

Thus in the arsenals it was necessary to bring about stability of employment if the employees were to remain contented. They had come with their families to these institutions at the request of the Government; they had contributed in no small measure during the war to the building up of the communities in which they were located; and they felt that a democratic government ought to take cognizance of their efforts after the war was over, when it became necessary to modify and readjust industry. In other words, it should consider the interest of its workers just as it did of its soldiers. I am glad to say that when they brought the matter to the attention of the Secretary of War he was in thorough accord with them, and told them that it would be no more than right and proper that some attempt should be made to find work for men who were at those arsenals, utilizing, if you please, the growing surplus facilities of the arsenals to manufacture other things for the Government besides munitions of war. Thus, primarily, it was recognized that the first step must be a consistent attempt to find new work for the arsenals to replace the former lines of work. An agency was established whose functions were to find such work, and the workers through their representatives were linked up with the agency. This opened up a channel which tended to convey to the employees their responsibility in securing work and they began to realize it.

But they did not stop at mere realization; they did not think for a moment that all they had to do was to have requests for bids or estimates for different work submitted to the arsenals. They saw that if they were going to be successful in thus securing work, they had to see to it themselves that when the work was actually turned out it would be at a figure which would enable other departments of the Government to let them have the work. So around that they began to develop administrative machinery for the purpose of getting over to the workers their idea of the necessity for them to contribute constructively to getting work. At Rock Island particularly this development has reached a relatively high degree of perfection. When the men selected by the workers for direct cooperation with the management were actually assigned to their duties, they did not stop for one moment to simply sit around and talk, but got busy and began to investigate the cost-accounting system, methods of production, etc. They did not stop at that. They realized, for instance, their own limitations with respect to understanding ac-

counting methods, so some of them decided to go to school for the purpose of learning more about book-keeping and accounting. The net result of it all was that not only did the men themselves become very deeply interested in these administrative problems, and do what they could to straighten them out and help the management to eliminate charges which were not proper, but they began to bring pressure to bear upon their constituents in the shops to help.

Out of all this very remarkable things have grown. They have been called to our attention from time to time. I know of one case, for instance, where for some cause or other the estimates were not coming out exactly as had been expected. The next morning a man came in with a suggestion—voluntary, to be sure—which, when put into operation, saved the loss which had thus far been incurred on the job. Not only that, but it saved some other expenses, with the result of cutting down the expected total cost of production. I have known of cases where the men have actually gotten after some of their fellows in the shop for not living up to the production they thought they should show.

Another very surprising and interesting development is that the men are arranging now to organize courses of instruction for themselves at the arsenals. I was very much pleased to hear what Mr. Frankfurter had to say about the development of the new tendencies which he recognized so clearly. I think that is more exemplified in the arsenals than in any other institution that I know of. The matter of wages and the conventional things which are causing so much distress at the present moment in other industrial establishments are not at all paramount with the workers in the arsenals. What they are interested in is stability of employment. They see that what they have to do now is to assume responsibility, do whatever they possibly can in order to make this thing a success. You can readily see just how they would react to the question of wages. As the cost of living goes up or comes down, irrespective of what it may do—assuming, for instance, that it will go up—they will not be quite so anxious to insist upon wage increases irrespective of all the implications which may follow. The same thing is true, of course, with respect to hours, working conditions, and so forth. All these things assume a different aspect in their minds. I must say that as far as a Government institution is concerned, as I think I have emphasized before, many of the things which are agitating the community, and

the workers particularly at the present time in their fight for status, have already been determined. The workers in the Government service already enjoy the eight-hour day, the forty-eight-hour week during the winter, and forty-four-hour week during the summer. They realize that there is very little difference, if any, between the interest of the management and the interest of the workers, and they are both basically interested in the success of the business. There are new conditions existing which must be satisfied before the workers are considered. All these things the men know, and they know them very clearly. One big problem, of course, is to get everyone to feel his responsibility. We feel, and I think feel very justly, that the whole process is in a state of successful development.

It was very gratifying to me when I heard some of the speakers at a recent convention of employees from the arsenal talk about these new relationships. District Lodge No. 44 in Washington brought up the question of the forty-four-hour week at the arsenals and at the navy yards and other Government institutions. Some of the speakers from the arsenals got up and said that they considered that matter to be entirely secondary; they felt that the important thing at this stage of the game was for the workers to get together for the purpose of developing ways and means whereby their positions would be secure. They pointed out the significance of their position, how much better off they were by virtue of working for the Government. Furthermore, when the arsenal workers made their original suggestion to the Secretary of War, asking that efforts be made to stabilize arsenal employment, they said that they realized their responsibilities as well as their limitations, and that they would be perfectly glad and ready to engage production engineers and pay for them themselves, provided they could get the agreement of the Secretary of War to carry this out. They pointed out to the Secretary that they would have such engineers advise them as workers what they could do, and that they felt that possibly such engineers might be able to advise the Government or the managers of these arsenals in regard to what all could do, jointly.

These men, I think, are sincere. Certainly from my contact with them I am convinced that what they say and what they do is very significant. They want the thing to succeed, and they propose to do everything they can to help it along and make it succeed basically along the lines of efficiency and production.

#### V. DISCUSSION

Mr. George D. Babcock<sup>1</sup>: The chairman has made reference to a condition where scientific management came first and organization afterward, as compared to a case where organization came first and scientific management afterward. I think most of you acquainted with the work at Franklin knew that we were operating a non-union shop, having no union employees whatever at that place. After I had been through service in the war, the proposition of discrimination grew upon me to an extent where I was satisfied that I never should again associate myself with anybody at any time who practiced discrimination against the unions. That immediately barred any opportunity I might have to operate in a non-union shop.

It was my pleasure to join the Holt Manufacturing Company, of Peoria, Illinois, and to there find a strongly organized trade union; and my coming, when I first struck there, was feared by both parties,—by the managers, who feared that something terrible would follow, and by those strong for organization, who feared trouble for the trade unions. The information that I am now speaking in the presence of three of the strongest union workers of the company, who have accompanied me to this meeting, may add a little bit of weight to my words.

There is no doubt at all that, having one of the most highly developed types of scientific management we can put across, it has been absolutely strengthened by virtue of the organization of the workers. I will read very briefly the principles under which we are getting together, and when I speak for ourselves I mean our own workers and those who have the direction of affairs there. And the workers are here, as evidence, in addition to my voice in regard to this matter. They did not come for that particular reason, but came to get better acquainted with the subject itself.

Scientific management is that kind of management which conducts affairs by standards established by facts or principles gained through system, observation, experiment or reasoning. Please note that scientific management as here defined does not rest upon casual information or bargaining, but upon established facts. I believe that the practice of five fundamentals in relations between the management and workers is essential for its satisfactory continuation;

<sup>1</sup>Holt Manufacturing Company, Peoria, Ill.