EDUCATION for EFFICIENCY
AND
THE NEW DEFINITION OF
THE CULTIVATED MAN

BY

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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-
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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 vi
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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
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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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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-
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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
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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 require-
ment 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 law-
yer in the prime of life will master in a few weeks
the principles and the details of a complex sub-
ject in science or art, in transportation or manu-
factoring, with an accuracy and comprehensiv-
ness 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 accom-
plish through education in youth are, therefore,
the initiation of mental processes and the estab-
ishment of good mental habits, with incidental
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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,
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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
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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
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drink or licentiousness or other vicious habits, the body of an educated man is ruined, there may be no recovery possible for that individual in this world; but whenever the body has escaped destruction and remains in tolerably sound condition there are few moral wrecks which may not be, to all seeming, completely repaired in this world. These considerations emphasize strongly the importance of making the means of protecting, caring for, and improving the body an important part of education for efficiency.

The next thing which education for efficiency should attend to is the imparting of the habit of quick and concentrated attention. Without this habit there can be no true economy of time. A prolonged attention is not natural to children, and should not be demanded of them; but quick and concentrated attention may be reasonably expected for brief intervals from every child, and as the age increases the possible period of close attention will grow longer and longer. The difference between adults in mental efficiency is chiefly a difference in this very power of concentrated attention. The man who has this power will grasp
quickly new subjects presented to him, gratify people who have business with him by giving them prompt and effective attention, seize eagerly upon the contents of books or papers which relate to the affair in hand, and despatch his daily work, whatever its nature—mechanical, commercial, scholarly, or administrative. He will do in one minute the work for which an inferior man will need five minutes or five hours. He will effect in every day of his life a great economy of time. There will be no dawdling or vague dreaming in the action of his mind. His thoughts will not be a rope of sand, but a chain of welded links. The great thinkers and doers, philosophers and inventors, soldiers and rulers are alike in possessing in the highest degree this power of concentrated attention; and in common men and women this is the most valuable of all mental faculties. To rouse, awake, inculcate, and train this power in the child and the youth should be a principal object in education for efficiency. We say of the child in whom this power does not seem to exist that he cannot apply himself, that he cannot be made to study, or that he does not set his mind
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at work. For every such child the main problem is to discover the means of interesting him in a mental occupation enough to induce him to concentrate his attention. Skill in discovering the means of interesting the childish mind enough to compel attention is characteristic of the good teacher. If oral instruction does not gain a close attention, perhaps books will; if books fail, carpenter's tools, cook's tools, a lathe, an embroidery frame, or a forge may succeed; if mechanical work does not rouse the mental forces, perhaps drawing or modelling will; if all other means fail, the training of the power of attention may be begun through music. The modern biographies which give us an insight into the working of the minds of their subjects, such as the biographies of Huxley, Darwin, Pasteur, Tennyson, Cavour, Lincoln, and Gladstone, show us the power of concentrated attention as the fundamental source of the prodigious productiveness of great workers.

