

the health of his patient. I wish it were possible by some sort of prescription to abolish these fake and damaging self-styled organizing engineers. I do not see how that can be done. We must rely upon the education of the employer, his refusal to employ them, and their ultimate extinction by starvation. The point I have just made does not concern the topic "Modification of Scientific Management," but it does concern the modification of the circumstances in which real Scientific Management finds itself.

I would not suggest any modification of Scientific Management, for Scientific Management is an attitude of mind rather than a physical thing. It is a body of principles rather than a mechanism. Who would suggest a modification of the three fundamental principles I have attempted to bring out? (1) Continuous and intensive investigation of facts. (2) Prediction, so far as it is possible, on the basis of the facts ascertained. (3) Precise control of materials and processes so as to make actual operations conform to the facts ascertained by investigation. I cannot think of three more satisfactory universal principles.

Their honest application involves the idea that there shall be a strict regard for the exact facts surrounding the conditions of any particular application of the principles of Scientific Management. The consequence of that is that the mechanism and external manifestations of Scientific Management must in any particular plant be more or less different from those in any other particular plant. In that unreal sense of the word "modification," we may say then that there must be a modification of the mechanism of Scientific Management with every application of its principles; but its principles remain the same, for it is a corollary of the principles enumerated above that accurate investigation of every separate plant will find a separate combination of facts that will require separate application of the principles.

#### SCIENTIFIC MANAGEMENT AND FILENE'S PROBLEM

I take up this point by request and not voluntarily. I am not so presumptuous as to attempt to suggest to you detailed methods of applying the principles of Scientific Management in the Filene plant. I do not know enough. In the first place, I have not had the opportunity for more than casual inspection of the Filene store. I do not know exactly what you are doing, although I know the general principles governing your business operations. In the second place, Scientific Management has not been applied in any retail merchandising houses, and therefore I cannot suggest to you something based upon my observations of Scientific Management worked out in other merchandising houses. In fact, you have already

done more than any other merchandising house of which I know, in the application of Scientific Management methods, and with that start you have before you the opportunity for the most complete application of the principles. When you have done that, and have informed me concerning what you have done, then I shall be able to stand before the personnel of some other merchandising house and tell them what they may do to apply the principles of Scientific Management in their business. All I have attempted to do is to bring to you some ideas concerning Scientific Management as I have seen it in that type of industry in which it has been applied—manufacturing—in the hope that you will be completely seized by its spirit and will work out the application of Scientific Management in distribution.

I have only three specific suggestions to make.

1. Scientific Management starts with, and is dependent upon, investigation. Make your investigating department one of the big departments of the store. It should not be merely a subsidiary department. It should be co-ordinate with, and co-operating with, all the other major departments of your business. If improvement depends upon an exact knowledge of facts, and an exact knowledge of facts can come only through persistent and careful investigation, then the department which is responsible for that persistent and careful investigation is logically a major department.

2. When the investigating department has decided that any particular way of doing a thing is worthy of honest trial, enter into the trial with your whole heart. That means, of course, that in your mind the presumption must be in favor of its being a good method, and you must observe carefully all directions given by the investigating department governing the manner in which the suggested method should be carried out.

3. After your co-operation with the investigating department has demonstrated that the new way of doing the thing is the best way, accept it as the new and standard method, and do not vary from this method thereafter until a better one has been discovered and proved to be better. And you must not be unwilling to co-operate in establishing that which I have alluded to during this hour by the use of the word "control." When a new best way of doing something has been devised, it will be found that that best way involves the assignment to each of several individuals the authority to order something to be done, or the responsibility to do something which has been ordered done. It is no violation of personal liberty to feel a self-imposed compulsion to do something which one is directed to do, if by some

co-operative arrangement in advance it has been agreed that one will do that thing when directed, under the particular defined circumstances. Nor on the other hand is it an increase of personal liberty or an arrogation of privilege to be in a position to direct that something be done by someone else, provided it has been agreed in advance that those to whom one has given the authority to direct shall do so under certain defined circumstances. In fact the very essence of co-operative organization and operation is that by mutual agreement each shall have the authority and the responsibility of directing something to be done, and each shall have the responsibility and privilege of doing something which someone has directed to be done. That is what is meant by organization, and what I have meant by control. Industry cannot exist without it, and the more perfectly control is worked out, the more productive industry will be, the greater the income of industrial efforts, and the greater the reward to everyone concerned. But the organization for the purpose of control may be, and should be, co-operative in its nature and not arbitrary.

#### DISCUSSION

Q. You said you thought Scientific Management gives a greater opportunity for self-expression. I wonder how, in a standardized job, a person has more opportunity for self-expression.

A. We erroneously think of the non-standardized

job as giving opportunity for self-expression; the standardized job as removing the opportunity. However, the facts are just the reverse because of the different conditions under which the workman learns the job. The workman who does a thing in a non-standardized way has had to learn how to do it by observing an older workman. He has learned by imitation, which means without much inquiry why. He practices what he has learned as a matter of habit without inquiring why. The more the method can become reflex, without an idea of how and why, the more skilled he is. Now that man is not expressing himself; he is expressing a tradition passed on to him by the workman whom he is imitating. And there is nothing to inspire him to work out a better way.

The workman who is doing a standardized job, however, is doing it because he has been taught to do it. The teaching has involved why as well as how. It has involved comparison. It has stimulated observation and inquiry. As a result the man on the standardized job finds more incentive to, and opportunity for, self-expression than the man on the other job. In a certain shop the foreman pointed out to me a workman and said, "That man has been here in this plant twenty-four years, and has never until now made a suggestion. He has made sixteen this year, and received sixteen dollars reward; all the result of doing his old job according to the new way. In being taught the new way, he has been set to thinking."