

a fight not without defeats in detail, but with victory in the large. There is a thread of pathos—even of tragedy—running through the whole. The reader, in the light of later events, will be conscious of Taylor's profound influence on the management movement throughout the world; but Taylor himself was hardly conscious of it. He never entertained any thought other than of complete victory in the long run; but he perceived a great closed-mindedness in the industrial world and felt that he had not had the opportunity to more than begin his life's work.

WE have calls for articles in earlier issues of the BULLETIN which are out of print, and this has led us to the decision to reprint such an article occasionally. In this issue, however, we begin by reprinting one article which did not appear originally in the BULLETIN. Mr. Kendall's "Types of Management; Unsystematized, Systematized and Scientific" is as good as when it was presented ten years ago. In fact, the reader can now get more out of it, for he can illustrate Mr. Kendall's points by facts of his own observation during the last decade. There is a general understanding of the difference between unsystematized and systematized management, but even yet too little understanding of the difference between systematized and scientific management. There are probably more executives today than ten years ago who are explaining cases of systematized management as cases of scientific management; and there is certainly a considerable number of "efficiency engineers" who are selling systematized management as scientific management. We hope this reprinting of his earlier article will stimulate Mr. Kendall to prepare another on the same theme in the light of ten years after.

DR. ELIOT ON STANDARDIZATION

THE following article by Dr. Charles W. Eliot, president-emeritus of Harvard University, appeared in several metropolitan papers about the middle of August. The particular copy followed here is that of *The Boston Herald*, August 17.

TENDENCY TOWARDS STANDARDIZATION

A new blight is afflicting education and industries in the United States, particularly the educational part of industries. Its name is standardization, and there is a very general movement to give it application in a great variety of American activities. The blight seems to have started in the industrial domain. To save time and therefore money, and to increase the productiveness of a given plant, the movements of the in-

dividual operative were carefully studied with a view to reduce the number of his movements and changes of posture, and to increase the automatic and repetitive quality of his work. The object was larger production at lower cost, and this object was gained; but the inevitable result was the destruction of the interest of the workman in his work. For the lifelong interest of the handworker in the varied products of his skill was substituted the intolerable dullness of tending machinery on a standardized "stopwatch" program.

Soon standardization began to affect the school and college programs, the conditions of admission to college, and the qualification for degrees. It limited injuriously freedom of election of studies in both school and college. It also affected the method of instruction in every school or college course, particularly in the lower or more elementary courses. Thereby, the liberty of the individual teacher, particularly in the lower grades, was restricted, and the expedient liberties of pupils and students were also confined.

It is obvious that standardization has become a dangerous adversary of progress in both education and industry. The ideal in education is to develop the utmost possible variety of individual attainment and of group attainment; just as the true goal of democracy is the free development of the utmost variety of capacity in the individual citizen. Uniformity in the attainment of skill, and therefore in earnings, leads not to joy in work but to discontent and unhappiness in the worker. The true educational goal is the utmost development of the individual's capacity or power, not in childhood and adolescence alone, but all through life. Fixed standards in labor, in study, in modes of family life or of community life are downright enemies of progress for the body, mind and soul of man. That doctrine is as true in churches, courts and legislatures as it is in schools and factories. It is sometimes desirable to suggest minima as respects age, intelligence or productive capacity, but never maxima.

It will be for the happiness of the American people to look carefully into the effects of standardization in both the national education and the national industries. It has already gone too far. Although some pecuniary economies can be effected by standardizing processes in both schools and factories, their physical and moral effects are unquestionably bad. As soon as any process in state or church proves to be injurious to the physical or mental quality of the population a genuine democracy should set to work to modify or suppress it.

The reason that the majority of the American people is today unchurched is that the various Christian denominations or church institutions from the first century to the nineteenth set up fixed standards of belief and practice based on what was supposed to be final revelations. Since experimental science began, about 150 years ago, to contribute powerfully to the progress of mankind, these fixed standards in the church have become discredited among thinking people; but since the religious instinct is universal and irrepresible in man, a diligent search is now going on for a church free from standardization. This search and the co-operative management of the fundamental industries are the most promising efforts of the twentieth century.

