

1836

An Introductory Lecture Delivered at the Opening of the Bangor Lyceum, Nov. 15, 1836

Frederick Henry Hedge

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INTRODUCTORY LECTURE

DELIVERED AT THE OPENING OF THE

BANGOR LYCEUM,

Nov. 15th, 1836,

BY REV. R. H. HEDGE.

PUBLISHED BY REQUEST.

NOURSE & SMITH AND DUREN & THATCHER, PUBLISHERS.

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1836.

REV. SIR:

The undersigned, in behalf of the Bangor Lyceum, present to you their grateful acknowledgements, of the favor conferred upon them in the Lecture of Tuesday evening last. They are happy to find the audience of that evening, concurring with them in the impression, that the interests of the Lyceum would be promoted, and the community highly gratified by its publication; and they therefore respectfully request a copy for the press.

We are, with sentiments of high regard,

Your very ob't servants,

W. H. FOSTER,
CYRUS HAMLIN. } Managers.
P. W. CHANDLER, }

Bangor, Nov. 17, 1836.

GENTLEMEN:

Please accept my thanks for the honor done me by your proposal to publish my lecture. Were I to consult my own feelings solely, I should certainly be averse to such a step, but if the public or the Lyceum can be served thereby, I shall waive all personal considerations. A copy shall be placed in your hands as soon as the necessary corrections can be made.

I am, gentlemen,

Your ob't serv't

FREDERIC H. HEDGE.

W. H. FOSTER,
CYRUS HAMLIN, } Managers
P. W. CHANDLER, } of the
Bangor Lyceum.

ADDRESS.

GENTLEMEN OF THE BANGOR LYCEUM:

We are met this evening to open the first course of lectures under the conduct of this Institution. I esteem it a good omen, and an evidence of your zeal in the cause of intellectual culture, that you have been induced to engage in this undertaking at a time when so many embarrassments are pressing on every branch of business, and when, in the aspect of things abroad, there is so little to stimulate and so much to depress. I am glad to see that you have not suffered the hard times to harden your sensibility to the higher wants of our nature, but have shown yourselves resolved to support the interests of learning, however other interests may suffer, to maintain the pursuit of knowledge, though the pursuit of money should come to a stand, and to keep the mind open, if possible, though the shops be shut. In this you have done wisely, and consulted your highest good.

Next to the formation of a manly character, the highest object which the human mind can propose to itself, is the one contemplated in institutions like this—the education of the intellectual powers. To this end, whether we seek it or not, the whole course of things is made to minister. The edu-

cation of the mind, like moral discipline, must go on, with or without our intent and conscious cooperation. The Deity has in part taken this charge upon himself, and placed us under the tuition of his own laws in the great free-school of Nature. Earth and sky teem with instruction. Sun, moon and stars are lectures which all can hear. Day unto day uttereth speech and night unto night showeth knowledge. Labor, too, is instruction. If not idle, we are always learning. Our daily tasks are so many private lessons without charges. Every calling and craft is a course of instruction, in one or more of the sciences. The farmer, while operating on his lands, has no thought of any system of self-education which he is carrying on, yet does he not till the soil year after year, without reaping other and better fruits than his market crops. The best produce of his farm is the knowledge which he gains of those facts and laws which the philosopher, by a different method, is also exploring. He learns something of botany, and something of zoology. His barn is his *hortus siccus*, and his barn-yard his zoological garden. He is a practical chemist too, experimenting on a large scale, with whole acres for his laboratory. The mechanic in his workshop, is teaching himself, without book, the application of geometry to the arts. The lawyer, in his office, learns more of mankind and their crafts than is set down in his statute books. The merchant is an industrious student of political economy, and so is the banker, and so the broker. Every calling is a Lyceum of practical instruction, and the great mart, where all

these callings centre, may be termed a university in the strictest sense ; a university where all are professors and all students ; where not merely the learned professions, as they are called, but every trade under heaven has its college, its faculty and its degrees. We undervalue, I think, this sort of knowledge. We measure learning, not absolutely, but comparatively. We reckon from the common stock of general information, and call a man learned in proportion as his private accumulations exceed that stock. If we would take our departure from the point of absolute privation—if any such point there be—from the *rasa tabula* of the metaphysicians, we should find the difference less considerable, I imagine, between the profound scholar and the well-informed man of the world, just as the elevation of the highest mountains above the level of the earth vanishes into nothing if we measure altitude from the centre of the globe. That general information, which the scholar shares in common with all who have received the benefits of an ordinary school-education, or enjoyed the more instructive discipline of practical life, constitutes the greater part of all our knowledge, and the basis of the rest. The difference between the learned and the unlearned, and the great advantage which the one possesses over the other, consists in the different arrangement of the knowledge common to both. I do not deny a considerable difference in degree, but I believe there is a far greater difference in kind. The learning of the scholar is systematically arranged and reduced to proper order, so that he has a com-

