

production of the less experienced or less naturally skillful up to the highest level.

When such variation in earnings is brought to the attention of the old style manager it merely results in self-pity and the lament that some of his employes are good workers and some are not. He regards this condition as an act of God—something beyond his province and power. And, indeed, it is difficult to correct except through the development of an organization, mechanism and standardization such as scientific management requires for the application of its principles.

Scientific management goes a long way toward elimination of differences in ability of various individual workers within a given range; and a large percentage of those who under the old system would be regarded as only fair or even poor become first-class workers through the removal of difficulties with which they are unable to cope and the assistance and co-operation of functional foremen. This implies the application of the third and fourth of the principles stated.

Let us now subject the two principal types of what Taylor termed the drifting systems to a critical analysis.

The Weaknesses of Ordinary Piece Work

Straight piece work has a number of disadvantages:

1. It is objectionable on account of its inflexibility. For instance, assume we have a group of operators doing a certain kind of work, all of whom are paid the same rate. Some of them may be operators who have been with the concern for a great many years and are efficient operators, but some of them are new. Some are efficient, reliable and loyal; some are not. Yet all are earning the same rate. You cannot very well under piece work pay one operator one piece rate and another operator another piece rate for the same job. Furthermore it does not readily permit natural and gradual readjustment of wage rates to meet economic changes.

2. Among say forty or fifty operators it will usually be found that possibly four or five of them are at the top earning the top wage. Taking that as 100 per cent, the least efficient get 35 or 40 per cent of the best operators' earnings, and the average is probably around 60 to 70 per cent. In other words, the best operators' production represents

what should be obtained, but the average is around 60 or 70 per cent. The reason for this is that under straight piece rate the management does not regard itself as being responsible for how much or how little any operator turns out. Neither does it assume responsibility for scientifically or even carefully selecting and training the workers, or for the conditions governing the work.

3. A given worker at one time may turn out a high rate of production and at another time he may fall off 10 per cent or more. It does not worry the worker or the management, because the latter pays the worker only for what he does. It follows that this encourages absenteeism, tardiness and letting down on production for any and all reasons. The fallacy that "we pay only for what they do" blinds the management to all sorts of inefficiency on the part of everybody from the worker to the general manager. Especially is this true in the matter of keeping workers supplied with an ample supply of work—utilization of plant capacity. If the management overlooks the fact that overhead costs are an important factor one cannot expect the worker to feel that there is any injustice to the employer in letting down on production.

4. The fact that under straight piece work it is very difficult to transfer operators from one class of work to another, in addition to the foregoing objectionable features, results in the force at many times being larger than it should; and while there is no loss from inefficiency in the matter of direct labor cost there is a constant loss in indirect cost. This tends to excessive specialization and lack of advancement that is detrimental to the best interest of both employer and employe.

Very soon one finds under a task system that it pays to teach the workers to do a variety of things and to plan work well in advance, so that at all times there will be a balance maintained between the force of workers and the amount of work available for them.

To make this clear I shall cite the following typical case from my own experience. In a large book-binding establishment the plant was divided into a multiplicity of so called departments in each of which was performed only a single simple operation; such, for example, as pasting illustrations into books; laying gold leaf on covers previous to stamping; and pasting head bands in covers. The operators in one of these departments did not know

how to perform any work other than the simple operation done therein. As the type of books varied considerably from time to time—there being for instance at certain periods an excessive number of books in which illustrations had to be pasted, but requiring no gold leaf laying, and at other periods the reverse of this condition—it frequently happened that there was a shortage of operators in one department while in an adjoining one there was an excess.

In the department where temporarily there were more operators than required, such work as there was to be done was divided up among them—with the result that they all earned less money—until either the conditions improved or, if the shortage of work continued long enough and became more pronounced, some operators were laid off and others quit. In the meantime additional workers were hired to take care of the temporary excess of work in the other department. What I have here described may be identified as "unemployment within employment."

Under scientific management in this plant workers were progressively trained to perform a number of operations, and were advanced with corresponding increase in pay as their abilities developed from a lower to a higher class.

As Taylor pointed out in "The Principles of Scientific Management," it is under straight piece work with rates set on a basis of "judgment," "experience," "timing pace-makers," or just plain guess, that the art of soldiering is developed to its highest degree. In self protection on the one hand against rates being set so low as to make it impossible to earn a fair day's pay, and on the other hand against the danger of rates that permit of unusual earnings being arbitrarily cut, the workers are induced to resort to every manner of deception and subterfuge.

The management suspects the workers of "holding out"—that is to say, of not doing an honest day's work—and the workers, by reason of obvious and glaring inequalities in the rates for different jobs, feel that the management does not know its business and consequently lack faith in its integrity.

In the absence of any scientific method of determining how much work should be accomplished in a given time or how long it should take to do a given job, there frequently, even under day work

and almost always under piece work, develops a spirit of mutual distrust. Disagreement and argument constantly arise and lead in many cases to serious labor trouble.

The Halsey Premium Plan in Theory

Under Halsey's plan as originally conceived the "premium time," or rate for a given job, is the time in which it had been performed previously to the establishment of the premium plan. The assumption is that in some way, by working harder, by exercising his ingenuity to effect improvement in method, equipment or other things and in elimination of causes of delay, the workman for the sake of the premium offered will accomplish the job in less time than had been required to do it in the past.

Any saving in time or direct labor cost thus effected is shared between the worker and the employer, usually one-half going to each.

For example, if in the past a job has taken ten hours to do, and the worker under the new scheme succeeds in doing it in, let us say, six hours, he will receive, in addition to his regular pay for the six hours taken to do the job, pay for one half the four hours "saved," or two hours, making in all eight hours' pay for six hours' work.

Under straight piece work the entire saving in direct labor cost would go to the workman instead of the management receiving half.

Halsey's plan possesses one real advantage over ordinary piece work; it assures the worker of his hourly rate of pay and permits a varying of the hourly rate for a given kind of work to compensate for length of service or greater worthiness. It also facilitates in case of emergency the temporary transfer of workers from a higher to a lower paid class of work without their suffering a loss of earnings, as well as the natural and gradual adjustment of compensation to meet the economic changes that are constantly taking place. Furthermore, it does not in itself encourage excessive and uneconomical specialization as does straight piece work.

Halsey's Plan in Practice

To those persons whose knowledge and experience do not enable them to see beyond the surface, this plan would seem to possess great merit and to be eminently fair both to employer and employe.