It may seem strange to say so, but it is perfectly plain to persons who have been carefully observing the rising generations that education for efficiency must especially endeavor to induce
young people to think. The incessant hurry and trivial activity of daily life which now characterize childhood and youth, as well as maturity, seem to prevent, or at least discourage, quiet and intense thinking, and particularly that inventive thinking, which is something more than sorting or putting in order materials supplied to the mind from without. The public press no longer invites its readers to sustained thought. Instead of a book, it gives them a six-page magazine article; instead of a half-column editorial, a three-line "brevity," which is often cast in a comical form. The average reader of the newspaper or the short story reads to forget, not to remember. He rarely has any intention of digesting and assimilating what he reads. For the most part, he rejects what he reads without even swallowing it. In former times reading seems to have involved some deliberate thinking on the part of the reader. It no longer does. Much of our daily reading is correctly described as mental dissipation. In school and college, the ampest use is made of helps to learning. Manuals and treatises facilitate to the utmost the acquisition of the pre-
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scribed quantities of knowledge; and tutors and professors offer additional aids, and almost succeed in doing for their pupils the necessary minimum of thinking and willing. Now the efficient man is the man who thinks for himself, and is capable of thinking hard and long. This is a process which requires motive and will-power. Out in the world the motives are often pleasure in the exercise of power, or satisfaction in the getting of money or what money can buy; but obviously these motives are not immediately applicable during the period of education. The problem education for efficiency has to solve is how to stimulate young people to think in the absence of these pressing motives of the real world. Since consecutive thinking absolutely requires personal initiative, or a compulsion from within and not from without, there must be a motive for this compelling action of the will. One available motive is supplied by experience of the enjoyment or satisfaction which good thinking yields to the thinker; but this motive can be roused to activity in the study of those subjects only which have a natural interest for the young thinker.
Hence the importance of discovering early those subjects for each individual. Another motive is the conviction that winning the best satisfactions of later life will depend on possessing this power to think. It is this conviction which converts a listless undergraduate into a diligent student of law or medicine. The teacher, the parent, or the friend can often do much to implant this conviction and to guide the pupil into an enjoyment of thinking; but that is about all the teacher or older friend can do. The school and college cannot use the method of Nature, — root, hog, or die, — and the more elaborate the schools and colleges become, and the more ingenious their methods of teaching and of helping, the less can they use the compulsions which depend on fear of pain, poverty, obscurity, and dependence. The unthinking mind is not necessarily dull, rude, or impervious; it is probably simply empty, or occupied from moment to moment with unconnected trivialities. On the other hand, the thinking mind is as far as possible from the lazy mind. It may be meditative, reflective, or rudimentary; it will probably be abstracted or withdrawn from the
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external incidents of the moment, but it must be hard at work. To inspire the motive for this hard work at an early age, and to train the power of consecutive thinking, is the gravest problem in education for efficiency. The influence which develops the necessary motive in the thinking child or youth is, in most cases, a personal influence, which is partly stimulus, but more example. This influence should rather lead than drive; for the personal initiative in thinking is indispensable. The fortunate child is the one who gets at home this inspiration and guidance toward thinking. The power comes almost unconsciously to the child that grows up in a thoughtful home; but such homes are rare indeed. If the home cannot yield this influence, the next thing to hope for is that the child may come under the influence of a teacher who thinks and inspires thinking. The well-to-do parent who has an unthinking child may be wisely advised to search diligently from school to school for the teacher that can have that effect on his child. In the technical school or the college the student will probably get the chance of coming under the influence of
an enthusiastic specialist in the subject which the student affects; and this specialist may be a thinking man who leads his pupils to think. It has been imagined that science and laboratory work must be peculiarly thought-compelling; but this may not be at all true in the elementary stages of education. There are mechanical ways of cramming scientific facts and doing laboratory work; just as there are pigeon-hole methods of accumulating and sorting materials and “sources” in philological and historical work. The manual, the syllabus, and the coach are now as well developed for scientific subjects as for literary. In teaching the young to think hard, any subject will answer. The problem is to get them to weigh evidence, draw accurate inferences, make fair comparisons, invent solutions, and form judgments; and this is the serious problem in all education for efficiency.

Another leading object in education for efficiency is the cultivation of the critical discernment of beauty and excellence in things and in words and thoughts, in nature and in human nature. We associate the word “criticism” with
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the discernment of defects and inferiorities, and the mind we ordinarily call critical is apt to have a keener scent for faults, mistakes, and offences than for merits, wise judgments, and right actions; but the faculty for discerning quickly and surely excellences and virtues in persons, peoples, nature, and art is an immeasurably more valuable and useful faculty than the faculty for seeing weaknesses and sins. It ought to be carefully and incessantly cultivated by school, college, and the experience of life, for it is capable of contributing greatly to happiness as well as to material success. The faculty of discerning and using conspicuous merit in other people distinguishes the most successful administrators, rulers, and men of business. It is the habit of picking out beauties and excellences in mixed characters and mixed scenes, or in events containing both good and evil, which provides a firm foundation for satisfaction and content in daily life. This critical faculty for beauty and virtue in things and people can be cultivated to a high degree from early childhood throughout life, or it can be repressed and overborne by the opposite habit,
which ordinary conversation and the daily press tend to foster, of attending to abnormal evils, crimes, and disasters, rather than to the normal fortunate course of events. Towards this habitual cultivation, what is called "nature study" is of great use, because nature is full of abounding beauties and excellences and of perfect adaptations of means to ends. To be sure, it is full too of ugliness, imperfections, and defects, but the order and stability of the natural world as it appears to human senses, and the proved fitness of the world to develop in man his noblest faculties, testify to the immense preponderance of good over evil in the universe as it appears to man. Is it not strange that the introduction of the study of nature into schools and colleges should have been reserved for the nineteenth century? Is it not stranger still that the garden as a means of teaching children should never have been used in public school systems till within the last few years? The blackboard is an old invention like the sand table, but how does it compare with a garden plot as a means of teaching the critical discernment of beauty and excellence? It is char-
characteristic of the advance of mankind toward civilization that men become more and more sensible of the good in the world and less and less apprehensive of the evil. In civilized society every child ought to be drilled in the critical discernment and appreciation of excellence and beauty, physical, mental, and moral. Should we not all be vastly more charitable in our judgments of people if we were in the habit of looking for the excellences in people's bodies, minds, and hearts, rather than for the defects? No man and no woman possesses perfect beauty, but most people possess some beauties; no man and no woman possesses a perfect character, but most men and women possess solid virtues, however their virtues may be mixed with vices. Let us teachers take thought for teaching on a great scale the habitual discernment of superiorities rather than of inferiorities.

