


CHARLES W. ELIOT

 CHARLES WILLIAM ELIOT, LL.D., distinguished American educator and president of Harvard University, was born at Boston, Mass., March 20, 1834. He was educated at the Boston Latin School and Harvard University, and was a tutor and assistant professor at his Alma Mater, 1854-63. He then spent two years in Europe engaged in studying chemistry and investigating educational methods, and on his return became professor of analytical chemistry at the Massachusetts Institute of Technology and continued to hold that position until his acceptance of the presidency of Harvard University in 1869. He has carried out extensive reforms in the management of the university, the most important being the substitution of the elective system for the former prescribed curriculum. During his presidency the growth of the university in all its departments has been great, and through his instrumentality the institution has received gifts and bequests of many millions of dollars. To-day, the amount of Harvard's productive funds, exclusive of real estate and buildings, is said to be over twelve and a half million dollars. His interest in the cause of education has been great and his counsel has been sought in many scholastic quarters. He has delivered numerous addresses in various parts of the country on educational and political topics, and is frank and outspoken in criticism and in the expression of his convictions. With F. H. Storer he has published "A Manual of Inorganic Chemistry" (1866) and "A Manual of Qualitative Analysis" (1869). More recent works of his own are "Five American Contributions to Civilization" (1897) and "Educational Reform" (1898).

INAUGURAL ADDRESS AS PRESIDENT OF HARVARD UNIVERSITY

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MR. PRESIDENT,—I hear in your voice the voice of the Alumni, welcoming me to high honors and arduous labors, and charging me to be faithful to the duties of this consecrated office. I take up this weighty charge with a deep sense of insufficiency, but yet with youthful hope and a good courage. High examples will lighten the way. Deep prayers of devoted living and sainted dead will further every right effort, every good intention. The University is strong in the ardor and self-sacrifice of its teachers, in the vigor and wisdom of the Cor-

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poration and Overseers, and in the public spirit of the community. Above all, I devote myself to this sacred work in the firm faith that the God of the fathers will be also with the children.

The endless controversies whether language, philosophy, mathematics, or science supply the best mental training, whether general education should be chiefly literary or chiefly scientific, have no practical lesson for us to-day. This University recognizes no real antagonism between literature and science, and consents to no such narrow alternatives as mathematics or classics, science or metaphysics. We would have them all, and at their best. To observe keenly, to reason soundly, and to imagine vividly are operations as essential as that of clear and forcible expression; and to develop one of these faculties it is not necessary to repress and dwarf the others.

A university is not closely concerned with the applications of knowledge until its general education branches into professional. Poetry and philosophy and science do indeed conspire to promote the material welfare of mankind; but science no more than poetry finds its best warrant in its utility. Truth and right are above utility in all realms of thought and action.

It were a bitter mockery to suggest that any subject whatever should be taught less than it now is in American colleges. The only conceivable aim of a college government in our day is to broaden, deepen, and invigorate American teaching in all branches of learning. It will be generations before the best of American institutions of education will get growth enough to bear pruning. The descendants of the Pilgrim Fathers are still very thankful for the parched corn of learning.

Recent discussions have added pitifully little to the world's stock of wisdom about the staple of education. Who blows to-day such a ringing trumpet-call to the study of language as Luther blew? Hardly a significant word has been added in two centuries to Milton's description of the unprofitable way to study languages. Would any young American learn how to profit by travel, that foolish beginning but excellent sequel to education, he can find no apter advice than Bacon's.

The practice of England and America is literally centuries behind the precept of the best thinkers upon education. A striking illustration may be found in the prevailing neglect of the systematic study of the English language. How lamentably true to-day are these words of Locke: "If any one among us have a facility or purity more than ordinary in his mother tongue, it is owing to chance, or his genius, or anything rather than to his education or any care of his teacher."

The best result of the discussion which has raged so long about the relative educational value of the main branches of learning is the conviction that there is room for them all in a sound scheme, provided that right methods of teaching be employed. It is not because of the limitation of their faculties that boys of eighteen come to college, having mastered nothing but a few score pages of Latin and Greek and the bare elements of mathematics.

Not nature, but an unintelligent system of instruction from the primary school through the college, is responsible for the fact that many college graduates have so inadequate a conception of what is meant by scientific observation, reasoning, and proof. It is possible for the young to get actual experience of all the principal methods of thought. There is a method of thought in language, and a method in mathe-

matics, and another of natural and physical science, and another of faith. With wise direction even a child would drink at all these springs.

