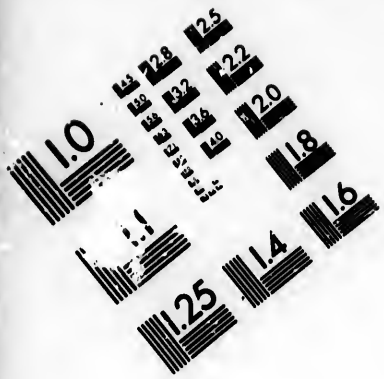

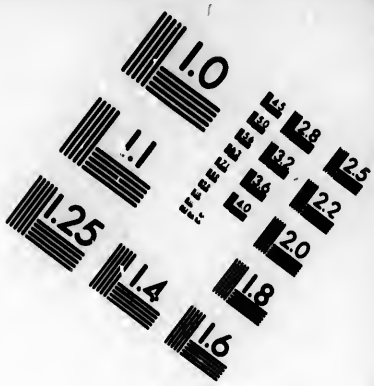

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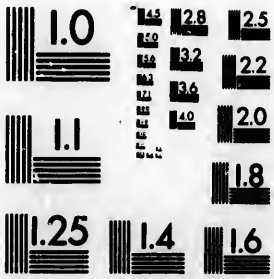

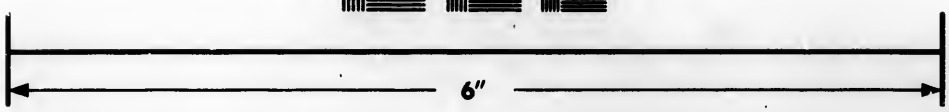

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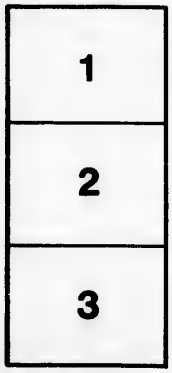

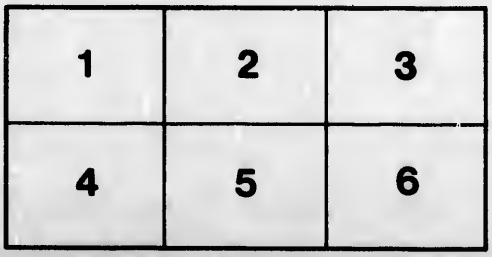

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AN

OPENING ADDRESS,

Delivered at the first meeting

OF THE

Halifax Mechanics' Institute,

ON

Wednesday, January 11, 1832.

BY

JOSEPH HOWE.

HALIFAX, N. S.

PRINTED BY P. J. HOLLAND, AT THE ACADIAN RECORDER OFFICE.

1832.

THE ADDRESS.

Perhaps I ought to apologise for having undertaken a task, that would have been so much better performed by older and abler members of this society—but having been called upon by the President, I was averse to setting an example, that, however it might savour of an amiable modesty, would strike at the root of those important objects for which we are assembled. My ready compliance was also induced by the reflection, that, as my knowledge of any one branch of Science was neither so accurate, nor so extensive, as to enable me to lecture upon it—it would be less laborious, as well as less presumptive, to endeavour to throw together a few of those crude ideas of the pleasures and advantages of all Science, with which most men, however limited their attainments, are sufficiently familiar. In doing so, I assume no higher character, than that of a porter, who stands at the gate of the temple of knowledge, inviting the multitude to enter; but who leaves to her inspired and favored sons, the task of winning their love by a display of her wondrous power, and more attractive mysteries.

It is proper, that, at the opening of this Institute, some general outline should be sketched of the objects which led to its foundation. These resolve themselves into a narrow focus, and may be thus defined :—A due appreciation of the *pleasures* and *advantages of science*; and a desire to participate, as far as comes within the compass of our means—and to excite among friends and neighbors a taste that must result in permanent advantage to themselves; and may be of the highest importance to their country.