Another faculty which all schools and colleges, all churches and all social institutions, and the experience of adult life should cultivate incessantly is the judicial faculty for the wise enjoyment of liberty. For savage or semi-civilized men, and for some children who pass through barbaric
stages of development, authority is needed to restrain them from injuring themselves or others; but the diminishing part played by authority in the family and the commonwealth, and the increasing room and need for individual liberty are characteristic of what we call modern civilization. The reason is that the will power of the individual is the taproot of all his growth in character and efficiency. Authority curbs the will power of the individual; liberty gives it play and exercises it. Therefore the training of the will to the wise use of liberty is the great means of developing individual strength of character and national greatness. The child or youth of weak will is the one that his teachers will find most difficult to train or to inspire. The nation which is impulsive, flighty, fickle, and hysterical will go down before the steady, considerate, phlegmatic, and resolute nation. Whatever else a school or a university may do for its pupils, if it does not implant the love of liberty and cultivate the lawful and productive use of liberty, that school or university will have failed to render its highest service to the youth under its charge. As a rule, universi-
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ties have been schools of liberty, but there have been grave exceptions, like that of Oxford in Gladstone's time. The wise use of liberty, whether by an individual or a nation, can only be learnt by practice, and through the passing down from generation to generation of a gradually accumulated stock of public liberty; and since the governments of the civilized world are evidently to be based on a broad suffrage, it is of the utmost importance to the peaceful progress of mankind that the love of liberty should be inculcated and the practice of individual liberty should be systematically taught in the family and in all institutions of education. It becomes teachers, especially, to bear always in mind, and to observe in dealing with children, the principle that it is liberty alone which fits men for liberty, as Gladstone wrote in 1882 about local government for Ireland.

The nineteenth century brought into the world for the service of education, as well as for the service of industries and government, the new temper of mind called the scientific; and the effects of this new temper or spirit have been nothing less than revolutionary. What is the real
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essence of this new temper or spirit, so far as it affects, or should affect, education? Is not its real essence the passion for truth, or for the fact, as distinguished from the guess, or the imagination? Is it not the preference for sound premises over logical trains of reasoning on doubtful premises? Is it not the conviction that action should be based not on shadowy inference or ingenious speculation, but on solid fact? The implanting of the love of truth as the opposite of error and of falsehood is surely one of the greatest contributions that education can make to individual efficiency; for the human powers, if they are to be efficiently used, must be exerted in accordance with the natural and moral law, or, in other words, in accordance with the facts of the world. This principle holds true in the least events and acts of the individual's life, as well as in the play of broad, national forces. If one wants to dam a little brook on his own farm, he must know whether he can get a water-tight foundation for his dam. If the United States means to maintain successfully a canal across the Isthmus of Panama, the designers of the canal must know the extreme
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rainfall of the watershed of the Isthmus, and the habits of the river Chagres. Such an enterprise, small or large, can succeed only on firm foundations of truth or fact. If the primary school teacher longs to stir the sluggish mind of one of her scholars, she must first find out what the sluggishness is due to — to poor food, to bad air, to adenoid growths, to astigmatic or near-sighted eyes, to dull hearing, or to fear, or shyness, or a broken will. She must find out the facts of the case before she can deal with it. She must learn the truth about that child before she can set it free. In order to cultivate the love of truth, it is of the utmost consequence that children should study things as well as words, external nature as well as books, living persons as well as pictures and descriptions of persons, events which take place before their eyes as well as stories of long past events. This is the explanation of the value of productive labor to the child or youth, provided always that the labor be proportionate to the pupil’s strength and yield him some return which he values. Productive labor deals with facts, and is productive only so far as it conforms to the
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truth of things. The search for truth is the new passion and religion of to-day. It has been the most effective altruism of the nineteenth century. It rouses the enthusiastic devotion of many fine natures, inspires self-denial, patience, and courage, and makes men and women content to undergo hardships and to brave perils. With the love of truth often goes the love of freedom, and these two loves together are capable of inspiring and directing the most efficient human lives. That is a wonderful prophecy in John viii, 32: "Ye shall know the truth and the truth shall make you free." It follows from this doctrine that the most important quality in a teacher, whether for children or for adults, is genuine and transparent truthfulness. No other qualities, however brilliant, can compensate for the absence of this quality in a teacher. In the same way and for the same reason, no quality is so valuable as truthfulness in the leaders of a free people, simply because truth-telling and truth-doing lie at the foundation of national efficiency. In a modern world a nation is effective in proportion to its truthfulness, or, in other words, in proportion as it keeps its
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thinking, speaking, and acting in accord with facts.