The actual problem to be solved is not what to teach, but how to teach. The revolutions accomplished in other fields of labor have a lesson for teachers. New England could not cut her hay with scythes, nor the West her wheat with sickles. When millions are to be fed where formerly there were but scores, the single fish-line must be replaced by seines and trawls, the human shoulders by steam elevators, and the wooden-axled ox-cart on a corduroy road by the smooth-running freight train.

In education there is a great hungry multitude to be fed. The great well at Orvieto, up whose spiral paths files of donkeys painfully brought the sweet water in kegs, was an admirable construction in its day; but now we tap Fresh Pond in our chambers. The Orvieto well might remind some persons of educational methods not yet extinct. With good methods we may confidently hope to give young men of twenty or twenty-five an accurate general knowledge of all the main subjects of human interest, besides a minute and thorough knowledge of the one subject which each may select as his principal occupation in life. To think this impossible is to despair of mankind; for unless a general acquaintance with many branches of knowledge—good as far as it goes—be attainable by great numbers of men, there can be no such thing as an intelligent public opinion; and in the modern world the intelligence of public opinion is the one condition of social progress.

What has been said of needed reformation in methods of teaching the subjects which have already been nominally admitted to the American curriculum applies not only to the

university, but to the preparatory schools of every grade down to the primary. The American college is obliged to supplement the American school. Whatever elementary instruction the schools fail to give, the college must supply. The improvement of the schools has of late years permitted the college to advance the grade of its teaching and adapt the methods of its later years to men instead of boys.

This improvement of the college reacts upon the schools to their advantage; and this action and reaction will be continuous. A university is not built in the air, but on social and literary foundations which preceding generations have bequeathed. If the whole structure needs rebuilding, it must be rebuilt from the foundation. Hence sudden reconstruction is impossible in our high places of education. Such inducements as the College can offer for enriching and enlarging the course of study pursued in preparatory schools, the Faculty has recently decided to give. The requirements in Latin and Greek grammar are to be set at a thorough knowledge of forms and general principles; the lists of classical authors accepted as equivalents for the regular standards are to be enlarged; an acquaintance with physical geography is to be required; the study of elementary mechanics is to be recommended; and prizes are to be offered for reading aloud and for the critical analysis of passages from English authors. At the same time the university will take to heart the counsel which it gives to others.

In every department of learning, the university would search out by trial and reflection the best methods of instruction. The university believes in the thorough study of language. It contends for all languages,—Oriental, Greek, Latin, Romance, German and especially for the mother tongue; seeing in them all one institution, one history, one

means of discipline, one department of learning. In teaching languages it is for this American generation to invent, or to accept from abroad, better tools than the old; to devise, or to transplant from Europe, prompter and more comprehensive methods than the prevailing; and to command more intelligent labor, in order to gather rapidly and surely the best fruit of that culture and have time for other harvests.

The University recognizes the natural and physical sciences as indispensable branches of education, and has long acted upon this opinion; but it would have science taught in a rational way, objects and instruments in hand,—not from books merely, not through the memory chiefly, but by the seeing eye and the informing fingers. Some of the scientific scoffers at gerund-grinding and nonsense verses might well look at home; the prevailing methods of teaching science, the world over, are, on the whole, less intelligent than the methods of teaching language.

The University would have scientific studies in school and college and professional school develop and discipline those powers of the mind by which science has been created and is daily nourished,—the powers of observation, the inductive faculty, the sober imagination, the sincere and proportionate judgment. A student in the elements gets no such training by studying even a good text-book, though he really master it, nor yet by sitting at the feet of the most admirable lecturer.

If there be any subject which seems fixed and settled in its educational aspects, it is the mathematics; yet there is no department of the University which has been, during the last fifteen years, in such a state of vigorous experiment upon methods and appliances of teaching as the mathematical department. It would be well if the primary schools had as

much faith in the possibility of improving their way of teaching multiplication.

The important place which history, and mental, moral, and political philosophy, should hold in any broad scheme of education is recognized of all; but none know so well how crude are the prevailing methods of teaching these subjects as those who teach them best. They cannot be taught from books alone; but must be vivified and illustrated by teachers of active, comprehensive, and judicial mind. To learn by rote a list of dates is not to study history.

Mr. Emerson says that history is biography. In a deep sense this is true. Certainly the best way to impart the facts of history to the young is through the quick interest they take in the lives of the men and women who fill great historical scenes or epitomize epochs. From the centres so established their interest may be spread over great areas. For the young especially it is better to enter with intense sympathy into the great moments of history than to stretch a thin attention through its weary centuries.

