation of their minds, the increase of their knowledge, and the general interests of society. Believing, as I do, that an Institute like the present, is eminently calculated to promote all these objects, it affords me no small pleasure to see it prospering.

Take this Institute merely as a source of rational amusement, and we maintain that on this ground it would be deserving of patronage. Man requires amusement. The body is soon worn out by incessant toil. Seasons of rest are necessary to recruit its exhausted strength, and render it fit for renewed exertion. Even the mental powers, though formed for action, cannot be long confined to one pursuit. Incessant application, either to study or to business, would soon impair the activity of the mental powers, as a bow kept constantly bent gradually loses its elasticity. An occasional intermixture of lighter engagements is therefore absolutely necessary to promote the healthy action of the mental powers, and to furnish true enjoyment. During the long, cold evenings of a New Brunswick winter, some kind of entertainment is particularly desirable. It is, moreover, of great importance, that the entertainment provided should be of the right kind. Some kinds of entertainment are pernicious in their tendency, and are therefore to be deprecated. All kinds of amusements, which have a tendency to dissipate the mind, to foster the evil passions of our nature, to lead to depraved habits, to encourage indolence, or produce discontent with our condition, ought to be avoided. But the entertainment provided in connection with this Institute, will not be of such a character. We hope that, on the contrary, its tendency will be to invigorate the mind, to display the Wonders of Nature and the Discoveries of Art; to point out the resources of the Province we inhabit; to inculcate economy, and contentment with our condition; to furnish the mind with sources of pleasing reflection; to disseminate useful information, and to draw forth from the results of that experience which our forefathers have gained, much that may be of benefit to us and their posterity.

It is not therefore solely on the ground of amusement that we would rest the claims of this Institute. Along with this, it has also a far higher object in view. Its object is to communicate useful instruction in Arts, Science, and Literature. And here a boundless field opens up to the Lecturers, from which the golden stores of useful knowledge may be drawn forth in more abundant fullness, than the metallic treasures can be procured from the streams and diggings of the far-famed California; and that, too, without having to undergo such fatigues, or to encounter such uncertainties, or incur such risks, as the adventurer does, who sets out for the land of gold. For proof of the value of such Institutions as the present, I need only refer to their history and progress. It is true that though we retain the name, have nearly the same object in view, and in part make use of the same means of accomplishing our purposes, yet we have to a considerable extent, departed from the original object, which gave rise to the name of these Institutions.

They were originally designed, as the name imports, to afford Mechanics the means of acquiring a higher education than they had been able to obtain, before they were compelled to enter on the active duties of life, and of improving themselves in the various departments of Art, Science, or Literature, to which their various tastes or inclinations might lead them, but for which, at a period previous to the introduction of such associations, they had no opportunity.

Many young men were bound to trades, when they had received but a very limited education. These afterwards felt their deficiencies, and various plans were tried to remedy them, which at length resulted in the formation of Mechanics' Institutes. These at first were formed in large towns, where a number of apprentices and workmen, who were engaged all the day in their ordinary occupations, united together for the purpose of obtaining instruction in the evenings, after their work was over. The masters of the young men, approving of their design, aided

them by uniting their subscriptions, and assisting them with their advice. With the funds raised, they at first hired a room, to be used as a school-house, and engaged the services of a master to teach reading, writing, arithmetic, and mathematics. Then they purchased a few useful books, as the foundation of a Library, to which they continued gradually to add, as their funds would permit. As they advanced in knowledge, and increased in funds, they added a Professor of Rhetoric, Elocution and Composition, Geography, Mapping and Drawing; and occasionally they procured the services of a professional Lecturer on Natural Philosophy, Mechanics, Astronomy, Chemistry, Geology, or other branches of Arts, Literature, and Science. To these scientific Lectures the public were admitted, and by the price of the tickets sold for admission to these, the funds of the Institution were considerably increased. As soon as their funds were sufficient to admit of it, they erected a building called an Institute, containing accommodation for their different classes, a public lecture-room, a library, and a museum. By these means a taste for arts, or science, or literature was introduced among the young men, and fostered, so that from the ranks of those, who, from poverty had been obliged to enter at an early period of life as apprentices to trades, which they had no inclination to pursue, many have been enabled to rise to eminence in various departments of literature or science more congenial to their dispositions, and some to attain the highest distinction in the ecclesiastical, medical, military and legal professions.

Genius is not necessarily connected with wealth. Many whom poverty has precluded from entering Academies or Colleges, have possessed high intellectual powers, but, in consequence of their being debarred from the means of cultivating these, their intellectual strength has never been drawn forth, and their talents have been lost to society. A few, whose energy has burst through the barriers which their condition presented to intellectual improvement, have shone with peculiar brightness, and others, whose opening talents have fortunately recommended them to the patronage of those who possessed the means of enabling them to follow the bent of their genius, have proved the advantage which would accrue to society, could the means of mental culture be brought within the reach of those on whom fortune has refused to shower her favors.