That the pursuit of Science, in any or all of its multiform divisions, is attended with *pleasure*—nay, that it is accompanied by delights more elevated and intense, than are to be gathered from the mere gratification of the senses, the experience of every day, and the examples of hundreds of gifted minds, are sufficient to convince us. If we look round, and compare those who are sedulously improving their intellectual powers, by pursuing knowledge into its farthest retreats, with those who are merely seeking the gratification of their animal propensities, we shall gather evidence to cheer us along the path we have chosen, and to warn us from that which leads in a downward course to the level of the brute creation.

It would cost me but little labour to show, that the refined pleasures—the intense delight, and overpowering excitement, which are supposed to be the pecu-

liar gifts of luxury, ambition, or gold, belong in a yet higher degree to Science. The pleasures which she holds out to her followers, while they are as boundless, are at the some time more pure, beneficial and enduring. He who devotes his days and nights to her service, feels that every draught he quaffs from the stream of knowledge, increases his fondness for what he delights to find can never be exhausted. Every time he stoops at the fountain, he finds his energies strengthened, and his spirit refreshed; and what cares he for the wasting pleasures and hollow friendships of the table, whose daily companions are the gifted, the noble, and the wise?

If it be said, that, although they are more blameless, the pursuits and pleasures of Science are less overpowering and intense, than those of ambition—I would ask—what conqueror, at the close of the most decisive battle on record, ever felt a joy so rapturous and controlling, as that which convulsed the frame of *NEWTON*, when he had discovered the laws by which the Almighty's hand sustained the worlds he had created in the illimitable void where they revolve? Had *GALLILEO* no delight when he discovered the regular oscillation of the pendulum? or, when raising his telescope, he found that his own ingenuity and perseverance, had diminished his distance from the heavenly bodies? Had *ARKWRIGHT* no overpowering feeling, when he saw he had completed a machine capable of multiplying, to an almost infinite extent, the wealth and resources of his country! Was *FRANKLIN* urged by no strong passion, when, at the risk of his life, he lured the electric fluid from its cloud! and had he no reward when it quivered by his hand? Where, among all the votaries that avarice and ambition have ever claimed, shall we find an instance of more untiring patience—of more steady and persevering devotion—of more unflinching endurance of privation, fatigue and danger, than are to be found in the character of *COLUMBUS?* Not the contempt and scorn of the ignorant fools who despised him—not the raging of the elements he dared—nor the menaces of the ruffians who threatened his life, could deter him from following out one of the grandest ideas that ever Science engendered in the mind of man. And what must have been his sensations, when he demonstrated the correctness of his views, and stood confessed the discoverer of a world! But the pleasures of Science are not confined to its great masters:—and while we name them as prominent illustrations, we do not by any means lend encouragement to the supposition, that the humbler searchers after knowledge have had no enjoyment to sweeten their toils. The lovers of knowledge have always participated in its pleasures in a degree *fully equal to their love.* The delights which Science holds out to her followers are as *certain* as the *facts she discloses.* The best evidence of this assertion is to be found in her history—from a careful perusal of which we shall discover, that they are sufficient to wean and purify the mind from the influence of grosser propensities—to strengthen and elevate it under every difficulty, and to deaden, if not entirely counteract, the asperity of all the trials and perplexities of life.

We meet together, then, to search after knowledge, because it is pleasant so to do—we cheer each other on in a path, the attractions of which are as numerous as they are seductive.

But all sufficient as this inducement might be considered, the members of this Institute have a higher aim. They do not propose to gather facts as children gather flowers, because they are beautiful, and afford a momentary gratification. They know that Science has its *advantages* as well as its *pleasures.* That its successful cultivation has an important effect, not only on the character, influence and fortune of individuals—but upon the advancement, resources and happiness of nations. With this view, the selfishness inherent in our natures, urges us to snatch from its stores whatever may be productive of individual benefit.

