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THE TENDENCY TO THE CONCRETE AND PRACTICAL IN MODERN EDUCATION

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INTRODUCTION

The final product in teaching

IT would be well indeed if the teacher could see his final product, much as a sculptor beholds his statue. It would be worth something to to-morrow's teaching if he could see the man of his moulding, walking about full-grown among his neighbors, performing his daily duties and graces. No other measure of our work equals the sight of the product put to its full uses. It is the best corrective to our blunders, the quickest encouragement to efficient action.

But this satisfaction is reserved for the lesser craftsmen of life. It is not given to the teacher to see the daily lesson emerge in the ultimate man. The full power of the teacher is exerted in one generation, that of his students in another. For him who teaches there is no final measure of the day's work. It lies somewhere beyond his vision in time and place. The next generation may attempt a full estimate of his labor, but he him-

self may not. He builds toward the dream-image of a man, ignorant of the final approximation.

The partial influence of the teacher

Even the changing child, stumbling youthfully over its lessons or boisterous at its play, is no fair measure of the passing influence of the teacher. School training is but a small part of life. Other conditions than those of classroom have swayed him for good or evil. Home and community have brought their vital pressure to bear. The teacher has been only one of the artificers in the making of this changing personality. In the maze of educative forces that have made the child what it is, his work is lost to recognition.

The criteria of teaching

Where, then, shall the teacher find the measures for the hourly judgment of his teaching? Standards there must be, if the intricate ministry of teaching is to become more than a crude art where blind faith and subtle intuition, and the crude methods of trial and error, work out their ends together. Such standards are at hand to

make teaching a rational profession. They are found in those qualities of the human personality which have an abiding worth under the tests of our civilization. They are the measures of personal culture and social efficiency. The teaching that fosters these ends succeeds; the teaching which neglects them fails.

What, then, are the marks of culture and efficiency? We present here an interpretation, — the definitions of Mr. Charles W. Eliot. For forty years president of America's oldest and greatest university, for more than a quarter of a century an active leader in the reform of our lower schools, and for the same period of time a distinguished leader in our national life, no one is better fitted than he to suggest standards for the guidance of those who will teach our citizens. The two addresses, "Education for Efficiency" and "The Definition of the Cultivated Man," constitute the treatment of one problem from two points of view. The scholar or the teacher who has long been used to a definition in terms of culture will readily recognize his own method of approach; no less will the man of affairs who has been wont

to measure the worth of schools in terms of the efficient life. It is the hope of the editor and the publishers that the contents of this volume will contribute to a wider and better understanding of the aims and standards of our education.

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I

EDUCATION FOR EFFICIENCY

EDUCATION for efficiency is my subject. By efficiency I mean effective power for work and service during a healthy and active life. This effective power every individual man or woman should desire and strive to become possessed of; and to the training and development of this power the education of each and every person should be directed. The efficient nation will be the nation made up, by aggregation, of individuals possessing this effective power; and national education will be effective in proportion as it secures in the masses the development of this power and its application in infinitely various forms to the national industries and the national service.

Let me say at once that this education for efficiency is not a training which should cease with youth. On the contrary, it should be prolonged through adult years, until the powers of the mind

and body begin with added years to decline. It has been too much the custom to think of education as an affair of youth, and even of the earlier years of youth; but it really should be the work of the whole life. Because the large majority of American children cease to go to school by the time they are fourteen years of age, it by no means follows that their education should cease at that early age. More and more, of late, regular and formal provision for a continued education is made in public school systems, through beneficent endowments and by private enterprise. The prolongation of the period of formal education for a considerable minority of American children, and the provision of summer schools, evening schools, trade schools, correspondence schools, business colleges, and reading circles of many sorts, with public libraries and book clubs, illustrate the increasing prevalence of the new idea that education is to be prolonged through adult life, and may be carried on in a systematic and active way long after the individual has begun to earn his livelihood in whole or in part.

Now all education at every stage of life com-

prehends two processes — the training of powers and the acquisition of knowledge. Childhood and youth are the time for acquiring new mental processes and functions and for exercising and strengthening the memory. The child initiates new processes of thought and establishes new mental habits much more easily than the adult; but the adult, with trained powers, has an immense advantage over the child in the acquisition of information. The important thing in childhood is, therefore, to train the child in as large a variety of mental processes as possible, and to establish as many useful mental habits as possible. During this training an immense body of information will be incidentally acquired, but not so rapidly as the same person grown up can acquire it. Several years ago I gave a demonstration that a good high school graduate about eighteen years old could do in fifteen hours all the examples in arithmetic which the grammar school children in the same town did in two years, giving one fifth of their school-time to the subject in each year, after having studied arithmetic in the primary classes — that is, a youth of eighteen years could

do in fifteen hours what grammar school children about twelve years of age required two fifths of their school-time for a whole year to accomplish. I have often known young men, twenty or twenty-one years of age, to master within three months the whole of the elementary requirement in Latin for admission to Harvard College — a requirement which is supposed to imply a systematic course of five lessons a week, extending through at least the three years between fourteen and seventeen years of age. Many a practising lawyer in the prime of life will master in a few weeks the principles and the details of a complex subject in science or art, in transportation or manufacturing, with an accuracy and comprehensiveness which enable him to deal successfully with the subject in competitive argument. Many an adult reader with trained habits of attention and concentration will absorb the contents of a book with a speed and retentiveness which no child can approach. The important things to accomplish through education in youth are, therefore, the initiation of mental processes and the establishment of good mental habits, with incidental

acquisition of information. Continued education during adult life will provide increasing stores of information. Education for efficiency, individual or national, will take account of these different, but complementary advantages of youth and of maturity.