plete view and command of the whole, and can apply all he knows, at any moment, to any given question. The learning of the practical man is loose and confused, an incoherent jumble of facts, without method or classification. They differ as the materials of a building, thrown into an irregular heap, differ from the well ordered and finished structure. The knowledge of the practical man is a knowledge of *facts merely*, the knowledge of the scholar is a knowledge of *principles*, obtained by a systematic generalization of those facts. The advantage, which the scholar possesses over the practical man, by means of this method, is, doubtless, great, still it is an advantage which consists rather in the form than the amount of their respective acquirements. The master or mate of a vessel possesses practical knowledge enough to find his way from one hemisphere to another, across the trackless and unwritten deep. But he knows nothing, perhaps, of the mathematical principles, involved in the table of meridional parts, by which he works up his daily reckoning, nor does he understand the trigonometry of projection on which his charts are planned. He finds the altitude of the sun, or the distance of the moon from that body, and deduces thence the true time of his position. Comparing this with the time of the first meridian, as indicated by his chronometer, he ascertains his longitude. But he knows neither the horological principle, by which the accuracy of his timepiece is secured, nor the optical laws, by which the lenses are arranged in his sextant. He is unacquainted with most of the principles

which he applies in determining his course, as *principles*, that is, as scientific deductions ; but he understands them as practical rules, and knows how to apply them. And the leading facts, too, (particularly those of Geography and Astronomy) from which those principles have been deduced, are mostly known to him. Thus the knowledge, acquired by the practical seaman, is of a different sort from the philosopher's, the one is mechanical, the other scientific. Yet no one will think lightly of this mechanical learning, when he considers how, by means of it, the practical navigator traverses the open sea, where, for weeks and months, the heavens and his tables are the only guides, with as much confidence as he would traverse a settled country, intersected with roads, and is able, not only to determine the parallel, or rhumb, on which he is sailing, but to point to the chart, and mark the precise spot which his vessel occupies, at any given moment, on the surface of the globe.

Another advantage, resulting from this method, the philosopher has over the common observer, in the *parallelism*, if I may so call it, of his observations, by which he refers one fact to another, and ascertains the causes of phenomena. He reduces the facts, observed by him, into different classes, ranging those which relate to the same subject under one head. By this means he is enabled, with ease, to compare facts of one class with those of another, and to explain the more unintelligible by parallel and analagous ones which are more familiar. Thus he observes a fact in astronomy,

for example, the difference between the true and apparent place of a star near the horizon. In order to explain this fact, which at first seems unaccountable, he searches for a parallel under some other head. He has before observed, under the head of optics, the looming of distant objects through a hazy atmosphere. Between these two facts, the one in astronomy and the one in optics, he perceives an analogy. The latter, he has already learned to account for by the refraction of light, passing from a rarer to a denser medium, he applies this account to the former, and concludes that the difference between the true and apparent place of a star is owing to refraction. In this manner, all assigning of causes is only referring one fact to another. Philosophy may be divided into two functions, the one consists in observing and accumulating facts, the other in classifying and comparing them. The first, and by far the most important of these functions, is practiced by the common man as well as the learned, the latter, constitutes the philosopher. The common man, then, possesses the essential rudiments of learning in his knowledge of facts. He requires, indeed, a greater number of facts than his circumstances and opportunities have enabled him to observe, but he requires still more the aid of method, and a perception of the relation between different phenomena, to give meaning and form to his knowledge, and to place him on the vantage ground of the scholar, whence he may obtain a clear and consistent view of the world in which he lives, and know it no longer as a world of phenomena, but as

a world of laws. This defect in the common education, the Lyceum is intended, in some measure, to supply. It is, or should be, the aim of such institutions, to teach the hearer method, by laying before him clear and comprehensive views of particular subjects, which may serve him as a model in reducing the facts of his own experience into something like system. Their business is not so much to communicate knowledge, as the art of knowing, not so much to inform, as to discipline the mind. The amount of knowledge communicated by means of those lectures, which have become, of late, so popular a form of winter-amusement, I hold to be small. Knowledge is not to be gained in this way ; it must be sought in private observation and study. The hearer retains but little of the information which the lecture supplies him. It is not the facts he there hears, that instruct him, but the order in which they are presented, by which, if he learns any thing, he learns to generalize, and to construct, from the facts of his own observation, philosophies of his own, after the model of those he hears. A further and equally important benefit, derived from these institutions, is the universality and completeness which they give to our knowledge, by the great variety of topics with which they make us acquainted. In this they benefit the student and the professional man, not less than the man of business, and are quite as essential to the former as to the latter. Not that one course of lectures or any number of courses can teach all that is to be known, but the handling of various and dissimilar topics and