Finally, education for efficiency should supply every pupil with the motive power of some enthusiasm or devotion. The real motive power in every human life, and in all national life, is sentiment; and the highest efficiency cannot be produced in any human being unless his whole character and his whole activity be dominated by some sentiment or passion. An evil passion may give great physical and intellectual powers a terrible efficiency. A good passion can make ordinary talents extraordinarily effective. A life without a prevailing enthusiasm is sure not to rise to its highest level. These private enthusiasms or devotions are fortunately almost as various as are the characters of men. There are also beneficent enthusiasms which pervade, simultaneously, multitudes of human beings and give them a common effectiveness. At this moment a gregarious enthusiasm for social service inspires a considerable proportion of educated American youth. Anyone who has read many biographies will have perceived that the guiding enthusiasm
of a life often springs early into view, and that this is almost always the case in the most effective human beings.) The youth has a vision of the life he would like to live, of the service he would choose to render, of the power he would prefer to exercise; and for fifty years he pursues this vision. In almost all great men the leading idea of the life is caught early, or a principle or thesis comes to mind during youth which the entire adult life is too short to develop thoroughly. Most great teachers have started with a theory, or, a single idea or group of ideas, to the working out of which in practice they have given their lives. Many great preachers have really had but one theme. Many architects have devoted themselves, with inexhaustible enthusiasm, to a single style in architecture. Some of the greatest soldiers have fought all their battles by one sort of strategy adopted in their youth. Many great rulers have harped all their lives on only one string of national or racial sentiment. Among men of science the instances are innumerable in which a whole life has been devoted to the patient pursuit of a single vision seen in youth. For
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common men and women two or three of the common loves will suffice—the love of family and home, of school and church, of mountain and sea, of nature and books, of private and public liberty, of truth and justice. For us teachers it is indeed an inspiring fact that effective and enduring enthusiasms spring up spontaneously, or may be implanted in early life; for without them education cannot procure the highest efficiency, either during youth, or for the after-life. Education for efficiency must not be materialistic, prosaic, or utilitarian; it must be idealistic, humane, and passionate, or it will not win its goal.
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To produce the cultivated man, or at least the man capable of becoming cultivated in after-life, has long been supposed to be one of the fundamental objects of systematic and thorough education. The ideal of general cultivation has been one of the standards in education. It is often asked: Will the education which a given institution is supplying produce the cultivated man? Or, Can cultivation be the result of a given course of study? In such questions there is an implication that the education which does not produce the cultivated man is a failure, or has been misconceived, or misdirected. Now, if cultivation were an unchanging ideal, the steady use of the conception as a permanent test of educational processes might be justified; but if the cultivated man of to-day is, or ought to be, a distinctly different creature from the cultivated man of a
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THE NEW DEFINITION OF
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To produce the cultivated man, or at least the man capable of becoming cultivated in after-life, has long been supposed to be one of the fundamental objects of systematic and thorough education. The ideal of general cultivation has been one of the standards in education. It is often asked: Will the education which a given institution is supplying produce the cultivated man? Or, Can cultivation be the result of a given course of study? In such questions there is an implication that the education which does not produce the cultivated man is a failure, or has been misconceived, or misdirected. Now, if cultivation were an unchanging ideal, the steady use of the conception as a permanent test of educational processes might be justified; but if the cultivated man of to-day is, or ought to be, a distinctly different creature from the cultivated man of a
century ago, the ideal of cultivation cannot be appealed to as a standard without preliminary explanations and interpretations. It is the object of this paper to show that the idea of cultivation in the highly trained human being has undergone substantial changes during the last century.

