

and to try to solve it in its purity apart from considerations which are not of its essence. It is precisely this which both the most earnest advocates of Mr. Taylor's principles and the most earnest advocates of labor had failed to do up to the time of Professor Hoxie's work. If Professor Hoxie can complete his work through digesting the materials he has gathered, and also through making an investigation of labor in its relation to scientific management as he has made of scientific management in its relation to labor, we shall begin to be in a position where we can get at the question of scientific management in a truly scientific fashion.

Our Problem Today.

Our immediate task together is to see whether we can begin at the present time to get a line on that genuine application of the principles of scientific management which is beneficial to society as against that alleged application which is dangerous to society. I shall try today merely to lay the grounds for the discussion of what I believe to be one basic standard of judgment. If we try to state the problem clearly, I believe that we shall be able to formulate this standard. The standard by which to judge is to ascertain whether any particular application of the principles involves the recognition of a truly independent and organized consent on the part of the workers.

By my statement of the problem I shall endeavor to show that the standard as above stated is a primary standard by which to judge all management.

The Efficient Shop.

Let us begin by getting clearly in our minds a picture of an efficient shop as we can easily construct it out of the principles laid down by Mr. Taylor and even out of the present attempts to apply those principles.

I shall picture this shop only in outline because you are all familiar with the details of the picture. I simply want to be sure that we do not lose the proportions of the main outlines in the particular interest which any one of us may have in certain particular aspects of the picture. In my description of this shop I shall, for the moment, ignore the human element entirely as it actually exists in the shop and describe the people handling the operations of which I shall speak as people who, whatever they may be outside the factory, are while in the factory simply animate machines, people who have either been trained or trained themselves, it matters not which for our present purpose, to do their work with all the precision of the most marvellous engine and with all the automatic delicacy and grace and perfect adaptation to environment of the poised bird on the wing.

In such a shop first of all we should find Mr. Taylor's principles applied to the financial and sales end of the organization. These applications I shall not pause to consider here (because, for simplicity's sake, we shall deal only with the strictly production problem) further than to point out that in any really efficient organization the high spots all along the line must be secured as to their efficiency before the more minute details are highly developed. A great deal of the scientific management in use at the present day, whether in sales, finance, production, or personnel, is similar to the situation in which a great deal of money might be spent in curing a person of flat foot who had some disease of the knee which might lead to amputation. This lack of co-ordination is an excellent illustration of one of the basic inefficiencies which penetrates the whole world today.

Assume, however, that the ideal shop we are picturing to ourselves has avoided these insults to common sense. It

will on its production side proceed to organize every single one of its activities in relation to every other activity. That is the essence of the whole matter. That is the essence both of planning and of action in a shop. That is the essence of work analysis, of stores keeping, of the lay-out of equipment, of routing, of functionalizing and of costs flowing steadily and thirteen times a year into the profit and loss statement as a by-product of the management practice itself.

In such a process of organization all former standards are revalued, all precedents are fearlessly analyzed; no process which has been improved upon is retained a moment longer than is necessary smoothly to install the better process. The crafts and trades as we have known them are progressively broken up under this process; work is ever more and more specialized and the steady tendency throughout, because of the fact of this specialization, is to need at any particular point of any particular operation the thinking, judging human being less and less, so that the mechanically and easily-trained human being more and more is used, and more and more tends in his turn to give way to inanimate machinery. At the same time that this tendency is going on, the brain of the shop, as has been aptly said, is developing in the planning room until the shop is becoming as perfect an organization of relationships between brain and nerve and muscle as is the human body.

In itself all this is good and but the logical outcome of the introduction of machinery. It means lower unit costs and more wealth. Any force of society which attempts to turn back this progress, or halt, or even slow it up is contending with the inevitable. Such a factory as we have outlined is unquestionably the type of the major production method of the near future throughout the world under any form society may take.

Re-enter the Human Being.

So far we have no problem. But the moment that we substitute in the ideal factory which we have sketched the human being as he exists in the world today, we have our problem. People who have been no less pioneers and discoverers in the field of both general and social psychology than Mr. Taylor was in the mechanics of business organization, have found certain principles as basic as Mr. Taylor's and which spring from quite other roots. These equally fundamental principles center in this statement: the days of compulsion—the days of service without consent, are over. In tremendous areas compulsion still exists. We are still conscripted into the world. We are still in great areas of our lives the unconsulted objects of powerful forces. With all our magnificent engineering achievements and somewhat more slowly developing common sense, we are still individually and collectively the apparent sport of earthquake or lightning. When we have once decided to take passage on the sea, we have, so to speak, enslaved ourselves to the possible storms at sea. But in all those areas of life wherein man deals with man, great breaches have been made in the ranks of compulsion. We find, however slowly and haltingly, through the decades a steadily increasing assertion of the right both of the individual and of the individual in groups to give his consent to that which from any other human quarter it is desired him to do.

Consent from the point of view of life in the factory has two main types: individual consent and group consent. As to individual consent, in some cases it is of the type of the traveler who decides to take ship, abandoning at the factory gate, as the other does at the dock, the right of

being consulted by the management as the other does the right of being consulted by the captain. In other cases, continuous rights of consent are still retained.