the exhibition of different knowledge, greatly extends the field of vision, affords the learner an opportunity to correct, to test, to illustrate and confirm one knowledge by another, and, by throwing open, as it were, the whole territory of science, enables him better to understand that particular portion of it which has come under his observation or culture. We all know the intimate connection which exists between all departments of knowledge. Every science illustrates every other science, and every new fact made known to us confirms every previous fact. Hence, the enlargement of mind which we experience whenever we have attained to a clear comprehension of a new fact in science. We feel, for the moment, as if all knowledge were ours. Nor are we wholly deceived in this feeling, he who understands one thing thoroughly, holds the threads of all knowledge in his hand, and if life were long enough, or circumstances and ability would permit us, to follow out to their extremities, the radii which centre in any particular branch of knowledge which we may have mastered, we might make ourselves masters of the whole circle of knowledge, without any instruction from other sources. But since this is impossible, it is well to have instruction from other sources, and to receive, from various points in that circle, a reflected light on our own studies and pursuits. Superficial knowledge is certainly to be avoided where a thorough understanding of any subject is possible, but no man can hope to acquire a thorough understanding of all subjects, and every one will find himself aided in those depart-

ments of knowledge to which he has particularly applied himself, by occasional revelations from other quarters. Such revelations the Lyceum points to, and, in part, supplies. Some instruction from other sources is necessary to render any particular study or calling intelligible. It is impossible, for example, to have a thorough knowledge of Geography without the aid of Astronomy. The science of Geology is illustrated by the lights of Chemistry. The study of the law derives great benefit from an acquaintance with history, and that of Mechanics from a knowledge of Mathematics. I do not mean to say that the instructions of the Lyceum can furnish the whole of this supplementary knowledge, or render us all the aid we require in our particular calling, but they may furnish it in part, at least they may serve to demonstrate the importance of all knowledge and incite the mind to seek it wherever it may be found! And this incitement of the mind to intellectual pursuits is the principal benefit we are to look for in these institutions. They have other uses, but this is their great use. They are useful, considered merely as a form of popular amusement, more rational and less expensive than the theatre or many other diversions, and no little service will they have rendered to the community, if they help to give a purer direction to that love of recreation which, in some way or other, must be gratified. But this is not all they can do, nor the best they can do, nor can they be considered as having fulfilled their true purpose, unless they excite in the people, a genuine thirst for knowledge,

and teach them to crave and covet it more than riches. They must teach men to feel the infinite worth of their intellectual nature, to comprehend the unspeakable blessing of a cultivated mind, to see and understand that no money is so well spent as that which they spend in education, no appropriation of the public funds so well bestowed as that which they vote, in their legislatures, for the benefit of universities and schools. The idea which lies at the foundation of all institutions of this kind, is one of the noblest that ever entered a philanthropic mind,—the idea of an educated people. Ever uppermost should this idea be in the minds of legislators and all who, by their station or discipline, are enabled to contribute any thing towards its realization. And, what is of far greater consequence, the people themselves must be possessed with it, jointly and individually. Only, through their efforts and voluntary co-operation, can it ever be realized. Some despotic governments, in our day, have done much for the education of the people, and even exceeded our republican efforts, in the provision made for popular instruction. But this is one of the things which no government can accomplish. After all that legislators and rulers can do, the greater part remains to be done by the people themselves ; and where the people are their own rulers, the greatest efforts in this cause, and the best fruits may be expected. If ever, therefore, there was a nation where any thing like a general cultivation of all classes might be reasonably looked for, it is ours. What is the use of free institutions, or what glory is there in democracy,