I ought to say at once that I propose to use the term “cultivated man” in only its good sense—in Emerson’s sense. In this paper, he is not to be a weak, critical, fastidious creature, vain of a little exclusive information or of an uncommon knack in Latin verse or mathematical logic; he is to be a man of quick perceptions, broad sympathies, and wide affinities; responsive, but independent; self-reliant, but deferential; loving truth and candor, but also moderation and proportion; courageous, but gentle; not finished, but perfecting. All authorities agree that true culture is not exclusive, sectarian, or partisan, but the very opposite; that it is not to be attained in solitude, but in society; and that the best atmosphere for culture is that of a school, university, academy, or church, where many pursue together the ideals of truth, righteousness, and love.
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Here someone may think: This process of cultivation is evidently a long, slow, artificial process; I prefer the genius, the man of native power or skill, the man whose judgment is sound and influence strong, though he cannot read or write—the born inventor, orator, or poet. So do we all. Men have always reverenced prodigious inborn gifts, and always will. Indeed, barbarous men always say of the possessors of such gifts: These are not men, they are gods. But we teachers who carry on a system of popular education, which is by far the most complex and valuable invention of this century, know that we have to do, not with the highly gifted units, but with the millions who are more or less capable of being cultivated by the long, patient, artificial training called education. For us and our system, the genius is no standard, but the cultivated man is. To his stature we and many of our pupils may in time attain.

There are two principal differences between the present ideal of cultivation and that which prevailed at the beginning of the nineteenth century. All thinkers agree that the horizon of the
human intellect has widened wonderfully during the past hundred years, and that the scientific method of inquiry, which was known to but very few when the nineteenth century began, has been the means of that widening. This method has become indispensable in all fields of inquiry, including psychology, philanthropy, and religion; and therefore intimate acquaintance with it has become an indispensable element in culture. As Matthew Arnold pointed out more than a generation ago, educated mankind is governed by two passions—one the passion for pure knowledge, the other the passion for being of service or doing good. Now, the passion for pure knowledge is to be gratified only through the scientific method of inquiry. In Arnold’s phrases the first step for every aspirant to culture is to endeavor to see things as they are, or “to learn, in short, the will of God.” The second step is to make that will prevail, each in his own sphere of action and influence. This recognition of science as pure knowledge, and of the scientific method as the universal method of inquiry, is the great addition made by the nineteenth century to the idea of
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culture. I need not say that within that century what we call science, pure and applied, has transformed the world as the scene of the human drama; and that it is this transformation which has compelled the recognition of natural science as a fundamental necessity in liberal education. The most convinced exponents and advocates of humanism now recognize that science is the "paramount force of the modern, as distinguished from the antique and the mediæval spirit,"¹ and that "an interpenetration of humanism with science, and of science with humanism, is the condition of the highest culture."

¹ A second modification of the earlier idea of cultivation was advocated by Ralph Waldo Emerson more than two generations ago. He taught that the acquisition of some form of manual skill and the practice of some form of manual labor were essential elements of culture. This idea has more and more become accepted in the systematic education of youth; and if we include athletic sports among the desirable forms of manual skill and labor, we may say that during the last

¹ John Addington Symonds, Culture.
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thirty years this element of excellence of body in the ideal of education has had a rapid, even an exaggerated, development. The idea of some sort of bodily excellence was, to be sure, not absent in the old conception of the cultivated man. The gentleman could ride well, dance gracefully, and fence with skill. But the modern conception of bodily skill as an element in cultivation is more comprehensive, and includes that habitual contact with the external world which Emerson deemed essential to real culture. We have lately become convinced that accurate work with carpenters' tools, or lathe, or hammer and anvil, or violin, or piano, or pencil, or crayon, or camel's-hair brush, trains well the same nerves and ganglia with which we do what is ordinarily called thinking. We have also become convinced that some intimate, sympathetic acquaintance with the natural objects of the earth and sky adds greatly to the happiness of life, and that this acquaintance should be begun in childhood and be developed all through adolescence and maturity. A brook, a hedgerow, or a garden is an inexhaustible teacher of wonder, reverence, and love.
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The scientists insist to-day on nature study for children; but we teachers ought long ago to have learned from the poets the value of this element in education. They are the best advocates of nature study. If any are not convinced of its worth, then let them go to Theocritus, Virgil, Wordsworth, Tennyson, or Lowell for the needed demonstration. Let them observe, too, that a great need of modern industrial society is intellectual pleasures, or pleasure which, like music, combines delightful sensations with the gratifications of observation, association, memory, and sympathy. The idea of culture has always included a quick and wide sympathy with men; it should hereafter include sympathy with nature, and particularly with its living forms, a sympathy based on some accurate observation of nature. The bookworm, the monk, the isolated student, has never been the type of the cultivated man. Society has seemed the natural setting for the cultivated person, man or woman; but the present conception of real culture contains not only a large development of this social element, but also an extension of interest and reverence to the animated
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creation and to those immense forces that set the earthly stage for man and all related beings.