CHARLES W. ELIOT.

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This impresses us as an example of Homer nodding. Where is the evidence upon which are based such sweeping generalizations?—and by a scholar with the training and traditions of a scientist. Such wholesale generalizations concerning the church appear to be questionable, those concerning education premature, and those concerning industry contrary to available facts.

Dr. Eliot seems to have reasoned as follows: the pre-Reformation church standardized dogma, ritual,

belief and conduct, each in greater or less degree; it held these standards rigid until the evolution of thinking, belief and conduct, as a result of actual experience, caused a revolt and set up a new church; this new church established and maintained a rigid standardization until it too was overthrown; and so on. Ergo: standardization in the church has been a blight, because it has restrained a more regular, and presumably more rapid evolution manifested in a better self-expression of the individual.

But another from a study of the same historic facts might argue: No church, or any other organized social institution (e. g. law) could or can exist except by formulation of guiding standards of purpose, belief, and conduct; standardization makes the existence of human institutions possible; society has learned no other technique of group action; when such standards have been overthrown it is because they have been too inflexible and have failed to conform to gradually developing human experience, intelligence and conduct. Ergo: standardization as a principle or a device is not to be condemned, but human ignorance, and imperfection in the use of the principle or device. And then the argument would be developed to show that the modern concept of standardization is that of a "moving equilibrium"; standards subject to intelligent modification.

Consider the matter of education. When Dr. Eliot was a student he was subjected to a highly standardized system of education—rigidly prescribed courses and didactic instruction in accepted opinions and beliefs. Then during the generation of his presidency at Harvard Dr. Eliot was the leader in urging the general acceptance (standardization) of the elective system. Latterly there has been a turn to (standardization) a system less exacting in its prescription of courses than the system of Dr. Eliot's youth, and more exacting in that respect than the Harvard system of his presidency. And accompanying this development of our educational system through these three stages there was a radical and progressive change in methods of instruction in the individual course; the didactic imparting of accepted facts and conclusions giving place to the method of science—seek the facts; analyze, classify and value them; the open mind, take nothing for granted; experiment, research, discussion; and so on.

Who is yet prepared to say which of these three educational systems has produced the better product? Who is prepared to deny that each system achieved or aimed at standardization as the only known method of social trial of the particular educational theory? And who is

prepared to deny that we have here a good example of society's learning how properly to use the principle or device of standardization in education, by improving its methods of instruction, thereby converting the standardization of inflexibility into the standardization of progression?

Dr. Eliot attacks standardization in industry as though it were something new, because only recently has industrial thinking given any attention to it. As a matter of fact standardization has dominated machine industry from its beginning, and probably dominated craft industry more than we now realize. The current attention to standardization in industry does not represent an effort to establish standardization as something new, but an awakening to the necessity of improving something very old; an inquiry into the validity of a great mass of standards unconsciously accepted by imitation and tradition, and improvement of the mass by rejection of the elemental standards no longer useful and substitution of new standards proved desirable; the introduction into industry of the principle of that standardization which promotes progress in place of the standardization of inflexibility. *The significant element in the current standardization movement is not standardization itself (which is a very old thing), but the questioning of standards (which is a very new thing), and the will to establish better and ever better standards.*

To one acquainted with industrial operations—whether general administration, management, or detail execution at machine, bench or desk—it is unnecessary to bring proof that these operations are and for a long time have been highly standardized; represent a great mass of inherited, accepted and unquestioned standards of opinion and procedure. As an example relating to general administration (policy) the discussion at the recent Atlantic City meeting of the American Bankers' Association is a beautiful example of measuring policy by the standards of an earlier generation—no questioning of their present validity. The average executive officer of almost any enterprise presents a picture of intellectual activity in making decisions and physical activity in executing them based on standards derived from—where?—they have just grown up like Topsy! And at machine, bench or desk the method of the workman is a method acquired by imitation without much conscious thought in the process of acquisition.

Scientific management startled the industrial world by declaring it should have standards. What did it mean by declaring it should have that which already permeated all industry? It meant that the standards