except they tend to promote this object? We boast the equality enjoyed under our institutions, and very justly. The equality which we boast, is the most important element ever introduced into the science of government. And democracy, so far as it does justice to this equality, is a true and beneficent principle. But where it does not do justice to this equality, it is a very false principle. It is not enough to say that all men are equal. The true democracy is that which endeavors to make men equal, and first of all, in that particular in which inequality is most to be lamented—that which constitutes more than any thing else the dignity of a rational being—intellectual culture. This is a species of democracy which has great charms for me. I love to dwell upon the idea of an educated nation, a nation where humanity has found, at length, a free and full development, where the worst distinction between man and man, the distinction between ignorance and knowledge, is, in some degree, done away, where a levelling and radical spirit, of the true sort, has equalized the human condition by levelling *upward*, and rooting fast, all that is best and noblest in man. Among the social evils which call for philanthropic effort in these days, one of the most prominent is the comparative ignorance of the people, and the imperfect diffusion of knowledge, where the facilities for popular education are so great, and the diffusion of knowledge so easy as with us. This I consider as the great evil in the present condition of the poor. I mean the abject poor, whom such institutions as this, have not reached. Not

for its own sake, but only as it involves this, or like evils, does poverty deserve our commiseration.

"It is not," says a late writer, "it is not because of his toils that I pity the poor. We all toil, or steal, (howsoever we name our stealing,) which is worse—no faithful workman finds his task a pastime. The poor is hungry, and athirst, but for him also, there is food and drink. He is heavy-laden and weary, but for him also, the heavens send sleep, and of the deepest. In his smoky cribs, a clear, dewy heaven of rest canopies him, and fitful glimmerings of cloud-skirted dreams. But what I do mourn over, is that the lamp of his soul should go out; that no ray of knowledge should visit him; but only, in the haggard darkness, like two spectres, Fear and Indignation. Alas! while the body stands, so broad and brawny, must the soul be blinded, dwarfed, stupified, almost annihilated? Alas! was this too, a breath of God bestowed in Heaven, but on Earth never to be unfolded? That there should one man die ignorant, who had the capacity for knowledge, this I call a tragedy, were it to happen twenty times in the minute. The miserable fraction of science, which united mankind, in a wide universe of nescience, have acquired—why is it not this, with all diligence, imparted to all?"

In a country like ours, the diffusion of knowledge is practicable to an extent which has nowhere yet been realized. Not only, because the comparative ease of subsistence, requires a less amount of manual labor and allows more time for other pursuits, than is enjoyed in older countries, but because all things here, intellectual as well as civil, tend to a level. The spirit of diffusion is the very genius of our land. And, though there must needs be classes in society, and a division of labor—some to toil with the hands, and some to toil with the brain—there is nothing to prevent the laboring classes, as they are called, from participating, to a very considerable extent, in the benefits and delights of intellectual culture,—nothing but their own indifference. This, in our community, is the only effectual obstacle to mental improvement. When this has been overcome, the want of means, and the want of time are light checks. Once awakened a determination to know, and you can no more exclude knowledge from the mind, except by an abridge-

ment of personal liberty, than you can exclude the light of day from the open eye. I mention the want of time, because this, though far from being an insurmountable obstacle, is an obstacle, and because it is the one most often urged as an objection to intellectual pursuits. But let it be remembered that, in our community, every man's time is his own, and though most are obliged to sell theirs for daily bread, it is in the power of every one to reserve a portion for mental culture. "And that learning should take up too much time or leisure," says Lord Bacon, "I answer, the most active or busy man that hath been or can be, hath, no question, many vacant times of leisure while he expecteth the tides and returns of business, (except he be either tedious, and of no despatch, or lightly and unworthily ambitious to meddle in things that may be better done by others) and then the question is, but how these spaces and times of leisure shall be filled and spent,—whether in pleasure, or in studies. When Aeschines, who was a man devoted to pleasure, told Demosthenes that his orations smelt of the lamp, "Yes," answered Demosthenes, "there is a great difference between the things that you and I do by lamp-light." If, from the time which men spend in over-sleeping or over-working, (that is, in labor prolonged by an inordinate love of gain,) or in frivolous amusements, or in blank idleness, an hour or two, daily, were reserved for the work of self-education, the idea of a cultivated nation might, within some computable distance of time, be realized. Go through the list of men distinguished

for intellectual achievements, particularly in the department of the exact sciences, and you will find that a large portion of them have been men of business, who pursued the studies on which they built their fame, as collateral recreations, deriving their subsistence, meanwhile, from other sources. You will find, too, that not a few of them were self-taught men, who enjoyed but few aids in the way of instruction, and depended mostly on their own efforts for their education. I speak not now of mere inventors, whom a happy genius or a fortunate accident may have guided to their results, and whose own culture was but little advanced by their discoveries. I speak of scientific, deep, thinking men. Of such men as Sir William Herschel, the circumnavigator of the heavens, who discovered new worlds in the deeps above us. Of such men as Sir Humphrey Davy, the first of chemists, whose labors have enabled the miner to walk in safety through gases more inflammable, and more explosive than gunpowder. Of such men as Benjamin Franklin, the founder of the American Philosophical Society, a self-taught, business man, whose remarkable life unites in equal proportions, the philosopher, and the philanthropist. Or, to cite a living instance, I need only point to the author of the Practical Navigator, a self-taught man and a business man; one who has all his life, been engaged in practical pursuits, and who in the midst of those pursuits, finds time to translate and to illustrate with comments of his own; the most scientific productions of any age. With such examples in view, let no man