Let us now proceed to examine some of the changes in the idea of culture, or in the available means of culture, which the last hundred years have brought about.

I. The moral sense of the modern world makes character a more important element than it used to be in the ideal of a cultivated man. Now, character is formed, as Goethe said, in the "stream of the world"—not in stillness or isolation, but in the quick-flowing tides of the busy world, the world of nature and the world of mankind. At the end of the nineteenth century the world was wonderfully different from the world at the beginning of that eventful period; and, moreover, men's means of making acquaintance with the world were vastly ampler than they were a hundred years earlier. To the old idea of culture some knowledge of history was indispensable. Now, history is a representation of the stream of the world, or of some little portion of that stream, one hundred, five hundred, two thousand years ago. Acquaintance with some part of the present stream ought

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to be more formative of character, and more instructive as regards external nature and the nature of man, than any partial survey of the stream that was flowing centuries ago. We have, then, through the present means of reporting the stream of the world from day to day, material for culture such as no preceding generation of men has possessed. The cultivated man or woman must use the means which steam and electricity have provided for reporting the play of physical forces and of human volitions which make the world of to-day; for the world of to-day supplies in its immense variety a picture of all stages of human progress, from the stone age, through savagery, barbarism, and mediævalism, to what we now call civilization. The rising generation should think hard, and feel keenly, just where the men and women who constitute the actual human world are thinking and feeling most to-day. The panorama of to-day's events is not an accurate or complete picture, for history will supply posterity with much evidence which is hidden from the eyes of contemporaries; but it is nevertheless an invaluable and a new means of developing good
judgment, good feeling, and the passion for social service; or, in other words, of securing cultivation. But someone will say: The stream of the world is foul. True in part. The stream is, what it has been, a mixture of foulness and purity, of meanness and majesty; but it has nourished individual virtue and race civilization. Literature and history are a similar mixture, and yet are the traditional means of culture. Are not the Greek tragedies means of culture? Yet they are full of incest, murder, and human sacrifices to lustful and revengeful gods.

II. A cultivated man should express himself by tongue or pen with some accuracy and elegance; therefore, linguistic training has had great importance in the idea of cultivation. The conditions of the educated world have, however, changed so profoundly since the revival of learning in Italy that our inherited ideas concerning training in language and literature have required large modifications. In the year 1400, it might have been said with truth that there was but one language of scholars, the Latin, and but two great literatures, the Hebrew and the Greek. Since that
time, however, other great literatures have arisen, the Italian, Spanish, French, German, and above all the English, which has become incomparably the most extensive and various and the noblest of literatures. Under these circumstances it is impossible to maintain that a knowledge of any particular literature is indispensable to culture. Yet we cannot but feel that the cultivated man ought to possess a considerable acquaintance with the literature of some great language, and the power to use the native language in a pure and interesting way. Thus, we are not sure that Robert Burns could be properly described as a cultivated man, moving poet though he was. We do not think of Abraham Lincoln as a cultivated man, master of English speech and writing though he was. These men do not correspond to the type represented by the word "cultivated," but belong in the class of geniuses. When we ask ourselves why a knowledge of literature seems indispensable to the ordinary idea of cultivation, we find no answer except this, that in literature are portrayed all human passions, desires, and aspirations, and that acquaintance with
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these human feelings, and with the means of portraying them, seems to us essential to culture. These human qualities and powers are also the commonest ground of interesting human intercourse, and therefore literary knowledge exalts the quality and enhances the enjoyment of human intercourse. It is in conversation that cultivation tells as much as anywhere, and this rapid exchange of thoughts is by far the commonest manifestation of its power. Combine the knowledge of literature with knowledge of the "stream of the world," and you have united two large sources of the influence of the cultivated person. The linguistic and literary element in cultivation therefore abides, but has become vastly broader than formerly; so broad, indeed, that selection among its various fields is forced upon every educated youth.