We seek to be wiser—that we may challenge that good report which wisdom confers on its possessor. We believe in the Baconian adage that "Knowledge is power," and, from a source so legitimate, aim at a more extended influence among our fellow men. We know that on the accuracy and extent of our information, will depend much of our success in the various employments in which we are engaged, and to which we look for the preservation of our mental independence, and the comfort and establishment of our fa-

milies—and therefore we seek knowledge for its practical utility in advancing our individual interests. But, while allowing personal considerations their full scope in stimulating us to exertion, we have not been unmindful of the important bearing which all science, and particularly mechanical science, has on the character and progress of every country; and I am satisfied, I do not err, when I claim for this Institute a patriotic desire to elevate the name and develope the resources of the Province.

In every prosperous country the benefits of Science may be easily traced, and the influence it has exercised is not to be mistaken. Over its Legislation, it will have diffused an enlarged and liberal spirit—justly appreciating its wants and resources, and faithfully appropriating the funds of the national compact to fostering individual enterprise and industry. In its Laws, by a clear definition of the rights and obligations of the whole people, and by the protection of property in each of its various modifications and transmutations. In agriculture, commerce, and manufactures, by a saving of labour—a diminution of risk, and a multiplication of products.

As the benefits derivable to a country from mechanical science, force themselves more exclusively upon us on this occasion, I shall pass lightly over the obligations manufactures owe to agriculture and commerce, to show how much these great pillars of national wealth depend upon manufactures; or, what may be termed the results and exemplification of an improved state of mechanical science.

As regards Agriculture, there is scarcely one of its most simple operations that may not be either facilitated or retarded in proportion to the ignorance or ingenuity of the mechanic. The shape of the common axe may make half a day's difference in the work of a week, to the settler who is commencing a clearing. On the structure of the plough, to say nothing of the wear and tear of strength in the husbandman and his cattle, may depend the quantity of land turned up; and consequently the amount of crop for the support of his family, or the supply of the market. If machinery assist him to scatter his seed, little if any will be wasted. If it aid him to thrash and winnow the sheaf, an important diminution of labor will be the consequence;—and his progress towards a place of sale may be materially affected by the strength of a chain, or the formation of a wheel.

Commerce may be said to depend, even more than Agriculture, upon the state of mechanical science. Until the rude shallop is formed, a feeble coasting trade, the germ of a prosperous commerce, cannot exist; and it has invariably been found, that in the same proportion as the art of ship-building improves, Commerce is extended, and a people rise on the scale of maritime powers. The reasons are numerous why this should be so. However rich the prizes which foreign commerce offers to the adventurer, they fail to influence his cupidity, while the wreck of his substance, and the loss of his life, are the almost certain penalties of his enterprise. As mechanical science shows that by an improvement in the form, and an increase of the strength of a ship, it may better resist the violence of the waves, and the pressure of heavy bodies—as it supplies the windlass, the cable and the chain, for safe mooring in bays and harbors; as it teaches how spar may be added to spar, and rope to rope, till the elements are brought under controul, and until danger be lessened to a point that loses its effect upon the imagination—then the cupidity of the adventurer, finding that science has multiplied the chances in his favor, leads him to launch upon the ocean—to dare the dangers that exist but in a diminished degree; and to explore every coast where the elements of a successful traffic may be found.

It would be a curious, but certainly not an uninteresting enquiry, that would lead us to discover how far the character and national enthusiasm of a people have been influenced by mechanic arts.—Doubtless it could be pursued to a certain extent, but facts would be wanting to develope its nicer and most singular details. The fate of nations we know has often depended upon a *single battle*—and we know as certainly that the fall of a *single man* has frequently decided the fortunes of the day. How often then may the interests of a whole country have been sacrificed, by the ignorance of the mechanic who secured a rivet, or failed in giving temper to a blade?