allege the want of time or means, as an obstacle to mental progress. The real obstacle, I repeat it, is indifference. If knowledge were prized as it should be, it would be sought as it should be. Let the mind be strongly bent on its pursuit, and no obstacle will prevent. And why is not knowledge prized as it should be? It is because wealth is prized as it should not be. It is because a rabid and sickly thirst for gain, absorbing all the life and energy of the nation, allows neither time nor thought for higher objects. The love of equality takes an unfortunate determination. It affects the lesser privileges, and lower blessings of life, and disregards the main point, in which equality is most to be coveted. It is impatient of outward distinctions, but tolerates, with too easy admission, the distinctions of the mind. The poor man thinks it no hardship, to live and die in ignorance of the world around him, and the worlds above him: it is no privation to him, to walk in darkness amidst the daily miracle of nature, and the glorious beauty of earth and sky. He foregoes, without a pang, the ornaments of mental culture and the luxuries of thought, but he cannot resign the decorations of fortune, and the splendors of wealth. He too must have, besides the rational comforts and modest decencies of life, the trappings and embellishments of vanity. He must have the gilding on the the rich man's estate, though he cannot attain to its substance. To this, all his efforts tend; here centre all his aspirations. For this he prolongs his labor beyond the limits of wholesome toil. For this he tasks his strength and perils his peace, and

starves his mind. Much has been said, with little justice, both at home and abroad, in condemnation of the inordinate love of gain, which is supposed to characterize our nation. We are probably not more guilty in this respect than other nations, only as we are more industrious. The mass of mankind are much alike all over the world, as it respects the love of wealth, however they may differ in the vigor which they bring to its pursuit. The Neapolitan Lazzarone, or Sicilian mendicant has, I imagine, no philosophical contempt of riches. He is no cynic of the tub. He loves his sunshine, it is true, but he would hardly waive a prince's gift, were there any Alexander now, to offer it. It is not that he loves money less, but that he loves still more the "*far niente*" of his delicious clime. He would be rich, but he shrinks from toil. A drowsy air, and a lazy church, and a holiday faith, and a rotten state have made him supine, not self-denying. We possess, in addition to the love of wealth, the vigor and the will to work for it. An abounding energy, a quick-conceiving spirit of enterprise, and an indomitable force of purpose, are ever goading us on to that which all prize. Herein we differ from the free states of antiquity which most resemble ours. The surplus activity, which abounds in all healthy nations, was devoted by them to the business of war. With us, it is turned to the business of trade, and the arts of peace. They sought their wealth in the conquest of nations, and the spoil of camps, and foreign tribute. We seek ours in conflict with matter, we labor to subjugate nature, and levy our imposts

on the conquered earth. For this we are not to be condemned, but commended. Not for our ceaseless pursuit of wealth, as compared with other nations, are we to be blamed. This is the fault of our vigor, and not of our concupiscence. Not as a nation, do we merit censure, but as individuals, for our individual covetousness, which makes us blind to all higher good. When Cæsar returned from conquest to govern and reform the state, he was advised—as the first step in reformation—to do away, if possible, the immoderate estimation of wealth, that truth and justice might have their dues. A similar counsel were worthy the consideration of all who have influence in our state. Let riches be at a par, and education will grow in price, and the state will flourish all the better. I know of no other way in which this can be effected, but through the efforts and example of the rich themselves, who; by their moderation and abstinence from extravagant display, may abate the temptations to extravagance and covetousness, in the poorer classes, and inspire that contentment with moderate gains which shall give them—what is better than luxury—leisure and opportunity for improvement. The increase of wealth in a nation, as a means of unfolding the national resources, and of promoting those works of public improvement, which react on individual culture, must always be an important object of national effort. But the more wealth accumulates, the more does it behove the individual rich, to guard the influence of their wealth and example, that it may bear favorably on the best interests of society.