III. The next great element in cultivation to which I ask your attention is acquaintance with some part of the store of knowledge which humanity in its progress from barbarism has acquired and laid up. This is the prodigious store of recorded, rationalized, and systematized dis-
coveries, experiences, and ideas. This is the store which we teachers try to pass on to the rising generation. The capacity to assimilate this store and improve it in each successive generation is the distinction of the human race over other animals. It is too vast for any man to master, though he had a hundred lives instead of one; and its growth in the nineteenth century was greater than in all the thirty preceding centuries put together. In the eighteenth century a diligent student, with quick powers of apprehension and strong memory, need not have despaired of mastering a large fraction of this store of knowledge. Long before the end of the nineteenth century such a task had become impossible. Culture, therefore, can no longer imply a knowledge of everything—not even a little knowledge of everything. It must be content with general knowledge of some things, and a real mastery of some small portion of the human store. Here is a profound modification of the idea of cultivation which the nineteenth century has brought about. What portion or portions of the infinite human store are most proper to the cultivated man? The
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answer must be: Those which enable him, with his individual personal qualities, to deal best and sympathize most with nature and with other human beings. It is here that the passion for service must fuse with the passion for knowledge. It is natural to imagine that the young man who has acquainted himself with economics, the science of government, sociology, and the history of civilization in its motives, objects, and methods, has a better chance of fusing the passion for knowledge with the passion for doing good than the man whose passion for pure knowledge leads him to the study of chemical or physical phenomena, or of the habits and climatic distribution of plants or animals. Yet, so intricate are the relations of human beings to the animate and inanimate creation that it is impossible to foresee with what realms of nature intense human interests may prove to be identified. Thus the generation now on the stage has suddenly learned that some of the most sensitive and exquisite human interests, such as health or disease, and life or death for those we love, are bound up with the life-histories of parasites on the blood corpuscles or of cer-
tained varieties of mosquitoes and ticks. When the spectra of the sun, stars, and other lights began to be studied, there was not the slightest anticipation that a cure for one of the most horrible diseases to which mankind is liable might be found in the X-rays. While, then, we can still see that certain subjects afford more obvious or frequent access to means of doing good and to fortunate intercourse with our fellows than other subjects, we have learned that there is no field of real knowledge which may not suddenly prove contributory in a high degree to human happiness and the progress of civilization, and therefore acceptable as a worthy element in the truest culture.

IV. The only other element in cultivation which time will permit me to treat is the training of the constructive imagination. The imagination is the greatest of human powers, no matter in what field it works—in art or literature, in mechanical invention, in science, government, commerce, or religion; and the training of the imagination is, therefore, far the most important part of education. I use the term "constructive
imagination” because that implies the creation or building of a new thing. The sculptor, for example, imagines or conceives the perfect form of a child ten years of age. He has never seen such a thing, for a child perfect in form is never produced; he has only seen in different children the elements of perfection, here one element and there another. In his imagination he combines these elements of the perfect form, which he has only seen separated, and from this picture in his mind he carves the stone, and in the execution invariably loses his ideal—that is, falls short of it, or fails to express it. Sir Joshua Reynolds points out that the painter can picture only what he has somewhere seen; but that the more he has seen and noted, the surer he is to be original in his painting, because his imaginary combinations will be original. Constructive imagination is the great power of the poet as well as of the artist; and the nineteenth century has convinced us that it is also the great power of the man of science, the investigator, and the natural philosopher. What gives every great naturalist or physicist his epoch-making results is precisely
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the imaginative power by which he deduces from masses of fact the guiding hypothesis or principle.

The educated world needs to recognize the new varieties of constructive imagination. Dante gave painful years to picturing on many pages of his immortal comedy of hell, purgatory, and paradise the most horrible monsters and tortures, and the most loathsome and noisome abominations, that his fervid imagination could concoct out of his own bitter experiences and the manners and customs of his cruel times. Sir Charles Lyell spent many laborious years in searching for and putting together the scattered evidences that the geological processes by which the crust of the earth has been made ready for the use of man have been, in the main, not catastrophic, but gradual and gentle; and that the forces which have been in action through past ages are, for the most part, similar to those we may see to-day eroding hills, cutting cañons, making placers, marshes, and meadows, and forming prairies and ocean floors. He first imagined, and then demonstrated, that the geologic agencies are not ex-
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explosive and cataclysmal, but steady and patient. These two kinds of imagination — Dante's and Lyell's — are not comparable, but both are manifestations of great human power. Zola in *La Bête humaine* contrives that ten persons, all connected with the railroad from Paris to Havre, shall be either murderers or murdered, or both, within eighteen months; and he adds two railroad slaughters criminally procured. The conditions of time and place are ingeniously imagined, and no detail is omitted which can heighten the effect of this homicidal fiction. Contrast this kind of constructive imagination with the kind which conceived the great wells sunk in the solid rock below Niagara that contain the turbines, that drive the dynamos, that generate the electric force that turns thousands of wheels and lights thousands of lamps over hundreds of square miles of adjoining territory; or with the kind which conceives the sending of human thoughts across three thousand miles of stormy sea instantaneously, on nothing more substantial than ethereal waves. There is no crime, cruelty, or lust about these last two sorts of imagining. No lurid fire of hell
or human passion illumines their scenes. They are calm, accurate, just, and responsible; and nothing but beneficence and increased human well-being results from them. There is room in the hearts of twentieth-century men for a high admiration of these kinds of imagination, as well as for that of the poet, artist, or dramatist.