The debate over the proper selection of studies in youth has been a long and wearisome one; but at last two propositions are seen to command almost universal acceptance. The first is that children and young people should study the elements of a considerable variety of subjects, such as language, mathematics, history, natural science, sanitation, and economics, not with the primary purpose of obtaining information on those subjects, but in order that they may sample several kinds of knowledge, initiate the mental processes and habits appropriate to each, and have a chance to determine wisely in what direction their own individual mental powers can be best applied. The second is that training for power of work and service should be the prime object of education throughout life, no matter in what line the trained powers of the individual may be applied.

This measure of consenting opinion frees me from the necessity of discussing the relative values of different subjects of study, and the different meanings of the word cultivation, and enables me to ask your attention at once to the fundamental matters with which education for efficiency should deal.

I take up first the training of the bodily senses and the care of the body. The training of sight, hearing, smell, taste, and touch has been neglected in education to a most extraordinary degree. Indeed, schools and urban conditions of life have actually impaired on a great scale the sense of sight — that best window of the soul. Quickness and accuracy in all the senses are of high value to the individual throughout life; and in innumerable cases some slight but unusual superiority in one or more of the senses becomes the real basis of success in life. Thus, the father and son who made those wonderful glass models of flowers in the Museum of Harvard University inherited from generations of glass blowers, and developed in their own persons, an exquisite skill of eye and hand which gave them their unique success in

that artistic craftsmanship. The skill of most good mechanics depends on the sure coöperative action of a practiced eye and a practiced hand. Most successful surgeons possess as the basis of their success an unusual accuracy of sight and touch combined with a sure memory in regional anatomy and a presence of mind which no emergency can perturb. The locomotive engineer, or the motorman on an electric car, needs a short-time reaction — that is, the interval between his sight of a signal, or of an object which presents itself suddenly, and the corresponding action of his hand and body must be very brief. This is a bodily quality which must be combined with a natural steadiness of mind and an indefatigable alertness. The training of the ear should come through reading aloud, reciting prose and poetry, and music. Education should try to increase systematically pleasures through the ear to compensate for the horrid noises of urban life. The sense of smell deserves a careful training; for it is the daily source of keen gratifications, the frequent renewer of mental associations, and the best natural protector against corrupted food, drink,

and air. As a rule no attention is paid during systematic education to this invaluable sense. While the body is under training and after it has been trained it requires a steady and intelligent care which education for efficiency should systematically teach. Here again much remains to be done in all the educational systems of the civilized world. We have just begun to provide medical inspection for children and medical visitation for older students, and to teach systematically the elements of personal hygiene and municipal sanitation. There is no longer any excuse for neglect of these subjects. Twenty-five years ago the medical profession did not know how to prevent the spread of typhoid fever, or malarial fever, or how to combat diphtheria or appendicitis or tuberculosis. Now medical science knows how to limit these evils and can do much to prevent their destructiveness. Within the same period the knowledge of civilized mankind concerning diets and the regimen of health has increased prodigiously; and the means of heating and ventilating houses, factories, and meeting-places have been wonderfully improved. To

teach all these things to the whole community should be an important part of education for efficiency; for sickness suspends the efficiency of the individual and premature death destroys it, and when such losses are multiplied by the million, the national efficiency is gravely impaired. If education can succeed in prolonging the period of individual productiveness, and in preventing the breaks in that productiveness which sickness causes, it will thereby increase the total national productiveness and efficiency. It will also add greatly to the public happiness.

Within recent years we have had abundant evidence in our own country and in many other countries that the most effective labor and the cheapest in proportion to its product is found where the laboring classes live comfortably, develop their intelligence, and widen their prospects. It is not the cheapest labor that is the most profitable, but the best fed and lodged, the healthiest, the most intelligent and the most ambitious. Since some of the fundamental conditions of well-being in the laboring classes are physical or bodily, so knowledge about the

training and care of the body, where diffused through the whole population, ought to promote greatly that well-being. I have had the opportunity of watching for more than fifty years successive ranks of young men going out from Harvard University into the work of the world, and I have seen in hundreds of them the development of character and the issue or results of that development. Anyone who has used such an opportunity will inevitably be an optimist concerning the effects and potentialities of education. As a rule, the comparison of the educated man of sixty with the same person at twenty is wonderfully encouraging and stimulating with regard to the average effects on human beings of education and the discipline of life; but such an optimist will confess, if he is candid, that the bodily excellences and virtues count very much toward this favorable result. It seems to me, as I review the life-failures I have witnessed, that the only cases of hopeless ruin are those in which the body has first been ruined through neglect or vice, or was congenitally perverted and made the victim of criminal propensities. If, through