I have noticed, as favorable to national culture, the tendency to diffusion, which characterizes our nation. Equally favorable, it seems to me, is the strong inducement to certain kinds of knowledge, growing out of the practical tendency of our people, which stimulates to inquiry, by suggesting a ready application, and a sure profit. If in one point of view, as we have just seen, the love of gain is unfriendly to the growth of the mind, in another point of view, it may prove an essential aid. It is curious to see with what instinctive tact, American genius seizes on every discovery, and converts it to the practical uses of life. Scarcely had the phenomena of electricity been made known to the world, when Benjamin Franklin, after witnessing a few experiments, conceived the bold project of arresting the lightning in mid air, and bringing it captive to the ground. But a short time had elapsed since the final improvement of the steam-engine by Watt, when the first attempt was made in this country, to apply its powers to the purposes of navigation; which, at last, was carried into successful operation by our countryman, Fulton. Among the inventions which the last century has given to the world, three of the most important are the contribution of American genius.* Endless are the forms of adventure to which this practical spirit has given birth. The fame of our enterprize is in all the earth. There is no sea which our flag has not explored. All the waters of the globe, from the arctic to the

*The steamboat, invented by Fulton, the card-machine by Whittemore, and the cotton-gin by Whitney.

antarctic circle, are witnesses of our commerce. Paths of adventure, but little known to other nations, are familiar to our people, and the products of every clime are subsidized by American speculations. We have factories for converting into garments, and all possible forms of utility, the resinous juice of the South American tree. The Rocky mountains deliver up their furs to our hardy huntsmen. From Baffin's bay

"To the continuous woods,
Where rolls the Oregon, and hears no sound
Save his own dashings."

wherever a new path of gain is opened, or to be opened, we are there with our capital, our enterprise, and our industry. While I speak, a negotiation is carrying on by a citizen of the United States, to unbar for American commerce the gates of Darien, and to join, by means of a rail-road from Porto Bello to Panama, in one continuous line of transport, the two oceans which that isthmus divides. As early as 1775, the enterprise of American whalers had excited the admiration of Burke, who thus speaks of it in the English Parliament :

"Look at the manner in which the people of New-England have of late carried on the whale fishery. While we follow them among the tumbling mountains of ice, and behold them penetrating into the deepest frozen recesses of Hudson's bay and Davis's straits, while we are looking for them beneath the Arctic circle, we hear that *they* have pierced into the opposite region of polar cold ; that they are at the Antipodes, and engaged under the frozen Serpent of the South. Falkland Island, which seemed too remote, and too romantic an object for the grasp of national ambition, is but a stage and resting place in the progress of their victorious industry. Nor is the equinoctial heat more discouraging to them than the accumulated winter of both the poles. We know that while some of them draw the line or strike the harpoon on the coast of Africa, others run the longitude and pursue their gigantic game along the coast of Brazil. No sea but what is vexed by their fisheries. No climate that is not witness to their toils."*

Such, in one branch of industry, was the character of American enterprise, at that early period,

* Burke's Speech on Conciliation with America.

before the commencement of our history, as an independent nation. Such, in all branches of industry, it is still—keen, resolute, indefatigable, and always practical. May not something be expected in the cause of intellectual culture, from a people which knows so well how to estimate and improve the practical uses of knowledge? May not the love of wealth, which was seen to be unfavorable to intellectual pursuits, while wealth is regarded independently of the mind, prove a powerful stimulus to the acquisition of knowledge, when its connection with knowledge shall be fully understood? Will not indifference vanish in the prospect of gain which science unfolds? There is reason to hope that those branches of knowledge, at least, whose bearing on the practical pursuits of life is most obvious, and which are seen to be profitable in a pecuniary sense—the physical and exact sciences—will find zealous cultivators. Yet even from this practical tendency, favorable as it is in some respects, there springs an influence unfriendly to intellectual culture. The zeal for application is apt to interfere with the zeal for progress. There is ground for apprehension, that, in our eagerness to extract a hasty profit from what has already been discovered, we neglect to extend the bounds of discovery, and refuse to those who are laboring in that direction, the aid, sympathy, and patronage, without which, science, as a national interest, can hardly flourish. While the uses of knowledge only, are regarded, the kingdom of knowledge will advance but slowly. Had there not always been some who loved it for its own sake,