Another kind of imagination deserves a moment's consideration—the receptive imagination which entertains and holds fast the visions genius creates or the analogies of nature suggest. A young woman is absorbed for hours in conning the squalid scenes and situations through which Thackeray portrays the malign motives and unclean soul of Becky Sharp. Another young woman watches for days the pairing, nesting, brooding, and foraging of two robins that have established home and family in the notch of a maple near her window. She notes the unselfish labors of the father and mother for each other and for their little ones, and weaves into the simple drama all sorts of protective instincts and human affections. Here are two employments for the receptive imagination. Shall systematic edu-
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cation compel the first, but make no room for the second? The increasing attention to nature study suggests the hope that the imaginative study of human ills and woes is not to be allowed to exclude the imaginative study of nature, and that both studies may count toward culture.

It is one lesson of the nineteenth century, then, that in every field of human knowledge the constructive imagination finds play—in literature, in history, in theology, in anthropology, and in the whole field of physical and biological research. That great century has taught us that, on the whole, the scientific imagination is quite as productive for human service as the literary or poetic imagination. The imagination of Darwin or Pasteur, for example, is as high and productive a form of imagination as that of Dante, or Goethe, or even Shakespeare, if we regard the human uses which result from the exercise of imaginative powers, and mean by human uses not merely meat and drink, clothes and shelter, but also the satisfaction of mental and spiritual needs. We must, therefore, allow in our contemplation of the cultivated man a large expan-
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sion of the fields in which the cultivated imagination may be exercised. We must extend our training of the imagination beyond literature and the fine arts, to history, philosophy, science, government, and sociology. We must recognize the prodigious variety of fruits of the imagination that the last century has given to our race.

It results from this brief survey that the elements and means of cultivation are much more numerous than they used to be; so that it is not wise to say of any one acquisition or faculty: With it cultivation becomes possible; without it, impossible. The one acquisition or faculty may be immense, and yet cultivation may not have been attained. Thus, it is obvious that a man may have a wide acquaintance with music, and possess great musical skill and that wonderful imaginative power which conceives delicious melodies and harmonies for the delight of mankind through centuries, and yet not be a cultivated man in the ordinary acceptation of the words. We have met artists who were rude and uncouth, yet possessed a high degree of technical skill and strong powers of imagination. We have
seen philanthropists and statesmen whose minds have played on great causes and great affairs, and yet who lacked a correct use of their native language, and had no historical perspective or background of historical knowledge. On the other hand, is there any single acquisition or faculty which is essential to culture, except, indeed, a reasonably accurate and refined use of the mother-tongue? Again, though we can discern in different individuals different elements of the perfect type of cultivated man, we seldom find combined in any human being all the elements of the type. Here, as in painting or sculpture, we make up our ideal from traits picked out from many imperfect individuals and put together. We must not, therefore, expect systematic education to produce multitudes of highly cultivated and symmetrically developed persons; the multitudinous product will always be imperfect, just as there are no perfect trees, animals, flowers, or crystals.

It has been my object to point out that our conception of the type of cultivated man has been greatly enlarged, and on the whole exalted,
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by observation of the experiences of mankind during the last hundred years. Let us as teachers accept no single element or kind of culture as the one essential; let us remember that the best fruits of real culture are an open mind, broad sympathies, and respect for all the diverse achievements of the human intellect at whatever stage of development they may actually be—the stage of fresh discovery, or bold exploration, or complete conquest. Let us remember that the moral elements of the new education are individual choice of studies and career among a great, new variety of studies and careers, early responsibility accompanying this freedom of choice, love of truth, now that truth may be directly sought through rational inquiry, and an omnipresent sense of social obligation. These moral elements are so strong that the new forms of culture are likely to prove themselves quite as productive of morality, high-mindedness, and idealism as the old.
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