

scientific management; and then within the memories of all of us, the attention to personnel.

I have been told that when Governor Hughes examined the contracts for the barge canal in this State of New York, he found that there was a very careful specification as to how the mules and horses should be fed and housed, but that there was no specification whatever in regard to the treatment of the labor. And whether it is true in regard to this particular project, it is even at the present time true in many of the great contracting propositions of the country at large. Yet, due to the evolution of scientific management, the time has come in which we have become conscious of the fact that not only the machine, the factory and power is important, but that eventually we must concede the major importance of the individual.

We are entering into a period when intelligent scientific management cannot be imagined which does not recognize that the source and very essence of the whole proposition in regard to the development of industry here in the United States resides in the incentive which can be afforded to the individual worker and the interest which can be aroused in production.

We have had this great war, out of which we are just trying to extricate ourselves. Fundamentally it was an economic war. The blockades were an economic weapon. The devastated areas were an economic weapon. The submarine was an economic weapon. As somebody has said, the armies were but the mailed fists with which the warring nations struck. The strength of the war and the resources of the war were back in the shops and in the industries of the individual countries.

We had millions of men detached from the circumstances into which they had grown and where inertia had been holding them with hardly a question, and they went abroad. There they were brought into contact with new customs and new peoples and they learned to think in new terms. There was an intellectual stimulation in the whole experience. And eventually they came back into the United States of America with very much less of a disposition to accept what society arbitrarily deals out to them without any consideration on their part, and they have come back with the determination to regulate their individual lives to a degree such as never before has been within the determination of a people.

Thus we are brought down to the final fact that, just as the absolutism of the Church, just as the absolutism of the State, now the absolutism of this economic power is shaken; and we come to the proposition squarely that the whole history of the authority and power, if we analyze it, has been that it flows from the few to the many; and that having flowed from the few to the many it is never restored to the few. Under those circumstances, it is no longer a debatable question whether we shall operate economically and industrially on the theory of absolutism; we come down to the proposition pure and simple that cooperation and mutualism, which have been found inevitable in other walks of life, which have been the result of the reactions of other impulses in previous wars, must be paramount and must be recognized to a degree that they never have been recognized before.

Democracy would be a very deadening thing if out of this we were justified in drawing the conclusion that there is to be one great level of population, one great level of intelligence, one great level of wealth; and I have never been able to see anything plausible or attractive in the socialistic theory that subscribes to anything approximating this proposition. I believe that we are coming to a time when assertions of the Declaration of Independence must have an entirely new meaning to us because they must mean that every individual shall have the opportunity, so far as it can be afforded, of developing to his maximum capacity,—in other words, the well-known scientific management principle that every resource shall be used to its maximum effect.

Somebody says: "But hasn't that been so?" The answer is "No." I have talked with employers occasionally who have said that they thought in the large it has been so. But I challenge anybody to go into some of the great mills, or into some of the great shops of this country and to find any evidence whatsoever that there has until very recent times been any such importance attached to the individual welfare of the man or woman worker as there has been attached to the mechanical equipment, or the great sources of power, or even the structures within which the work is done. After all, we have some such situation as this; whereas in the craft guild period the tools were owned by the individual man, and also the house in which he worked and trained his apprentice (those were the days of the apprentice who desired to create an article that should be an advance on that of

his master) we find ourselves today in a period when ownership of those tools and those houses has constantly become restricted, because it has not been possible for any except those with financial resources of increasing magnitude to control the tools by which industry is to be developed.

Parenthetically, I would state that I am not saying this critically because I am not at all sure that the industrial revolution could have been utilized or could have been carried through, or perhaps have become profitable to society at all, unless there had been a period when attention was concentrated as it has been concentrated; and when those who were able to gain command of the sources of production did gain command of them and develop them with a compact and quickly available supply of financial resources.

However, we have come to a time when the speed of the machine is not the only criterion of what the individual workman should do, but when opportunity for self-expression must be given to the individual workman as at no time in the past. We have, in short, come to that period when we must make the distinction which Emerson makes in one of his essays between the man working and the worker; because if you put a thousand machines into a plant and you bring in a thousand men and train them simply to a standardized running of those machines to maximum capacity, you have ceased to have a thousand individuals there; you have come to have a class, a quota made up of a thousand impersonal units out of which a dozen or a hundred can drop to be replaced by others who shall do the same standardized thing. And it is necessary, therefore, if we are going to get the increased production which it is necessary that we should have, if the prosperity of the world is to be enhanced, it is necessary that we should put back into industry somehow the stimulus and the incentive to work on the part of the individual.

It seems to me that it is a proposition which should not need to be argued in a group like this, that production has never yet been increased by legislative enactment; that industry has never yet been increased by legal injunction; that production has never yet been increased to any extent by evangelistic oratory. But production, when it has been increased, has been increased by making the agencies or the tools of industry more effective and up-to-date. The advance in production to which the scientific management group has contributed so much has been secured by making

the mechanical equipment and the organization of that more effective.

But we have come, I believe, to the limit of that, except as it is carried on in hand with the development and the encouragement of the individual worker, which gives him a sense of responsibility and a stimulation to work, which makes him desire to work because of his understanding that economic wealth is created day by day and does not exist as a great reservoir, somewhere.

I believe that education has a tremendous responsibility in this whole matter, and I do not mean by that simply the formal education which is given within the walls of an institution; I mean the education which comes from a general desire, bred in the minds of the public at large, that everybody's intellectuality shall be widened and deepened and made more powerful; and if it were possible for us at the present day to get into the minds of men everywhere the fundamental fact that wealth isn't a great store which can be drawn on indefinitely without exhaustion, but that wealth is that which day by day is created by the individual hands and the individual minds of the workers, I believe under those circumstances there are few in the country who would be so perverse as to wish not to meet their responsibility.

But we have these scattered groups of foreigners from the ends of the earth, we have groups from Russia, we have the great groups from southeastern Europe, who know nothing whatever about our language, nothing about our institutions and about the fundamental economics on which the industrial establishment of the country must stand if it stands at all. Are we without responsibility for their ignorance?

And so, we come to this question as to how, if at all, there can be put into the minds of men the desire to work, and to the question whether there is the possibility in the disordered state of the present civilization of accomplishing anything in this way. The only answer that one can make in response to an interrogation like that is to point to experiment after experiment, success after success, all over the country, where the barriers have been taken down, where men have ceased to view work as an unpleasant job but have begun to look at work as something which interests them and of which they understand their part. For it is one of the accepted propositions at the present time,—somewhat accepted, at least and