What we desire therefore is that the gates of the Temple of Science may be set open to all classes, that the means of acquiring a more extensive knowledge of the circle of human learning may be presented to those in humbler circumstances, and then, wherever talent exists, it will have an opportunity of developing itself, and a chance of rising according to its merit.

That talent has often been found among the children of those whose means did not enable them to give their children such an education as would draw forth and exhibit their talents; and that, in consequence, many have had severe struggles to encounter, that they might burst through the barriers, which their situation presented, might be made evident by many examples. We shall only enumerate a few. James Ferguson was a poor shepherd boy, born at Keith in 1710, and during his whole life had not above half-a-year's instruction at school, but by the kind assistance of some neighboring gentlemen, who happened to be acquainted with his extraordinary mechanical genius, he rose to considerable eminence as a Lecturer on Mechanical Philosophy and Astronomy, and died possessed of considerable wealth. Sir Richard Arkwright, who became so famous for his inventions in cotton-spinning, was born at Preston, in Lancashire, of very poor parents, and was bred to the trade of a barber. This he exchanged for the trade of a hatter, and afterwards, turning his attention to cotton-spinning, he made such improvements, as enabled him to realise a large fortune, to be raised to the high rank of Sheriff of Lancashire, and to attain the honor of knighthood. Dr. Lee, Professor of Oriental Languages in Cambridge, received the whole of his Education at a Charity School, and at the age of 12 years, was placed as an apprentice to a carpenter, but during his apprenticeship, though so poor that he generally had to sell every book, when he had done with it, to enable him to buy another, he, by persevering industry, laid the foundation of that learning, which has obtained for him a Professor's Chair in Cambridge, with the reputation of being one of the most learned Orientalists of the present day in Britain. It is reported that he who now fills the chair of President of the United States, was once a poor boy, sawing wood on the streets; and it is only about two months ago, that the present Lord Chancellor of England, began his speech at a public dinner with the following declaration:—"I honestly served my apprenticeship in the Wor-

shipful Company of Turners, but the shape of the turning-lathe which I ultimately adopted, was that of the quill; an instrument which has produced as wonderful transformations as any turning lathe that any turner ever used; and it has been thought by some that I am myself not the least striking instance of the transformation."

Now, it may not be often that an apprentice to a mechanical employment will rise to the high rank of a Lord Chancellor of England, or that a boy who sawed wood upon the streets will fill the chair of President of the United States; nevertheless, what has once been, may be again, and there are many intermediate offices between the highest and the lowest in every department of life, which may stimulate adventurers, and therefore there is a prospect of advancement at least held out to our young men, and an encouragement for them to persevering industry.

Now, while we admit that previous to the time when Mechanics' Institutes were first heard of, there were some powerful minds, that were able by their unassisted efforts, to overcome the difficulties of their situation, and thus by mental energy to assume a higher rank in society; yet, that a path to promotion has been opened up to a far greater number since their formation, and that the advantages of a higher education have been diffused to a far greater extent than before, is undeniable.

Of this we have one remarkable evidence, in a fact which recently took place. In November, 1847, John Henderson, Esq., of Park, near Glasgow, offered three Prizes, one of £25, one of £15, and one of £10, for the three best Essays "On the temporal advantages of the Sabbath to the working-classes," to be competed for by working men only, their Essays to be given in to the adjudicators, before the 31st of March, 1848. Within the brief period thus allotted, 1045 Essays were sent in, written by working men, during the few leisure hours which they could snatch from their daily toil. The three Essays to which the Prizes were awarded, have been published, with a brief account of the writer prefixed to each. The first Prize was awarded to a Printer, the second to a Shoemaker, and the third to an Engineer. So excellent were some of the unsuccessful Essays, that it was resolved to open a subscription, so that a few more might receive Prizes of £5 each. Prince Albert subscribed £50, and others followed, till 80 more of the writers received Prizes.

Lately a table has been published of the writers whose employment could be ascertained, exhibiting the respective numbers engaged in various trades and occupations, from which it appears that the largest class belongs to that of joiners, carpenters, and cabinet makers, who are ranged as one class, and furnish 51 competitors. Next stand printers, 48; then shoemakers, 41; weavers, 39; tailors, 33; agricultural labourers, 32; gardeners, 24; labourers, 21; porters and warehousemen, 19; blacksmiths, 17; shopmen, 17; painters and glaziers, 12; miners, including colliers, 12; servants, 12; masons, 9; bakers, 8; piano forte makers, 7; wool-combers, 7; watch-makers, 6; wood-turners, 4; &c.

