

It never has been proven that there is any decrease in the sum total of human happiness and I believe, using the same premises from which such conclusions are generally deducted, it can be proven that there is a progressive increase in the sum total of human happiness. It seems to me in my brief experience of life that I can see distinct progress in that direction. I might even add that the greater order, greater control and greater command of things made possible by modern organization of industry have contributed materially to this end.

We hear so much about those "good old times" when a man turned out an entire product by his own handiwork, so much of the joy of living and the happiness of those times because of the lack of industrial and economic development, that the subject needs some investigation and I believe some controversion also. One needs only to make a study of the industrial and social life of those times to see how ridiculous is the picture that is often painted. The literature of the times is filled with a picture of general human want. One who believes that initiative and the so-called creative instinct were dominant factors and had full play, will find little indeed to support his contention. A large part of the community—far larger than exists today—was destitute, and a very large part of the remainder was occupied almost entirely in maintaining a bare existence. Not only artisans but also artists were apprenticed and carried on their handicrafts on the merest pittance, usually being dependent upon the subsidy of some patron interested more in self-glorification than in the arts and crafts. An apprentice instead of starting his career with sufficient remuneration to keep him in comfort and having his apprenticeship cut down to a few months, bound himself body and soul to a master for a period of from three to five years, or more. Only a portion of his time was spent in learning his trade. During all of this time he was held to all kinds of drudgery and hard work without any remuneration other than his bare living. Yes, in those "good old days," years of slavery during the best time of one's life were considered essential to "human happiness." To have a true picture one must not stop with the apprentice; one must go on to the craftsman in order fully to realize that the only method of teaching was that of imitation. The opportunity for innovation and self-expression was far less than it is today, and I assume from the long-drawn-out hours and general hard conditions of work that the desire was still less. Is it not foolish to speak of initiative and the creative in-

stinct as dominant in the lives of men at a time when science was considered sorcery and advanced thinkers were burned at the stake?

There is another point brought up by Mr. Pound that I wish to touch upon—the fact that the average citizen is an average man as far as his intelligence is concerned, and that his intelligence is not on as high a plane as we generally think it is. I believe he brings this matter up in connection with the question of automaticity, which is the matter I wish to get at. But first I wish to say we need not be pessimistic about human intelligence. When it is mentioned that the army tests showed an average classification of from thirteen to fourteen years, I will say that this is not a bad grade when one understands the meaning of this grade as established by psychologists. For this purpose one must not confuse intelligence with education and knowledge gained by experience. It refers merely to an inherent mental capacity, and the grade is considered a fairly high one. But, when it is assumed that a man of average intelligence has instincts for variation or when one assumes that the average human mind opposes repetition and the so-called monotony in activities, it is then one assumes wrongly. We have heard so much bunk on this subject in the last few years that I feel that it is about time someone made it his business to tell the truth. Before we are told by half-informed writers about a predominating desire for variety, I think they should first prove that there is such a desire. I defy them to do this. However, I do not wish to make the same mistake of generalization. I will state that psychology does teach us that the desire for variety exists in a very subordinate degree in many people and more prominently in a few people. On the other hand, if there is one predominating desire common to the human mind in general, it is love of mental comfort and the desire to control our acts along accustomed and consequently repetitive lines. It does not make any difference what grade of intelligence one has or in what state of civilization any group may be. The desire for repetition in action and the desire for thinking along habit paths is one of the most important and universal traits of human beings. If this were not so and if we were not constantly being taught more and more acts that become automatic in their performance ("monotonous" the psychologist would call it), human progress would be stopped. Any one of us can think of dozens of things that we do as daily routine which require mental effort and time to learn to do in other than the accustomed way. One need only make a change in

one of these in order to have a practical test of the importance of repetitive action, not only in regard to one's comfort but also in regard to one's efficiency. In 1913 Professor Hugo Münsterberg in *Psychology and Industrial Efficiency*, gave a clear exposition of this question of monotony. The subject then, of course, was not a new one. It is only the conclusions drawn from premises contrary to facts that are new.

Mr. Pound speaks of the insecurity of the employee in modern industry. Here again I might say that it is not modern industry that brings about this insecurity, although we must acknowledge that it does exist, and I am glad to have Mr. Pound call it to our attention. This is a matter that must be remedied by industry, but I do not believe it has any direct connection with the introduction of automatic machinery.

Speaking of automatic machinery, I wish further to state that many problems are discussed from the point of view that all processing is bound to become entirely automatic. This I think is the wrong view. This deduction is probably made for the purpose of proving that automatic machinery is replacing the skilled worker with the unskilled worker. This is not true in the sociological sense. The introduction of automatic machinery has not decreased, it has increased the percentage of skilled workmen. It is true, with slight exception, that it formerly took a skilled workman to do the entire process in any unit of production. This meant that it took a long time to learn all the processes involved—although many of them were unskilled processes—and also that it took a long time for the production of any unit. The result was not that there were more skilled workmen but that there were less units of production. Modern industry does not confine the craftsmanship of the skilled worker to a small aristocracy in well established lines of descent. It has thrown the doors open to all men of ability to raise themselves up to become highly skilled craftsmen. It is true that it employs more unskilled workers, but these are not drawn from the former skilled class. On the contrary, they are drawn from the former pauper and economically non-usable class. The age of automatic machinery has called for a vast number of designers, draftsmen and builders of machines the use of which demands organizations involving many times the number of executives, supervisors, teachers and so-called "brain workers." So here again we must avoid a fallacious premise.

Mr. Pound has laid stress upon one important thing—the necessity of education for leisure. In this we must agree with him most heartily. While industry

must not shirk its share of responsibility, this is a problem not only for industry but for the entire community. There is, however, another important answer to many of the problems which Mr. Pound brings to our attention. While it is true that a man must be educated for leisure, he must also be educated for industry, and this, I believe, is a problem of industry. Scientific management presupposes that the activities in industry as well as the activities in other phases of life must be made educational in order to serve their purpose. *Scientific management makes an industrial organization primarily an educational organization and makes education one of the chief responsibilities of management.* It not only studies each job from the point of view of best methods for its performance, but also with respect to its relationship in the scheme of things as a whole. This involves a high degree of skill on each job, which in turn involves a high degree of training not only as to the performance itself but also as to the proper relation of the job to the general scheme. It becomes important that each job be conducted in a progressive and intelligent manner. This calls into play not only the intelligence of the workman but also establishes a philosophy in relation to his work which is essential to his real development and happiness. As Frederick W. Taylor said, "It sets every man up in business." When men become the mere servants of machinery, when management and men alike are mere adjuncts to machines, not because of the automaticity of machines, but because of the lack of understanding, vision and efficiency in our managers and other leaders, then we have the "Iron Man" as our master. But when machinery and methods and the efforts of men are put to work by intelligent leadership, with a view only to serve the purpose of the men that work with them and those who consume their products, then the "Iron Man" works for us and we need not be afraid of him.

WHITING WILLIAMS:¹ I remember hearing a joke-smith in Cleveland say that he did not know anything about the subject, but judging from people who had at various times appeared on the club program, that did not prevent him from joining the discussion. I was not able to arrive in time to hear the paper tonight, so I ought not to speak upon it. But I do not feel that it represents a real problem. I feel also, however, that for the most part, we are on the wrong track if we try to accept the job as it is and then try to make up for deficiencies in the worker's leisure hours. The place to meet the situation is where it exists, there on the job.

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