As to group consent, it is of two kinds: the consent of the factory group by itself, and the consent of the factory group as a part of an inter-factory group.

The most casual study of the whole principle of consent will show that it always tends to strike its roots into wider and wider areas. It is the failure to recognize this principle, for example, which makes the present Rockefeller plan in Colorado a sociological joke and in the future, as in the past, likely to hold a sociological tragedy.

I think there will be little debate among any of us as to the general proposition that a free man—a consenting man—is the more desirable worker. Where we have broken down in imagination is in failing to realize that organized consent as well as individual consent is the basis of a more efficient group. We have been accustomed too much to think of democracy as almost necessarily a mere crude expression of untrained information through votes. Almost nothing has yet been attempted to build up a finer texture of democracy through self-training groups, constantly growing in strength through the consideration of scientifically accurate data.

Another error which we have lazily accepted as a failure of democracy is the idea of life as a fairly static thing. This error is clearest seen in the common statement that certain types of people, certain whole groups of people as well as certain individuals "are not worth any more." The reason they are not worth any more is largely because no adequate educational process has been tried. The theory is disproved by our immigrants when they are given the right chance. It is disproved in the tremendous progress the children in our schools make over the status of their parents. It is disproved above all by the absurd implication that human beings are less the field of the inventive organizer than machinery. More than any other one thing, life is an educational process and it is only when life is artificially restrained, artificially hampered, that, because the educational process is lacking, we wrongly think of life as static and of classes as efficiency castes.

The problem then is to combine, not through failure to come to grips and not through hostilities, but in constructively organized ways, the latest developments of efficiency in production with the latest developments of the science and art of democracy.

A primary standard then by which I should judge scientific management would be to consider whether or not the scientific manager and the student of social psychology, who, in shorter terms, might be called "the man of affairs," were jointly addressing themselves to the solution of this problem—the relation between efficiency and consent—in each particular industrial concern; and whether they were recognizing that the ultimate ideal will be the consent of the inter-factory group as the only one broad enough on which to build stable conditions of efficiency co-operatively with adequate safeguards to ensure that the human educational process shall not be turned back, stopped, or delayed any more than efficiency shall be turned back, stopped, or delayed. The educational problem is the fundamental problem of statesmanship and it is a minimum demand of that statesmanship that industry shall be a school of citizenship.

Conclusion.

Three points emerge clearly:

1. That craftsmanship in the old sense of the term is doomed.

2. That as craftsmanship can no longer furnish the base on which labor organization can grow, unionism, group action, will have to build itself up on a base as broad as the whole educative process itself instead of on the particular educative process of a particular craft. Even today the real strength of unionism is that unions are effective consumers' organizations with a primarily educational interest. As this fact gradually sifts through the minds of employers and managers they will gradually see that the most inefficient thing they can do is to fail to co-operate with such a great source of energy. The organizations of workers, on their side, can, when once that stand is taken, be counted on to consent to all that makes for efficiency. They will do this because in all legitimate enterprises—which are all enterprises where real service to the public is the test—the workers and the management will be equally concerned in perfecting the service. And at the same time, under constitutional industrial relations, they will contest the share in the management and the share of the product between themselves and with the consumer.

3. That the inter-relation of the forces we have outlined—the forces of efficiency and consent—is constantly taking place in the world today in all kinds of crude and unorganized ways. Here and there real elements of inter-organization between efficiency and consent appear. But for the most part the labor agreements in operation today are looked upon by employers as a necessary evil and by the workers as steps in their assertion of their rights as consumers and having little detailed relation to production processes. The beginnings of something far better than this are seen in the agreements in the garment trades wherein the manufacturers, the workers and the public are all represented as parties; and in certain kinds of organization which are being worked out in a few business concerns. There is still too little of real accomplishment in this direction to enable us to predicate with any certainty what the course of the development in details of organization will be by which efficiency and consent are made continuously revitalizing agents for each other.

Yet I believe that the point has been reached where it is profitable to attempt to gather together such experience as has been gained and relate it to the probable development of the next few decades.

With this purpose in view, I submit the accompanying chart.

This chart, it should be constantly borne in mind, is neither a dogmatic nor propagandist document. It is merely a working hypothesis by which to test out the facts of business as they occur daily at the desks of managers and at the trade union council tables, or in the occasional assemblages of unorganized labor. The whole aim of this discussion, as I see it, would be falsified if we deluded ourselves into believing that in any seeming array of facts, we had found the truth. The only unforgivable thing would be that we, as social scientists, neglect to take into consideration any facts of the moment connected with all the forces that do exist; the only thing that seems to me axiomatic is that when forces do exist, they are better when organized, trained, educated, developed and enlisted in an effective way—anything you like—rather than allowed to play among and upon us blindly.

The picture of these forces submitted in this chart may be summarily commented on, as follows. In every form of factory there are human forces at work which, whether they are organized or not, are of at least equal importance with the forces governing sales, production, and finance. These forces take the two aspects of relationship to a grow-