Now, it is without a parallel in the history of the world, that such a number should at once come forward from all different trades and occupations, capable of producing Essays worthy of being presented to the public, nay, possessing such a high degree of literary merit, as some of these possess. What, then, has led to the production of this extraordinary phenomenon? It is, not that the present inhabitants of Great Britain possess faculties of a higher order than their predecessors had. It is not that they are now gifted by nature with superior endowments of mind, but that they possess superior opportunities of cultivating their minds, and of receiving that instruction, which will enable them to display the endowments they possess. It is because in Britain the path to learning has been thrown open to all classes, and because incitements to mental culture are now held forth to men of every rank. The cheapness of books, the increase of newspapers, the opening of Mechanics' Institutes, the multiplication of libraries, have led in Britain to this general diffusion of learning, and called forth the flashes of genius from the obscurity which poverty often throws around it.

But if such institutions were found necessary, and have proved beneficial in Britain, much more are they necessary in a young country like this, and their prosperity would be attended with the greatest advantages, not simply from their being instrumental in diffusing knowledge among those who supported them, which I am persuaded they would do, and which they possess the greatest facilities for doing, but also from their effect in stimulating young men to habits of self-culture.

Without the formation of such habits, in vain would colleges be endowed, and academies erected, and all the means of learning af-

forded. Many have passed through Universities, and brought away little more learning than they had when they entered. Nay, there have been not a few, who resembled the student, who, in the presence of an aged farmer, was boasting that he had studied at two Universities, to whom the old man replied, that he put him in mind of a calf that he once had, which sucked two cows. "Well," said the student, "how did your calf get on?" "Why," said the other, "it just became a very great calf!" So it ever will be. Present whatever facilities for learning you please, unless there be on the part of the student a willingness to apply his mind to study, and a patient endurance of continued mental toil, there will be little solid learning obtained. But it is not always among those who have the means of going to Colleges, or being brought up in Academies, that this willingness to undergo the fatigues of study, or this patient endurance of deep and continued mental exertion, is to be found. It often exists in a higher degree among those against whom penury has shut up the doors of Colleges and Universities, and whom nothing but a hard and continued struggle against the difficulties which their station in life presents, can enable to break through these difficulties, and avail themselves of the advantages which learning contributes. Now, it is to open up to such the means of participating in the benefits which the accumulated labors of persevering genius has stored up, that such Institutions as the present have been provided.

And these have not been provided in vain. Their history has shown that Mind, in every station of society, only requires to have proper subjects for exercise presented, with the means of carrying on the necessary researches; and the power of thought, and the energy of action will be called forth, and made productive of advantage to mankind.

Now as there are diversities of tastes, and varieties of mental endowments, so there are various kinds of intellectual pursuits presented by Arts, Sciences, and Literature, suitable to every diversity of mental conformation.

1. Some may like to investigate the powers of the human mind, and the laws which regulate their action, or to trace the duties which devolve on man to their origin, and show their extent and obligation. To such *Mental and Moral Science* presents an ample field, where they may range at will, and find improvement and pleasure united.

2. Others may wish for a still wider field, so that they may range over the whole history of the human race, investigate the rise and fall of empires, the changes of customs, the introduction of laws, the development of character, the deeds of the warrior, the counsels of the statesman, or the sorrows of the slave. To such *History* will unroll her ample page, and bring forth from the records of years gone by, much to afford instruction, as well as to gratify curiosity.

3. Others again may prefer to become acquainted with the surface of the Globe on which they live; to calculate the relative extent of land and water; to trace the form of its various continents and islands, oceans and seas; to measure the height of its mountains, and the length of its rivers; to know the size, situation, population, and condition of its empires, kingdoms, or republics; to view its natural curiosities, such as its volcanoes, cataracts, hot-springs, and caverns; or to range through its principal cities, learn their sources of wealth, their commerce, and their political regulations; or to view their literary, religious, and benevolent institutions; *Geography* will conduct them forth, and gratify all their wishes.

4. If others delight more in viewing the natural productions of the soil, in collecting the different herbs, flowers, fruits, vegetables, and trees, which the Almighty's bounty has scattered over the face of the earth, to classify the different species and genera, to investigate the properties which they each possess, the mode of their culture, or the number and variety of their kinds, *Botany* will walk forth with them in the early spring, and point them out as they rise from their native soil. Beneath the clear sunshine of summer days, she will show their leaves expanding, their buds forming, and their blossoms daily enlarging, till the flower shines forth in native beauty, surpassing far the splendour of a monarch's robes. Then, beneath the duller skies of autumn, she will teach them to collect the various seeds for future years, to gather in the ripened fruits, and to prepare the conserves, which will gratify their palates, and furnish delicacies for their tables, when the storms of winter confine them to the house.

5. If there are any who would rather confine their attention to the cultivation of those grains, plants, and herbs, which are useful as food for man and beast, *Agriculture* will teach them to select the fittest soil for each kind, and point out the best means for preparing it. She will show how, when its power shall