

It was shown that before the actual demonstration of the advantages of the systems to be undertaken, no argument will carry more weight with the workers and their supervisors than the contention that *no plan that does not deliver to them some share of the advantage accruing from its operation will ever be permanently successful.*

This principle does not have to be taken entirely on faith, because the field of business is full of examples of failure on account of lack of recognition of it, and of other examples where regard for it has brought outstanding success. Reference to these is effective, because no person or group is uninterested in its own success if it can be assured in advance. And one may always be absolutely confident that any plan which gives all the benefits to either one side or the other is charged with all the elements of inevitable failure.

To have acquired the workers' consent, or at least a willingness to be shown, is a very good beginning; but to have it will serve to emphasize certain other necessities that have definite bearing upon the result.

The fixing of standards of equipment and process may, in most instances then be done entirely without the worker's further co-operation; but that work will be better done with it than without it, and the fact of co-operation will tend to strengthen the position already reached. In almost no case is it reasonable to suppose that the worker group is incompetent to contribute details of value to a plan new as a whole. The ready acceptance and recognition of such of these details as have merit will substantially improve the plan, their inclusion will lift its value in the eyes of those who are to operate it, and the whole outlook will become progressively better.

At this stage accuracy is a prime essential. The nature of the new procedures of management will not permit their complete development by experimental application in the seclusion of a laboratory before they are thrust out into the shop to stand on their own. Their original trial must be in the shop and in the presence of their critics, and the greatest pretrial guarantee of success is the intrinsic accuracy of the design of the plan and its execution. No factor is more powerful than measurable success from the start, and no result is more devastating than a failure that can be attributed to a neglect of facts and the necessary

regard for accuracy. No group is more acute than the workers in detecting the failure of a procedure to conform to facts of operating situations.

The presence of accuracy is a fortification against attack from the skeptical worker. A machine, a tool, a work place redesigned so as to compel recognition as more practicable and productive, a task well set, and a plan of control obviously fulfilling the requirements of production and at the same time no burden upon those who work with and under it—all of these springing out of a desire for results and a regard for accuracy—compel appreciation on the part of those in the ranks who are skeptical but not unwilling to be shown.

The factor of accuracy has other advantages. Not only is there no repetition of effort, actual waste of time, or loss of effect, but there is also a guarantee of deliberateness that may be very necessary. Many plans have been attempted and failed when a more deliberate consideration of their construction would have exposed their weaknesses.

In the case under illustration there was certain violation of the two factors of accuracy and deliberateness. It will be recalled that the development was undertaken on the coil manufacture, or finishing operation, rather than upon the preliminary wire manufacturing operation, because it appeared simpler to do it that way, and that the systems adopted were too detailed in technique. Experience proved that the development of the wire manufacturing operations and their methods of control had such great bearing upon the use of wire as coil material at the later operation, that the coil operating standards were necessarily under constant revision. This left the whole plant under development at once, a situation which ordinarily would not be attempted in large-scale, variable manufacturing to customer specifications. It was not until the preliminary wire operations were finally brought under control, involving the expenditure of several hundred thousand dollars for equipment of new design, that the full effect of the development was realized.

The development of new methods is of course a direct encroachment on the field of the immediate supervision of labor. If a foreman has had connection with a certain activity over a considerable period of time—and it is usually such an experience that partly entitles him to his position—a natural product of that association is the feeling that

nowhere in the organization does there exist such a wealth of detailed knowledge concerning that activity as his own. If it is an old-time shop such a feeling will have been fostered and strengthened by the plant managers, who assume that it is the function of a foreman to know all about his department and to run it the one best way. Standardization of equipment and processes and subsequently time study within a foreman's department have to him the appearance of an appropriation of his prerogatives, because it has previously been his responsibility to care for equipment and in many cases also to act as "rate-setter." He will likewise so regard the removal of the control operations—routing, scheduling and so on—from the shop to the planning department.

And all these are indeed encroachments on an established relationship. But they are in the interest of a better result, and no real foreman will deny his interest in a better result. In the beginning it may and probably will be impossible to convince him of the desirability of the new plan complete in all its details; but if he is a good man, the natural challenge of seeing a better result attempted will incline him to give the new plan a chance. It can be stated here that the foreman's reaction to these developments is a reasonably good index of his real ability.

Painstaking effort to develop an acceptance of principles on the part of the foreman and other supervisory agents of his rank must be regarded as essential. Their good will at the outset is a requisite, and preparations cannot be considered complete without it; for it must be remembered that in the eyes of the workers the foremen represent the management, and a front of unified approval of any plan contributes largely to its success even where other obstacles of magnitude exist.

It has already been stated that the foreman group at the Acme Wire Company did not originally have the same enthusiasm for scientific management development that the plant management had, and that this situation was made still more difficult because a cumbersome detail of system affecting the workers grew up, and the absence of previous cost records made impossible exact comparisons. But it was also shown in the course of time, that in the intermediate position between management and worker the foreman was often

times enabled to make rational judgments which were very helpful in matters of technique.

As already indicated, the approval of the immediate supervisory groups will deliver a substantial advantage for any plan with respect to the receptivity of the workers. In the beginning stages the cultivation of a corresponding attitude on the part of the more progressive element in the labor group itself should be systematically undertaken and carried out. In the course of time through the issuance of routines, contact, and experience all will know the purpose of the plan, but it is necessary to have them appreciate it as completely and as quickly as possible. Such a result is inspired by the sympathetic interest of those who, though workers, have established a natural position of leadership, and is well illustrated at this company by the first worker set to task, whose performance and leadership, already described, stimulated the entire surrounding group.

In transactions of this sort it is likewise important to be concerned about the personal characteristics of those who carry to the workers the management's plans to institute new control methods. A person charged with such a responsibility naturally has the confidence and respect of the management whose delegate he is, but it is even more important that he be able to acquire and command the whole-hearted regard and respect of the workers who will be affected. Operators who like and respect a representative of management are not disposed to question his motives or criticize his plans.

The individuality of the worker must not be permitted to be submerged in the system. Assuming an original skepticism by reason of natural reluctance to change, it is but addition of insult to injury to impose upon the worker details of control procedure that cannot be fairly justified as suitable means to the end of getting productive work done. Unless caution is exercised in that respect, there is danger that there may be a shift of emphasis to the devices themselves, as means of keeping the control plan operative rather than having it remain on the purpose of the devices—waste elimination, increased productivity and increased earnings. At the beginning of the writer's experience with this development there were a hundred and twenty people in the central planning room, and fifty more in the cost department, all