In ancient, as in modern times, mechanical science exercised an immence influ

ence upon the art of war—and, supposing physical power and natural courage to be equal, the nation whose defensive armour, and weapons of offence were the best—whose skill in erecting strong holds, or in fashioning machines for their destruction, was the most perfect, was almost sure to succeed. A memorable instance is on record, where, at the seige of Syracuse, the ingenuity of a single mechanical genius was of more consequence than 1000 men. At a period less remote, the discovery of the effects of gunpowder changed the whole character of modern warfare; and it is a matter of which the British artizan may be justly proud, that at the present day, a foreign monarch can scarcely put his kingdom in a state of defence, until he is supplied with arms by the mechanics of Birmingham and Sheffield.

The security and independence of every country are necessary to its prosperity, and I may therefore be pardoned for thus pausing to show, what an important bearing the arts we seek to acquire may have on *that* we inhabit.

As regards the great influence of mechanic arts upon national advancement, we could not have a more striking or satisfactory example, than is furnished us by the country from which we descend, and whose maternity we are proud to acknowledge. To their insular situation, and the invincible spirit of their sons, the British Islands doubtless owe their independence. To their situation also, and their early acquisition and settlement of Colonies, they are indebted for much of their commerce—but it is unquestionably true, that the scientific knowledge of their mechanics has had an influence on their prosperity that must defy all estimate—and cannot, at the present day, be conceived by the most extravagant imagination.

The hard hand of the artizan, guided by a subtlety of spirit seemingly intuitive, has levelled the mountains of Britain or pierced them through—here shutting out the sea, or forcing the tiny stream to waft rich freights to its bosom, from the very centre of the kingdom. At one time he is seen, conquering with admirable patience the inequalities of nature, at another seconding her efforts, where they fall short of the requirements of commerce. Now he is throwing a mighty arch over a rapid river—and tomorrow, surpassing the power of Semiramis, he forms a highway beneath the waters, on the bosom of which the ships of all nations are assembled. As though he proposed to give effect to the rant of the dramatist, by "conquering time and space," he intersects his country with Rail Roads, on which her population pass and repass with the velocity of the wind.

We might dwell upon the splendour and beauty of the palaces, by which his art has studded the bosom of his country—but we pass to the engines and labour-saving machines by which her population has been multiplied, and her resources increased, to a degree, that has made her the wonder and admiration of the nations by which she is surrounded.

A Roman matron thought it a subject of pride, if she had reared half a dozen sons for the service of the state—a British mechanic may make a higher boast—by his ingenuity and perseverance he multiplies his own energies hundred fold, and to that extent re-enforces the energies of his country.

Labor, on the continent, is cheaper than in Britain—how then does it happen, that she is able to buy the crude productions of those countries—waft them to her own shores in her ships—fashion them in every form of usefulness and beauty, and carry them back with an immensely disproportionate value? Simply because she has outstripped the fancies of the Fabulist—her mechanics have created a Briareus in every village, whose hundred hands minister to her power, by increasing the value, and diminishing the price of her manufactures. She furnishes numerous instances, strengthening those offered by other countries, of the creation of a great city by the successful cultivation of a single branch of mechanical science.

It has been stated on high authority, that the benefits conferred upon the nation in the improvement of machiney, by which the cotton trade has been so much extended during the last thirty years, are of themselves sufficient to account for the undiminished energy and resource, which England displayed, even to the very close of the last continental war. The skill of the artizan supplied the loss of population, and the wealth he accumulated on her soil more than restored what was lavished in foreign contests.

In the neighboring United States—particularly in those extending from our own Provinces to Pennsylvania, the advantages which mechanical science confers, appear to be clearly understood. Following in the track of their illustrious parent, it seems to be the policy of those States to lure to their limits skillful artizans from every part of the world; and by the general education and encouragement of the working classes, to develope the mental, and push to the farthest extent the physical powers of their native population, engaged in domestic manufactures. The elements of all the sciences on which the artizan depends, are sedulously taught in their schools, Lyceums, and Lecture Rooms. Institutes of a character similar to that we have organized exist in their principal cities—and minds of the highest order are continually engaged in scattering the seeds of mechanical knowledge, and consequently of national wealth,—and making facts the most important, familiar as household words to the great body of the people. Among the list of distinguished names of those who do not think it beneath them thus to devote their leisure hours to the good of their country, I recently noticed those of Everett and Webster—men who are perhaps second to none now on the American continent.

