

or the wage system. It is unusual to find impartial or detached or critical thought in regard to these matters on the part of the operators who are immediately affected by them. In the case of young people entering industry, we find very little criticism of the structure of this kind of device for management control. There is a good deal of criticism of people, perhaps, but not much of the wage system as a system, or the utilization of time study as a means of obtaining fundamental information upon which to determine standards. It has always seemed to me that the great majority of young women going into industry consider their work temporary, as in fact, of course, a good deal of it is. They are interested in the amount of wages they can get, or a comparison of the wages of one job with another, but there is no very positive opinion in general as to the merits of piece work as compared with an hourly basis of pay. The criticism of time study, as such, when it comes, seems to come very largely from older, more experienced individuals, and less from the younger people, which is, of course, to be expected.

In the case of men who have reached a certain maturity, who have perhaps mastered a trade, or who have become competent, able, special-machine tenders in a specific industry, there is frequently a great deal of distrust and suspicion of, in the first place, the utilization of time study, and in the second place, any change from an hourly basis of pay. There are exceptions, of course, but I have listened to innumerable stories of the difficulties attendant upon the determination of standards and the installation of incentive payment plans with operators of this general standing.

I think it is quite natural for men of this character to feel this way. I sympathize with them. Here is a man who has been working for five, ten, fifteen years, or longer, who has mastered a certain process, who has reached a certain degree of skill and standing in his department, and has some measure of intelligence, ability and character. He certainly would like to feel that the management had confidence in his integrity, in his ability, and in his willingness to do the best that he can with the equipment, materials, etc., that he has to do with; and here is a man coming in to make time studies of his work, probably with the eventual purpose of setting a task which will be the basis of his pay thereafter. No matter how suave the time-study man—no matter how good a salesman he is—there is a fundamental criticism of the workman implied by this very fact. He feels it even if he does not analyze it. If he analyzed it, he could reasonably say

to himself: "The company does not believe I am doing my job; they distrust my ability or my integrity, or both, and they are taking this means of getting information, and will be holding me to certain standards which they intend to set." In a number of cases that I know of, labor-union literature has distinctly warned members against time study and "insidious" bonus plans. Now this attitude on the part of the operators has been overcome by various means—in some cases by getting one of the workmen to assist and demonstrate the possibility of other than the traditional ways of doing work; in some cases by what might be called super-salesmanship, gaining the more or less reluctant consent of operators; in other cases by the fairly frank use of force, over-riding and beating down of any opposition that might arise, although, as we have seen, the use of force in such a case has its dangers even with such simple folk as are working in the textile industries in the South.

It seems to me that there is one way of getting consent—and more than consent, interest—in the developing of new and improved standards. It has been done repeatedly, and so far as I know, without difficulty. I am strongly of the belief that the final result is an improvement over any other method of approach that I know of. It is, perhaps, less immediately effective; as far as I have been able to find out, it is more effective in the long run.

Very briefly, it consists in having a talk with the men with regard to the possibility of developing and improving the product and conditions surrounding their work, and asking them for their assistance in making a close analytical study of all the details of the work. The term "time study" is too brief and too apt to be misunderstood. What the management really wants to get is a study of the times of all the elements of the work—what causes delays and difficulties—and how serious each kind of delay or difficulty is. The question of method of wage payment, that is, an hourly or any piece-work plan, should be decided at a later date. It should not be included as part of the job of time study and the determination of standards. The question of whether men should work on piece work or on hourly work is something that they should have a voice in, but it is an entirely separate question from the primary one of determining proper standards. It has been my experience where this approach has been used, that the men have responded frankly and wholeheartedly.

I cannot say positively whether under the right form of incentive payment men will do more work than on

an hourly basis. I remember reading an article by George Babcock on the wage plan employed at the Caterpillar Tractor Company at Peoria. Mr. Babcock said he paid entirely on an hourly basis, but that he set very exact standards of what the men should do, and trained them to accomplish the task. He said at that time that this was a most satisfactory wage plan.

From my personal experience, I have seen production increased in skilled work approximately 100 per cent, simply by this method of determining standards, paying on an hourly basis and adjusting each individual's pay in accordance with his attainment as measured by accurately determined standards.

It is evident, then, that I believe the production manager's point of view on all time study and wage systems must be large enough to embrace both the theoretical and economic aspects and the human reaction of the operators themselves.

I myself have no doubt that there is a great deal of energy and intelligence which the operators can use in the interests of production if they feel that the ultimate result will be to their advantage. I have seen many cases where this same intelligence and energy have been utilized in opposition to the management, to hold down production, because the men felt that their interests demanded this attitude; and I am quite certain in my own mind that the manager who applies time study and an incentive wage plan, regardless of his workmen's feelings or ideas, is laying a foundation for a great deal of negative, if not positive, opposition. So the program to be followed in work of this kind depends primarily on the particular kind of people who are to be affected by the time study and the wage system.

There are, of course, a great variety of situations. In many cases there is no question in the minds of the operators but that their work, equipment, etc., should be studied. Often a piece rate or some form of incentive wage is welcome. In cases where operators depend upon each other in some measure, it is perhaps wise to consider a group payment plan rather than an individual form of payment. Where there is a certain amount of suspicion and the traditions have encouraged comparatively low standards of performance—as, for instance, in many clerical jobs—it is possible that a change in standards and in the wage system may be approached gradually to better advantage than by attempting any complete turnover. For instance, it is suggested that after the job has been carefully studied and methods have been improved, as far as

seems possible at the time, time studies may be taken and temporary standards² set with a bonus for their attainment. This bonus should amount to an increase in wages, but not as much of an increase as the management expects the eventual wage to show. A time study taken while this bonus is in effect will be more effective data for the determination of a permanent rate.

There is often very little realization, on the part of management or of men, of the amount of work possible for the skilled and interested workman who has confidence that he will be amply repaid for his efforts—confidence that the company for which he works will not take advantage of his willingness to give his utmost. Often we find very considerable increases in the average production can be traced to nothing but improved conditions of work. These improvements react on the employee to increase his interest and give him positive satisfactions in place of many positive dissatisfactions that naturally resulted from difficulties that might have been prevented.

I have spoken of permanent standards. This brings me to a very important question for which, if I did not answer it now, you would be quite justified in demanding an answer later. Just how permanent are permanent standards? When piece rates are set, are they final, or should they be adjusted? If we are paying on an hourly basis, it is, of course, evident that it is much easier to make a change in standards when and if it is necessary to do so. But under a piece rate or incentive payment plan, the question is bound to come up, not once, but many times.

There is no doubt but that through gradual improvements in conditions and methods most piece rates will result in abnormal wages unless some revision of standards is made. I am not able to talk to you with any authority as to the possibility of making indiscriminate changes in standards after they have been established. My experience so far has been to the effect that until it is possible to make a modification in methods, machinery, or materials, sufficient to influence the standard time to at least 15 or 20 per cent, it is unwise to make any changes in the standard. I

²Temporary standards, i.e., rates of pay based on short observation and issued as a makeshift basis for pay until sufficient observation is possible from which to make up a permanent standard. Here, too, you have a different question. As I see it, it is certainly necessary to issue temporary standards from time to time, but great judgment and caution are necessary or there is every prospect of setting up a feeling that temporary standards are "only one more way of cutting the piece rates."