achieved from the actual application of the principles here advocated. This I am not at liberty to do without disguising the facts and figures so as to prevent identification of particular concerns. Such data would be no more convincing than my unsupported statement, and I have no hesitancy in making the statement that in the cases with which I have had more or less intimate contact, the tangible results in increased profits and stronger financial position have been worth the price many times over.

On the other hand, I do not wish to convey the impression that the procedure outlined has been carried out completely in any one of the cases I have in mind. In a measure I have been discussing a composite picture. All of the features have been tested, some here and some there. In at least one case the program has been carried almost to its limit but not quite. The chief missing element in this concern is the detailed planning covering future developments.

In conclusion, it may be well to emphasize the need for caution and patience in installing a far-reaching program such as this. It is a long process, calls for careful, painstaking education, and demands plenty of tact and back-bone. The first attempt usually is crude and meets opposition. The essential requirement is carefully compiled data.

Nor is the purpose aimed at the establishment of the millennium. Plans and budgets will not themselves bring about the results sought. What has been accomplished is nothing more than the setting up of standards, not for one part of the business but for all parts of the business as well as for the entire business as a unit. It is the most important duty resting upon the shoulders of the administrative force. It then becomes management's duty to direct the business in accordance with these standards.

DISCUSSION

MORRIS L. COOKE[1]: The idea conveyed by the title of this paper is certainly a vital one. Any suggestion which tends to enlarge our conception of industry and makes us realize the possibility of a more highly developed organization for the accomplishment of social and business and industrial purposes, is to be welcomed. The author deserves our unqualified thanks for his insistence on the necessity for definitions in management, and for the pains he has taken to provide some tentative suggestions. He has certainly started us to think about definitions, even if in a way he has started our inquiry at the wrong end. He seeks to define organization, administration, management and other rather inclusive terms almost before we have any of their constituent elements defined. Definition presupposes some degree of standardization.

The paper impresses me as being in some respects badly scaled. The objectives of industry are not in my opinion, "profits and financial stability." We can imagine a single plant, an industrial community and even an entire industry, enjoying both profits and financial stability and even so being a menace to social progress. A single patent right might bring profits and financial stability and bring nothing else of social or permanent value. Again, the author says, "We are interested in: first, what shall be produced; second, in what quantity; third, at what cost." More and more we management engineers voice the public viewpoint in asking, even more insistently, "How shall it be produced? What influence does the method of its production have on social progress?"

Our profession, that of management engineering, has come of age at a time when the interests of society and not the interests of individuals is the master test. This is one advantage which our profession has over all others, and it carries with it a very deep significance. The author's conception of industry seems to me too narrow to leave much room really for the function of administration, as I see it. There can be no more philosophical basis for removing the obvious details of sales management from the field of management and making them a part of administration than for withdrawing the details of shop management therefrom; order of work, routing, time study, standardization, etc., are essentially alike whether applied to a sales force or a shop force. The fact that the average salesman attends a few more ball games in a given year than does the average machinist proves nothing.

The author is undoubtedly correct when he says that the man on the street thinks of scientific management as something applicable to the shop rather than to the office. This is only natural in view of the fact that Taylor in his writings drew practically all his illustrations from the shop and most of these from the machine shop. I dare say few in this audience know that he subjected even bookkeeping to the analysis of time study, and set tasks on all kinds of office work.

However, I do not share Mr. Schulze's apprehension in regard to the name scientific management, and what may happen to it. The word "efficiency" has suffered principally because it is an all-inclusive term which lends itself too readily to the necessities of the moment. Efficiency has been all things to all men. It has come into disrepute not so much because it became the

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synonym for an unrealizable ideal, as because it spelled "bunk" in too many lines and lives.

Herein lies the value of the heritage of the Taylor Society. Both scientific management and the Taylor System have an established and world-wide status largely because of the definition of aim and method, and even more particularly because of results which can be measured arithmetically, if you like. We seek to be efficient, of course, but so do all wise men and women, just as they aspire to be good and to be happy.

It is no denial of the aim to be efficient or disparagement of the so-called efficiency movement to call attention to our somewhat narrower technique. We narrow and limit our technique only in order to secure such definition and precision as is requisite for the upbuilding of any science. The dangers in any such policy are obvious and inherent. We have so far avoided creating a cult. To continue to guard against such a development is simply one of the responsibilities of the future.

Other things being equal, we can afford to use mechanisms tried in the fire of years of experience rather than invent something just as good, even if here and there we have hurled at us sly references to Mrs. Eddy, and other standard fetishes. This leads me to hope that when this paper is printed, the quotation marks will be omitted when used around scientific management and the Taylor System. Membership in this Society assumes that we recognize in these terms the symbols not only of a very inclusive industrial philosophy, with implications and applications reaching beyond the world of industry, but of a master industrial technique through which and out of which the structure of the industry of the future will be developed.

We do not, of course, believe in the mechanisms and principles and philosophy of scientific management because they are unchanging and unchangeable. We could not be scientists and hold any such view. All we ask is that, so far as practicable, change and progress be build on the best that has already been done. We suggest, especially to young men, that they struggle to acquaint themselves with the basic and far-reaching and definitive technology of management known the world over as Taylor System; to attach themselves to it as to a going concern; to contribute to and improve what is, rather than to adopt the easier but altogether unscientific and ultimately unsatisfactory plan of seeking too much originality, especially at the start.

It will be obvious from this that I do not sympathize with the author's efforts to have the term "science in industry" supersede the terms Taylor System and scientific management. The terms are obviously not synonymous. It will probably make for progress in industry to use all three of these terms. They each have a place and a significance of their own.

I hope I have made it clear that whenever the practices under either the Taylor System, or scientific management, are demonstrated to be unscientific or otherwise in violation of the laws of social progress, they are wrong, no matter who started them and no matter how fundamental they have been considered. But if the present chaos in industry is ultimately to be superseded by some measure of order, it will not be because of orators or demagogues or stand-patters, but because at first here and there and then gradually over the whole industrial field a definite technique or science of management is developed.

This is an age-long process. To it, however, Taylor was instrumental in making a contribution which is one of the few outstanding landmarks in the whole history of industry. It is well constantly to remind ourselves that the principles and philosophy of scientific management grew out of an industrial *practice* which is one of the first objects of this Society to publish to all the world. We stand for the maximum of science in industry. But as one of the very best means of accomplishing this end, we stand four square for scientific management and for the Taylor System, which is the way that many people prefer to name it.

In our discussions as to what constitutes administration, it seems very difficult to get away from a departmentalized scheme of industrial activity. We management specialists who have come to believe in the necessity for functionalized foremanship should insist on functionalized administration. But when we do so sub-divide the function of administration, we shall be apt to discover that much that we have been tempted to consider as administration falls into categories that differ in no essential respect from those we are familiar with in management.

It has always seemed to me that one criterion of judgment in distinguishing between management and administration in that the length of view, the long look ahead, constitutes the earmark of the administrative act. If this is so, then we have very little that is strictly administrative in industrial enterprise as it is practised in this country today. Even our captains of industry spend most of their energy on short-time problems and late-afternoon worries. I am of the opinion that the administrative function is yet to be