

plied to methods. The standard obtained by superstandardization is much more than "simply a carefully thought out method." It is of the essence of superstandardization that it be based on the *leisurely examination of errorless records of methods* and of use. Much of all activity is performed too fast for the eye to see. Therefore, the standard as resulting from superstandardization is the best method known of performing any activity. It implies use of the *best units, methods and devices* of research known. To avoid confusion, this new type of standard may be called a "superstandard," tho, ultimately, the old word "standard" must imply the new derivation and use.

Objections to Standards and Standardization.

Occasionally we hear of objections to standards and standardization, and such objections should be considered before proceeding to advocate superstandardization. They have come from those who misunderstood the relation between standards and individuality and monotony. All such objections to standardization have been easily and completely met; not only with accepted theory but also in actual long practice, not only from the standpoint of necessity but also from the standpoint of desirability. While these objections are usually directed against standard methods, they may also be directed against standard equipment or the maintenance of equipment in standard condition.

It is true that there is nothing more monotonous than working under standards that one knows are inferior, and that one can easily improve upon, with no opportunity for making and installing such improvement, or with no recognition for such improvement. Such conditions are ruinous to ambition, to the development of personal and individual expression, and to fostering of the creative instinct and joy in work. They do not exist where standards are adequate and are better than one can oneself devise, and where interest is stimulated and utilized by other parts of scientific management.

Many people are heartily in favor of standardization in principle, but do not themselves practice it. This is especially true of those who have not had wide experience with the simultaneous effects of standardization of method upon large output, lower cost of manufacture, lower cost of living, higher wages and less fatigue. It is not to be expected that anyone will fully appreciate the benefits of standardization who has not studied superstandardization and had the opportunity personally to see and to appreciate the relations between superstandardization, automaticity, fatigue elim-

ination, learning curves, the stabilization of employment, and lower costs. With this knowledge comes a real evaluation of standardization.

¶ We are here advocating the superstandard and superstandardization. Our emphasis has increased, and is ever increasing, because of the value of the actual results of long years of actual experience with extreme standardization of things and methods. We are practicing and advocating an advance in management technique. The *principle* is the same for all standardization, but the difference in the degree of refinement of method brings about differences in results that are comparable with the expected results of important inventions. To appreciate this difference it is only necessary to review papers and chapters of books on standardization, and to ask: "Is this standard of thing, condition, or method before us the result of guesswork and rule-of-thumb, or is it based upon refined and accurate measurement of the right units?" When examining the printed standards in the literature of scientific management let us not be deceived by beautiful half tones and elegance of printing, efficiency of expression by the editor, or anything other than the measured merit of the subject itself. Let us use *the method of obtaining the results* as a unit of measurement of their value, and rate the work by the fundamental accurately determined facts it embodies. In examining standards of material or equipment, let us note the presence or absence of standards of "practice" as these vitally affect the specifications set down.

The superstandard is a natural development of the standard and a logical part of the growth of management as a science. A superstandard, then, is a standard which is the result of accurate measurement of data relating to the best obtainable, and which embodies the best practice known. It retains all the value of a standard as to means of improvability, but is recognized as the embodiment of the One Best Way extant and a further step toward the discovery of the One Best Way available—at the time. It is well to state here that superstandardization gives special emphasis to fostering and providing temporary, emergency and permanent change toward or from the superstandard, as may be economically wise and desirable. It conserves and develops individuality by the use of the One Best Way Suggestion System, which we have developed with our clients during the last twenty years.¹

¹The One Best Way to Do Work, a paper presented before several Chapters of the Society of Industrial Engineers, May, 1920.

Relation of Superstandards to Standards.

The superstandard supplements and does not necessarily supersede the standard which remains accepted practice during the interim or transitory period. A standard is most useful during the early parts of the installation period,¹ but is developed at the first available moment into the superstandard, which has a far more definite effect upon maintenance, as will be shown later. We desire to emphasize the importance of the relation between superstandardization and maintenance, and to state as our opinion that lack of appreciation and utilization of superstandardization probably is a much greater factor in having installation projects slip back than any other one cause.

Significance of the Superstandard.

The superstandard has great significance from the management standpoint, from the economic standpoint, from the psychological standpoint and from many other standpoints—even from the psychiatric standpoint. From the management standpoint, the superstandard is an indorsement of the philosophy of Dr Taylor and of the underlying principles upon which scientific management rests. It emphasizes the fact that *measurement, not rule-of-thumb*, provides the best working methods. It makes clear the point that during these years when scientific management has developed, our belief in standards has continually strengthened, and never for an instant weakened. It indicates that the growing interest in the human element and consideration of the human element has brought out more clearly the necessity for standardization, if the human element is to be conserved and developed. The close and necessary connection between standardization and such development is some times not understood, even by those who have a deep interest in scientific management, and are in the main friendly to it.² Therefore, while it may seem elementary and self-evident to management men, it must be continually pointed out and emphasized.

Significance From the Economic Standpoint

The significance of standardization from the economic standpoint has been recognized ever since the days of Adam Smith and his analysis of the division of labor in 1775. The elimination of waste, that most important of economic questions today, with its effect upon production, distribution and consumption, is

¹See Process Charts, First Steps in Finding the One Best Way to Do Work. American Society of Mechanical Engineers, Journal, 1922.

²Reports of the Industrial Fatigue Research Board, "Time and Motion Study," by E. Farmer, M.A., 1921, pg. 17.

vitaly affected by the new stress upon standardization. This has been well brought out in the Report of the Committee on Elimination of Waste in Industry,³ and is an underlying thought in the work of the Division of Simplified Commercial Practice of the Department of Commerce, recently established. The economic necessity of production, once questioned, is today increasingly acknowledged. The relationship between increased production and standardization has never been questioned. The economic benefits of standardization and increasing benefits of superstandardization must be self-evident.

Psychological Significance.

The psychological significance of superstandardization is extremely important and must be carefully considered because it is here that possible objections will be found and should be anticipated. There has been an erroneous and widespread impression among those not personally or intensively acquainted with the best forms of Scientific Management as practiced, that standardization has already increased and will continue to increase monotony, dwarfed individuality, prevented the development of individual self-expression, and is disliked by those who work under it. This is not true and never has been, where scientific management worthy the name has been developed.² Any intensive knowledge of the writings and practices of Dr. Taylor himself or of those of the best of his co-workers and followers proves that, consciously or not, the human element has developed to a greater extent under scientific management than under any other type of management. Under superstandardization, such conditions and development are not only conserved but increased, for the proponents of the science of management and executives properly trained in the right theory now utilize the findings of the human sciences exactly as they utilize the findings of the material sciences and apply these findings directly in their own fields.

Intensive investigation is applied to the worker, the surrounding conditions and tools, and the methods or motions used. It is thru superstandardization that the more efficient adjustment of worker to work and of method to worker is accomplished. Accurate measurement in the human sciences is leading to a better understanding of human capabilities and possibilities. Superstandardization in industry is leading to a greater understanding of demands and opportunities. The result is not that individuality is stunted, neglected or

³Waste in Industry, by McGraw-Hill Book Co., Pg. 11.

²Applied Motion Study—MacMillan Co., Pg. 180-184, 208.