cial problems of the particular business before attempting to apply methods for more effective management. The fact that practically all groups particularly interested in industrial management have done likewise does not by any means excuse us who have the reputation for possessing a scientific, analytical method of attack. I refer specifically to an analysis of the general type of industry (assembly or continuous); to the present size of the business; to the competitive state of the business; to the character of the personnel as regards the skill required on the part of the management and the workmen, and the general "intelligence level" of this personnel; to the traditions and type of management, i. e. whether autocratic or democratic, its policy as regards promotion from the ranks, and the mental and spiritual development and coordination of personnel; to the degree of quality required in the various operations and in the finished product; to the existing degree of departmentalization, and the possibility of modifying present arrangements in this respect.

All of these factors and many more, I submit, must be carefully analyzed before even the general type, much less the details of production control most suitable to the particular circumstances, can be determined. I believe we should not have quite so much argument as to whether centralized or decentralized management is better if we confined our arguments to a particular plant of a particular size, because the question of the proper degree of centralized as against decentralized control is very considerably one of size and departmental arrangement. Similarly, the types of organization, the questions of degree of functionalization, are scarcely things to be scrapped over in general but only as regards a particular situation. We have had too much of a tendency to impose our pet mechanisms promiscuously on plants of widely different character, just as was so long ago the custom with certain persons to sell family medicines good for all diseases. As a result, individual businesses have had to cast off these unsuitable mechanisms (mechanisms perfectly good in themselves when used under the right conditions) with the result that in more than one case I have in mind not only the mechanisms but even the principles for which we stand have become discredited.

Is it not still true that as Robert G. Valentine said[29] in 1915:

> A great deal of the Scientific Management in use at the present day, whether in sales, finance, production or personnel, is similar to the situation in which a great deal of money might be spent in curing of flat foot a person who had some disease of the bone which might lead to amputation. This lack of coordination is an excellent illustration of one of the basic inefficiencies which permeates the world today.

It becomes so easy to let good enough alone, to use outworn mechanisms and to hold to outgrown notions. As Alexander Meiklejohn says:[30]

> . . . The bane of a democracy is the man of easy solutions . . . such a man is a pest when there is thinking to be done. He does not need to think; he knows. He does not need to experiment; he has already found out. His father has told him, or his party, or his common sense, or his church.

It is a pleasure to quote Carl G. Barth:[31]

> . . . the fact so often laid stress upon by Mr. Taylor himself . . . that while the principles of his system of management were essential, yes even perhaps as immutable as the laws of nature, the detail mechanisms he had to date developed for the attainment of the results aimed at, were necessarily subject to continual, if not continuous, growth and change. He laid such stress on this as to express the opinion that not a single one of his details, either paper forms or mechanical contrivances, would be in use ten years after he handed them over to myself and my co-workers.
>
> Because Mr. Taylor invariably insisted upon the use of such forms and contrivances as had been developed . . . up to a certain time, until the members of a new organization should have become thoroughly familiar with these, his "system" undeservedly got the reputation of being an uncompromising and rigid code . . . .
>
> . . . Whenever a workman had learned to obtain results known to be possible by an implicit following of . . . instructions, Mr. Taylor even insisted on a special reward being given him for any suggestion that would lead to improved instructions and better results.
>
> Mr. Taylor's whole spirit was that of continued progress, *but by evolution only and not by revolution* . . . . .

It is in this spirit that progress must be made.

E. Our Failure to Get Our Message Accepted

It is folly to delude ourselves into believing that the message which we have been preaching for thirty years has reached the average or even the high-grade manager. The apparent salability of various "efficiency systems" and incentive payment plans, dressed up in new and attractive clothes but as a matter of fact violating the very basic principles of sound management which we have been proclaiming, would seem to testify to our failure to impress the average manager of industry.

Believing as firmly as we do in the fundamentals of the industrial philosophy initiated by Mr. Taylor, why have our mechanisms and methods received so much attention at the expense of the basic principles? Why have we failed to make management and men realize the mutuality of interest existing between employer and employee; to bring the management to a realization of its own responsibility as against that of the workman;[32] to make the manager know that before he is justified in an appeal to the workman through incentive payment or any other measures to give forth the best he has, he, the manager, must first do his full share in standardization, planning and the providing of proper working conditions?[33] Is this condition due partly to complacency, or to a lack of aggressiveness or persuasive powers on our part?