it would never have passed the first rudiments; and the useful arts, and the various branches of human industry, which are the fruits of knowledge, would be still, where they were in the first stages of society. In order that the great ends of mental development and popular culture may be worthily answered, it is necessary that the divine nature of Knowledge be fully apprehended, that she be honored for her own intrinsic worth, and sought for her own exceeding beauty. An education which looks only at the practical, may help to fill the purse, but it can never inform or enrich the mind, it can never impart that dignity of character, that respect for our intellectual nature, that veneration for the beautiful and the good, that zeal for improvement, that longing after the infinite, to impart which, is the true object of all education. Neither is it possible to push inquiry beyond the bounds of utility. Ever, as our vision enlarges, our wants increase. Human life, with its daily uses, follows hard on human thought, and every new discovery in the world of ideas, is speedily represented by some practical application, in the world of sense. Such application the mere practical man does not anticipate, and therefore, pities the unprofitable pursuits of the philosopher. He sees him straying into by-paths, where there is neither meat nor drink, and wonders that a man can so forget his belly. Meanwhile the philosopher goes "sounding on" his solitary way, and presently reports a discovery—a new substance, a new law, or, it may be, a new world. Now the eyes of the practical man are opened, and his mouth is stopped, and his

outward condition not a little improved. A few years pass, and the progress of society reaches the point attained by the philosopher, and settles down on the new discovery. From this point new philosophers start, and stray into new regions. Again the practical man wonders, and shakes his head. Again his eyes are opened. A new discovery, another invention, and society, like a horde of wandering gipsies, must take up its march anew, and move its kitchen-utensils to the next resting-place. Such has ever been the progress of discovery, from the time of Pythagoras to the time of Laplace. When will mankind learn to believe in science, and to respect the uses of thought? All knowledge is practical. Nay, more, all inquiry is practical, if our definition of practical, embraces, as it ought, the uses of the mind, which are the final, and therefore, the only real use in all our scheming and doing. Regarded in this light, the very abstractions and most refined subtleties of metaphysics, which the world esteems so lightly, have their use. Not only do they serve as a discipline, to minds that are fitted to converse with such speculations, but they act as *feeders* of literature, and, through the medium of poetry and prose disquisition, convey nourishment to such as are unable to receive them in their abstract form. I call practical, whatever ennobles the mind, by exalting and refining our conceptions of the universe we inhabit. And this, I believe to be the tendency of science, just in proportion as inquiry is pushed beyond the visible forms of things, to the innermost laws, and secret life of Nature. The further we

explore in this direction, the more clearly we discern the ever-present agency of Spirit, represented by its highest manifestation,—Law. The outward form—the mere dead substance, grows less and less ; action and life fill its place, till at last the whole of being appears to be but an aggregate of laws, and nature teems with spirit.*

A German philosopher ascribes to the identity of nature and spirit our tendency to introduce theory into the phenomena of nature.

“The perfection of natural science,” says he, “would thus be the spiritualizing of all natural laws into laws of perception and thought. Hence, the more the laws of nature are revealed, the more the form and substance vanish, the phenomena become more and more ideal, and at last are merged in laws. The phenomena of optics are a pure geometry, whose lines are drawn through the light, and that light itself is of doubtful materiality. In magnetism, every trace of matter vanishes, and as to the phenomena of gravitation, which the natural philosopher can only conceive of as a spiritual influence, all that we see or know of them is their law, whose highest manifestation is the mechanism of the heavenly motions. A complete theory of nature would be that in which all nature resolves itself into intelligence.”†

To most men, I am aware, speculations of this sort will seem the farthest possible removed from any practical use ; and yet the effect they have in ennobling and exalting the mind, the influence they exert on our religious faith, and the new life they infuse into our views of nature and of God, may be regarded, it seems to me, as a use fairly coming within the true idea of the practical, though in the language of another, “they do not replenish our purse or otherwise aid our digestive faculty.”

For that perversion of the practical, which regards only the lower and material uses of life, I know no better antidote than a zealous cultivation,

* So Sir Humphrey Davy is said to have exclaimed once, under the excitement of nitrous oxyd: “There exists nothing but thoughts, the universe is composed of ideas.”

† F. W. J. Schelling's *Transcendentaler Idealismus*.

