

third or down to the forty-first, and for the most part does not fully cover the forty-second;—the boys will correct me if I am wrong;) or, to make the comparison fairer, if you take, not in the same latitude, but the isothermal lines that give the same climate as ours, and turn the globe round till every part of its surface which lies between them comes up to the brazen meridian, you will find many a spot equalling, some surpassing, Massachusetts in natural advantages, none exceeding her in prosperity;—some regions you will find, as the globe revolves beneath your eye, as favourably circumstanced as ourselves as to position, climate, and soil; but inhabited by degenerate or savage races;—by tribes that never emerged into civilization, or have sunk back into barbarity.

But you may ask, while you perceive this contrast, is it possible that it should be caused by education? and much of the difficulty which you will perhaps find in agreeing to the answer would vanish, if you would but look upon education, in the full comprehension of the idea, as the *drawing out*, the *training up* of the intellectual principle in man; the divine principle which makes him what he is. Till this is done, man is but a superior animal; hardly even that. At best, the purely sensual man is but a piece of painted, aching clay. But awaken the spiritual nature, kindle the intellectual and moral spark, and he starts up a Newton or a Washington;—a being but a little lower than the angels.

But you ask again can common school education do this? and I answer fearlessly it can and does. I certainly cannot on this occasion, and in the few minutes' time still left me, undertake to treat this mighty theme in all its bearings, but I do not despair, even in a few sentences, of suggesting to you the great points of the argument. I will take school education in its common simple acceptation, as confined to reading and writing, (in which I include speaking and composition,) arithmetic, and the elements of natural philosophy; and I believe the extension to a whole community of the means of obtaining such an education without cost, is sufficient to effect all I ascribe to it. It is scarcely necessary to say, that I do not, in these statements, hold up education as a *creative* cause. I take into the account the spontaneous co-operation of the mysterious principle of intelligence, with all its perceptive faculties, bestowed and quickened by the author of our being; just as the farmer, when he describes the effect of the various processes of husbandry, includes the co-operation of those inscrutable principles of vegetable growth, which philosophy strives in vain to analyze, but without which not an ear of corn is ripened.

With this explanation I say, sir, that common reading and writing, that is, in a word, the use of language as a system of visible and audible signs of thought, is the great prerogative of our nature as rational beings. I say that when we have acquired the mastery of this system of audible and visible signs, we have done the greatest thing, as it seems to me, as far as intellect is concerned, which can be done by a rational man. It is so common that we do not much reflect upon it; but like other common things, it hides a great mystery of our nature. When we have learned how, by giving an impulse with our vocal organs to the air—by making a few black marks on a piece of paper,—to establish a direct sympathy between our invisible and spiritual essence and that of other men, so that they can see and hear what is passing in our minds, just as if thought and feeling themselves were visible and audible,—not only so, when in the same way we establish a communication between mind and mind in ages and countries the most remote, we have wrought a miracle of human power and skill, which I never reflect upon without awe. Can we realize, sir, that in this way we have, through the medium of the declamation of these children, been addressed this morning by Demosthenes and Cicero, by Burke and Fox? Well, sir, all this is done by writing, reading, and speaking. It is a result of these simple operations. When you tell me a boy has learned to read, you tell me that he has entered into an intellectual partnership not only with every living contemporary, but with every mind ever created, that has left a record of itself on the pages of science and literature,—and when he has learned to write, he has acquired the means of speaking to generations and ages, that will exist a thousand years hence. It all comes back to the use of language. The press, the electric telegraph are only improvements in the mode of communication. The wonderful thing is that the mysterious significance of thought—the invisible action of spirit,—can be embodied in sounds and signs addressed to the eye and ear. Instead of wondering that among

speaking, writing, and reading men you have occasionally a Shakespeare, a Bacon, or a Franklin, my wonder is to see these boys and girls, after a few years' training, able to express, in written marks and spoken sounds, the subtlest shades of thought, and that in two or three languages.

The next branch of common school education is arithmetic, the science of numbers, the elements of mathematics. This is in reality a branch of the great department of language, a species of composition; but of so peculiar a nature as to constitute a separate science. This is another of the great master keys of life. With it the astronomer opens the depth of the heavens;—the engineer, the gates of the mountains;—the navigators, the pathways of the deep. The skilful arrangement, the rapid handling of figures, is a perfect magician's wand. The mighty commerce of the United States, foreign and domestic, passes through the books kept by some thousands of diligent and faithful clerks. Eight hundred book-keepers, in the Bank of England, strike the monetary balances of half the civilized world. Their skill and accuracy in applying the common rules of arithmetic are as important as the enterprise and capital of the merchant, or the industry and courage of the navigator. I look upon a well-kept ledger with something of the pleasure with which I gaze on a picture or a statue. It is a beautiful work of art. It is by arithmetrical rules, and geometrical diagrams, and algebraical formulæ, that the engineer digs an underground river-channel for an inland lake, and carries a stream of fresh water into every house in a crowded capital. Many a slate full of vulgar fractions has been figured out, to enable our neighbours in Boston to sip a glass of Cochituate.

Then come the elements of natural philosophy and natural science, the laws of organic and inorganic nature, of which something is taught in our common schools, is it wonderful that a community, in which this knowledge is diffused, should multiply itself a hundred fold? I mean is it wonderful that one well taught man should do the work of uninstructed thousands? Mythology tells us of Briareus with his hundred hands, and Argus with his hundred eyes;—but these are only faint images of the increased and sharpened vision which knowledge imparts to the well educated. M. Agassiz sees a great deal more with his two eyes, than Argus did with his hundred. Mr. Bond beholds a satellite of Neptune in the depths of the heavens,—three thousand millions of miles from the sun,—a body perhaps not five hundred miles in diameter,—as easily as the diver beholds a pearl oyster in seven fathoms of water. No Titan that fought with Jupiter, and piled Ossa upon Pelion, had as much strength in his arm, as the engineer has in his thumb and finger, when he turns the screw that lets the steam into the cylinder of his engine. What is there in the Arabian Nights like the skill of the metallurgist, who converts a shapeless clod of iron ore into the mainspring of a watch? What was there in Michael Scott's book to compare with the practical necromancy of the chemist?

Now these are the branches of knowledge of which the elements are taught at our schools; and need I urge that such a control of the signs of thought,—such a possession of the keys of knowledge,—such a consciousness of power over nature as results from this acquaintance with her mysteries, is quite sufficient in the aggregate to give a character to a community,—not certainly to produce wonderful effects in each individual,—but in their united and continuous operation to promote the prosperity of a State.

#### THE EFFICIENCY OF A SCHOOL SYSTEM NOT DEPENDENT ON A LARGE SCHOOL FUND.

In the Appendix to the last *Report of the Superintendent of Schools for the State of Connecticut*, we find a "PRIZE ESSAY on the Necessity and Means of Improving the Common Schools of Connecticut." The following extracts from this valuable Essay, deserve the attention of every friend of Education in Canada, not merely for the statistics contained in them, but for the practical instruction which they convey, as to the essential elements of an efficient system of public education:—

There was a time when the Common Schools of Connecticut were esteemed the best in the world, and when Connecticut, on account of her system of public education, was the brightest spot in all