Philosophical subjects should never be taught with authority. They are not established sciences; they are full of disputed matters, and open questions, and bottomless speculations. It is not the function of the teacher to settle philosophical and political controversies for the pupil, or even to recommend to him any one set of opinions as better than another. Exposition, not imposition, of opinions is the professor's part. The student should be made acquainted with all sides of these controversies, with the salient points of each system; he should be shown what is still in force of institutions or philosophies mainly outgrown, and what is new in those now in vogue. The very word "education" is a standing protest against dogmatic teaching. The notion that

education consists in the authoritative inculcation of what the teacher deems true may be logical and appropriate in a convent, or a seminary for priests, but it is intolerable in universities and public schools, from primary to professional. The worthy fruit of academic culture is an open mind, trained to careful thinking, instructed in the methods of philosophic investigation, acquainted in a general way with the accumulated thought of past generations, and penetrated with humility. It is thus that the University in our day serves Christ and the Church.

The increasing weight, range, and thoroughness of the examination for admission to college may strike some observers with dismay. The increase of real requisitions is hardly perceptible from year to year; but on looking back ten or twenty years the changes are marked and all in one direction. The dignity and importance of this examination has been steadily rising, and this rise measures the improvement of the preparatory schools.

When the gradual improvement of American schools has lifted them to a level with the German gymnasia we may expect to see the American college bearing a nearer resemblance to the German Faculties of Philosophy than it now does. The actual admission examination may best be compared with the first examination of the University of France. This examination, which comes at the end of a French boy's school life, is for the degree of Bachelor of Arts or of Sciences. The degree is given to young men who come fresh from school and have never been under university teachers: a large part of the recipients never enter the university. The young men who come to our examination for admission to college are older than the average of French Bachelors of Arts. The examination tests not only the capacity of the

candidates, but also the quality of their school instruction; it is a great event in their lives, though not, as in France, marked by any degree. The examination is conducted by college professors and tutors who have never had any relations whatever with those examined. It would be a great gain if all subsequent college examinations could be as impartially conducted by competent examiners brought from without the college and paid for their services.

When the teacher examines his class, there is no effective examination of the teacher. If the examinations for the scientific, theological, medical, and dental degrees were conducted by independent boards of examiners appointed by professional bodies of dignity and influence, the significance of these degrees would be greatly enhanced. The same might be said of the degree of Bachelor of Laws were it not that this degree is at present earned by attendance alone, and not by attendance and examination. The American practice of allowing the teaching body to examine for degrees has been partly dictated by the scarcity of men outside the Faculties who are at once thoroughly acquainted with the subjects of examination and sufficiently versed in teaching to know what may fairly be expected both of students and instructors.

This difficulty could now be overcome. The chief reason, however, for the existence of this practice is that the Faculties were the only bodies that could confer degrees intelligently when degrees were obtained by passing through a prescribed course of study without serious checks, and completing a certain term of residence without disgrace. The change in the manner of earning the university degrees ought, by right, to have brought into being an examining body distinct from the teaching body. So far as the

college proper is concerned, the Board of Overseers have, during the past year, taken a step which tends in this direction.

The rigorous examination for admission has one good effect throughout the college course; it prevents a waste of instruction upon incompetent persons. A school with a low standard for admission and a high standard of graduation, like West Point, is obliged to dismiss a large proportion of its students by the way. Hence much individual distress, and a great waste of resources, both public and private. But, on the other hand, it must not be supposed that every student who enters Harvard College necessarily graduates. Strict annual examinations are to be passed. More than a fourth of those who enter the college fail to take their degrees.

Only a few years ago all students who graduated at this college passed through one uniform curriculum. Every man studied the same subjects in the same proportions, without regard to his natural bent or preference. The individual student had no choice either of subjects or teachers. This system is still the prevailing system among American colleges and finds vigorous defenders. It has the merit of simplicity. So had the school methods of our grandfathers,—one primer, one catechism, one rod for all children. On the whole, a single common course of studies, tolerably well selected to meet the average needs, seems to most Americans a very proper and natural thing, even for grown men.

As a people we do not apply to mental activities the principle of division of labor; and we have but a halting faith in special training for high professional employments. The vulgar conceit that a Yankee can turn his hand to anything we insensibly carry into high places, where it is preposterous and criminal. We are accustomed to seeing men leap from farm