among all classes of society, according to their several ability, of the beautiful. The love of the beautiful, as one of the fundamental principles of our spiritual nature, deserves a prominent place among the laws and influences which regulate our daily actions and pursuits. It may be regarded as a sort of secular religion, bearing the same relation to our worldly affairs, that the love of the good does to our moral duties. A sense of the beautiful, more or less developed, may be discovered in the sentiments, and practice of every human being. None are wholly destitute of this feeling. There is something divine in man, which ever prompts him to look beyond the mere supply of his necessities. In the poorest cabin, no board is spread without some regard to symmetry and order. No garment is cut without some reference to the rules of grace. There is an alliance too, between convenience and beauty, which looks like a design, on the part of the Creator, to call the attention of mankind to the latter principle. It is Goethe, I think, who says that the useful and the good grow in various ways from the beautiful. The mechanism of the heavenly motions can hardly be conceived as possible, had any less graceful curve than the ellipse been assigned to them. The human frame would lose much of its convenience, were its parts and proportions less symmetrically arranged. In human life, good taste and propriety are strictly co-ordinate, and the perfection of art is always the union of fitness and grace. See the union of these two principles in the combinations

of architecture. No edifice strikes us as beautiful, in which each part does not subserve some obvious use. An Ionic column is a graceful structure, and so is a Gothic arch, but either would be a deformity, if it stood by itself alone, without supporting a superincumbent weight. The window which admits the light, serves at the same time to relieve the uniformity of the building, and to prevent its becoming a lifeless block. In like manner the fireplace pays a double debt to comfort and decoration. In all work, what is called the *finish*, is, for the most part, equally the perfection of utility and of ornament. So likewise, in the moral world, the beautiful is always ancillary to the good, in so much that the terms are generally convertible, and every heroic deed affects us not less by the gratification it affords to our innate sense of harmony, than by the force with which it appeals to our perceptions of the eternal fitness of things. It is not, however, my purpose to defend the beautiful, which always justifies itself, but to recommend its cultivation, as a principle of equal dignity and importance with the practical, in the formation of the intellectual character, and a wholesome check on the excesses and perversions of the latter. Indeed, if we compare the influence of both on the mind, and observe how a lively sense of the beautiful, in nature and art, softens the character, how it calms the passions, and soothes affliction, and persuades content, and reconciles us to all that is bitter and hard in life; how it allies itself with all that is noble and good, and elevates the thoughts above the ignoble cares, the

childish disappointments and all the littleness of earth, and directs them to eternal and unchangeable principles of harmony and order—we shall be constrained, I think, to give this sentiment a far higher place, than belongs to the practical, generally so called, in the scale of human wants and earthly aspirations. It was their love of the beautiful, more than any thing else, which raised the Greeks above all the states of antiquity, and gave them their permanent rank in the history of nations. Among us, as among them, I would have the love of beauty a prominent sentiment, and a leading influence. I would see it manifested in every form of daily use, and in all the pursuits of life. As a means of cultivating this sentiment, poetry, and every branch of literature and art, deserve an equal place with the sciences in the education of the people, and merit equally the regard of your schools and Lyceums. And in this connection, I cannot but consider the decided taste evinced for the arts in this country, and the eminence attained in some of them, as a happy omen in the prospect of national culture. Already we have our sculptors, among the first in that department of art, and in Allston, a painter not surpassed by any since the Italian school. These are national honors of which we have reason to be proud. They are national blessings, if we consider them only in relation to our own times, yet less to be prized as an evidence of what has already been attained, than as pledges of future greatness.

Such, Gentlemen, are the prospects of American culture; such the influences which favor,

such the obstacles which impede the growth of mind, and the spread of knowledge in our land. It has been my principal endeavor in the foregoing remarks, to illustrate the dignity and worth of knowledge, as an independent good, apart from the earthly uses to which it may minister—as a fit instrument for adorning and perfecting the human mind, that it may accomplish worthily its great destiny, and unfold the germ of a higher life. A passage from Lord Bacon's "Advancement of Learning," for which, in conclusion, I shall crave your indulgence, furnishes an appropriate close to these reflections.

"Men have entered into a desire of learning and knowledge sometimes upon a natural curiosity, and inquisitive appetite, sometimes to entertain their minds with variety and delight, sometimes for ornament and reputation, and sometimes to enable them to victory of wit and contradiction, and most times for lucre and profession, and seldom sincerely to give a true account of their gift of reason to the benefit and use of men; as if there were sought in knowledge a couch whereupon to rest a searching and restless spirit, or a terrace for a wandering and variable mind to walk up and down with a fair prospect, or a tower of state for a proud mind to raise itself upon, or a fort or commanding ground for strife and contention, or a shop for profit and sale; and not a rich store-house for the glory of the Creator and the relief of man's estate. But this is that which will indeed dignify and exalt knowledge, if contemplation and action may be more nearly and straitly conjoined and united together than they have been, a conjunction like unto that of the two highest planets, Saturn, the planet of rest and contemplation, and Jupiter the planet of civil society and action."

ERRATA.—Sixteenth page, in second line from the bottom, for 'scientific productions' read 'scientific production.'

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