To be sure, it is sometimes difficult to get some managements to assume their just share of the work and the responsibility, and Taylor himself had his share of this difficulty.[34] That the development of his principles of management would necessarily be slow, was foreseen by Mr. Taylor as early as 1895, and he emphasized the very necessity of slow development.[35] Yet I find most managers are willing to do their share when it is made clear to them of what their share really consists. I wonder how much of our failure to impress the manager and to secure the progress we desire is because we have given more thought to training the workman than we have to training the management?[36]

Much of the disregard of what I believe to be fundamentally sound principles of industrial relation-

[29] *Bulletin of Taylor Society*, Vol. 8, No. 6, Dec., 1923.

[30] "College and the Common Life," *Harper's*, November, 1923.

[31] *Bulletin of Taylor Society*, December, 1921.

[32] "Hearings," page 1393: "By far the greater gain under Scientific Management comes from the new, the very great, and the extraordinary burdens and duties which are voluntarily assumed by those on the management's side."

[33] Taylor certainly emphasized as hard as he could the part that standardization must play in good management. For instance, ("Shop Management," paragraph 284): "It would seem almost unnecessary to dwell upon the desirability of standardizing, not only all of the tools, appliances and implements throughout the works and office, but also the methods to be used in the multitude of small operations which are repeated day after day . . . . . In the type of management advocated by the writer, this complete standardization of all details and methods is not only desirable but absolutely indispensable as a preliminary to specifying the time in which each operation shall be done and then insisting that it shall be done within the time allowed."

Again (in paragraph 285) he says: "Neglecting to take the time and trouble to thoroughly standardize all of such methods and details is one of the chief causes for setbacks and failure in introducing this system . . . . It is uniformity that is required. Better have them uniformly second class than mainly first with some second and some third class thrown in at random . . . . In fact, however, it is not a matter involving any great expense or time to select in each case standard implements which shall be nearly the best or the best of their kinds. The writer never has failed to make enormous gains in the economy of running by the adoption of standards."

Again ("Shop Management," paragraphs 297-8) in listing steps in developing Scientific Management he puts at the very top of the list: (1) The introduction of standards throughout the works and office.

The necessity of standardization as a fundamental prerequisite was again emphasized in paragraph 269.

[34] "Hearings," page 1445: ". . . I wish to repeat and emphasize, that nine-tenths of the trouble comes from those on the management side in taking up and operating a new device, and only one-tenth on the workman's side. Any difficulties are almost entirely with the management." This is constantly emphasized (see pages 1401, 1465).

An inkling of what some of these duties of the management are is given when he says (Hearings, page 397): ". . . . I can say, without the slightest hesitation, that the science of handling pig iron is so great that the man who is to handle pig iron as his daily work cannot possibly understand that science . . . . . the man who is fit to work at any particular trade is unable to understand the science of that trade without the kindly help and cooperation of men of a totally different type of education . . . . . "

[35] "Hearings," page 1437: ". . . even in the most elementary work, to make this great change (to Scientific Management) is a question, not of a month, not of a year, but two or three years, even in the most elementary work, and that in an intricate establishment it is a matter of not less than five years before a great increase in the output per man can be made."

"A Piece Rate System," paragraph 89: "From what the writer has said he is afraid that many readers may gain the impression that he regards elementary rate-fixing and the differential rate as a sort of panacea for all human ills. This is, however, far from the case. While he regards the possibilities of these methods as great, he is of the opinion on the contrary, that this system of management will be adopted by but few establishments, in the near future at least, since its really successful application not only involves thorough organization, but requires the machinery and tools through the place to be kept in such good repair that it will be possible for the workmen each day to produce their maximum output. But few manufacturers will care to go to this trouble until they are forced to."

"A Piece Rate System," paragraph 90: "It is his opinion that the most successful manufacturers, those who are always ready to adopt the best machinery and methods when they see them, will gradually avail themselves of the benefits of scientific rate-fixing; and that competition will compel the others to follow slowly in the same direction."

[36] In this connection a word of emphasis is justified on the value of the task idea, particularly when preceded by rigid standardization and coupled with incentive payment as in Mr. Gantt's task and bonus method of payment. The task when thoroughly operative furnishes a tremendously democratic pressure from below in forcing the management to continuously hold up its end of the bargain. Taylor says ("Principles of Scientific Management," page 39): "Perhaps the most prominent single element in modern Scientific Management is the task idea . . . . The task is always so regulated that the man who is well suited to his job will thrive while working at this rate during a long term of years, and grow happy and more prosperous, instead of being overworked."

Again, on page 123: "The task and bonus are especially important from the fact that they are, as it were, a climax, demanding before they can be used almost all of the other elements of the mechanism, such as a planning department, accurate time study, standardization of methods and implements, a routing system, the training of functional foremen or teachers . . . etc."