In forming this Institute, its members were not unmindful of the value of the lessons thus afforded by older countries. They saw what an intimate connection existed between national prosperity and an improved state of mechanical science—and how much every movement of the body-politic might be facilitated or retarded by the intelligence or ignorance of the handicraftsman. If selfishness led them to seek for pleasure or individual advantage from the labors of the association, a higher and more patriotic feeling, urged them to secure for their young and growing country, some of those stimulants which have elsewhere administered to the advancement and resources of nations.

Nor were these anticipations damped by any thing in the natural aspect of Nova Scotia. They saw the best evidence of the fruitfulness of her soil in the abundant productions of agriculture—they saw in her insular situation the best security for the growth of a commercial marine—and every view they took of her geological structure, showed them that she possessed the elements necessary to a great manufacturing country.

To say nothing of the water power which exists in her thousand sparkling streams—it is a fact well assertained, that in every country where Coal and Iron exist together, manufactures spring up as a certain consequence, provided the political condition of the people admits of their free prosecution. Nova Scotia has abundance of both; and therefore, as regards the growth of practical mechanics—the formation and employment of machinery—the creation, and activity of steam power—either on land or on the sea, she enjoys a decided superiority over many other countries, and is entitled on this account, to take a prominent stand in relation to the whole line of the American continent.

Nor ought we to be discouraged by the reflection, that we are yet far behind many of the new England States, and perhaps some of the North American Colonies. Great Britain was for many years far behind the continent of Europe—Spain, Venice, and the Low Countries, would have been insulted by a comparison of manufactures until long after the reign of Elizabeth. We may be presumptuous in making the reference—but true patriotism, like true charity, "hopeth all things"—and while we have such good foundations on which to build the future prosperity of our country, let us steadily pursue the path we have chosen—striving to elevate the character and improve the science of her mechanics, with the fond, but perhaps not vain anticipation, that Nova Scotia may, at some future period, stand in a relation as important to the New World as Britain now does to the Old.

The Mechanics of metropolitan Towns have, perhaps, a higher responsibility upon them than those of other cities—a responsibility that ought to stimulate them to an improvement of their intellectual character. All governments pay a regard to the public sentiment by which they are more immediately surrounded—all Legislative Bodies partake in some degree of the tone of public feeling in the cities where they assemble. It therefore well becomes every class or order of the people, and more particularly is it incumbent upon that middle class, which, as it is the

most numerous, ought to be the most intelligent and influential—to take care that their minds are sufficiently cultivated and enlarged, to make their feelings a safe guide ; and their opinions worthy of the important operation they very frequently exercise.

In following up the objects which the Institute has in view, we may perhaps be assailed by the sneer of the ignorant, and the ridicule of the idle ; and while our society is in its infancy—and before it has proceeded far on its path of usefulness, these may be productive of momentary annoyance. But when they, who now deride its character and objects, find it slowly but surely operating upon the great mass of the community—rectifying its pursuits and elevating its tone—when they find the mechanic repairing to the Lecture Room instead of the Tavern —passing his evenings in scientific conversation and enquiries, in preference to enjoying the boisterous hilarity of the pot house—when they find him in all cases substituting rapid calculation for the tedious process of mensurement ; and bringing the theory and practice of the mathematics, and a right understanding of mechanical powers, to bear on his daily business, when they see evidences of these valuable acquisitions in the style of our Buildings—in the improvement and extension of manufactures—in the added beauty, wealth, and resources of the Town ; and above all, when they see hundreds of respectable and independent men, imparting to their children the knowledge on which their own success was founded ; and with it, impressing upon their minds a love for the past history of this Institution, and the importance of its continuance and support—then, perhaps, the trifler who now views our efforts with indifference, may be shamed into the confession that our labors have not been in vain.

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