

division of work, this new share of the work assumed by those on the management's side, is so great that you will, I think, be able to understand it better in a numerical way when I tell you that in a machine shop, which, for instance, is doing an intricate business—I do not refer to a manufacturing company, but, rather, to an engineering company; that is, a machine shop which builds a variety of machines and is not engaged in manufacturing them, but, rather, in constructing them—will have one man on the management's side to every three workmen; that is, this immense share of the work—one third—has been deliberately taken out of the workman's hands and handed over to those on the management's side. And it is due to this actual sharing of the work between the two sides more than to any other one element that there has never (until this last summer) been a single strike under scientific management. In a machine shop, again, under this new type of management there is hardly a single act or piece of work done by any workman in the shop which is not preceded and followed by some act on the part of one of the men in the management. All day long every workman's acts are dovetailed in between corresponding acts of the management. First, the workman does something, and then a man on the management's side does something; then the man on the management's side does something, and then the workman does something; and under this intimate, close, personal cooperation between the two sides it becomes practically impossible to have a serious quarrel.

Of course I do not wish to be understood that there are never any quarrels under scientific management. There are some, but they are the very great exception, not the rule. And it is perfectly evident that while the workmen are learning to work under this new system, and while the management is learning to work under this new system, while they are both learning, each side to cooperate in this intimate way with the other, there is plenty of chance for disagreement and for quarrels and misunderstandings, but after both sides

realize that it is utterly impossible to turn out the work of the establishment at the proper rate of speed and have it correct without this intimate, personal cooperation, when both sides realize that it is utterly impossible for either one to be successful without the intimate, brotherly cooperation of the other, the friction, the disagreements, and quarrels are reduced to a minimum. So, I think that scientific management can be justly and truthfully characterized as management in which harmony is the rule rather than discord.

There is one illustration of the application of the principles of scientific management with which all of us are familiar and with which most of us have been familiar since we were small boys, and I think this instance represents one of the best illustrations of the application of the principles of scientific management. I refer to the management of a first-class American baseball team. In such a team you will find almost all of the elements of scientific management.

You will see that the science of doing every little act that is done by every player on the baseball field has been developed. Every single element of the game of baseball has been the subject of the most intimate, the closest study of many men, and, finally, the best way of doing each act that takes place on the baseball field has been fairly well agreed upon and established as a standard throughout the country. The players have not only been told the best way of making each important motion or play, but they have been taught, coached, and trained to it through months of drilling. And I think that every man who has watched first-class play, or who knows anything of the management of the modern baseball team, realizes fully the utter impossibility of winning with the best team of individual players that was ever gotten together unless every man on the team obeys the signals or orders of the coach and obeys them at once when the coach gives those orders; that is, without the intimate cooperation between all members of the team and the management, which is characteristic of scientific management.