

ning their future operations and control? I think we are all familiar with budgetary control (I may say very much more familiar with it than we were three or four years ago). In many cases as bankers we asked for a forward estimate of receipts and disbursements to determine, if possible, whether the borrower could liquidate its indebtedness as agreed. It was possible in many cases to judge the knowledge and capacity of the management by their forecast and plans for future operations and by the budget they set up.

I do not see how it is possible for an executive to control the operations of an enterprise without a definite plan and without a complete budget. In my opinion the main advantage of budgetary control lies in the fact that it provides a means for tying together the various departments of the organization. It provides an incentive for the heads of departments. It sets a mark which shows the ability to plan and execute. I have gone so far in my own organization as to set "bogies." By this I mean, that after receiving forecasts of sales and of production based on experience and upon careful estimate as to future operations, we indicate a goal that we would like sales executives and salesmen, production superintendents and workmen, to reach, in volume and in costs. This has proved to be a stimulus, has brought about better team-play and closer cooperation and has provided a better means for determining rewards for jobs well done.

It is believed that there is another method of bringing about a better understanding as to the means to be provided for increasing earnings and for controlling the allocation of funds and the determination of costs; this is by the division of the "sales dollar." Such a division affords also a ready means for departmental control and the determination of departmental or individual performance. Past records show how much of the sales dollar was expended for materials, productive labor, factory overhead and improved equipment. This gives to the plant a certain division of the dollar. Experience also shows the amount expended for sales, administrative and general expenses, the amount earned on the capital investment, amount paid in dividends, interest, etc.; and the amount added to surplus. This gives a close and accurate division of expenditures which is very advantageous in painting the picture of the next year's operations, and provides a common meeting ground for the principal executives, and for the control of their departments.

### An Interpretation of a German View of Scientific Management<sup>1</sup>

By Harry Arthur Hopf<sup>2</sup>

TEN or more years ago the reviewer had occasion to make a thorough study of the French and German literature of business. He was amazed, at the time, at the paucity of works on the subject in both languages, but more particularly in German, for, in view of the tremendous output of literature in all departments of human knowledge which is characteristic of German practice both before and after the Great War, it seemed astonishing that so little had been written about a field which the German talent for organization had long been exploiting with extraordinary success.

In speculating concerning the causes of this dearth of literary productivity, one wonders to what extent native secretiveness, fostered by highly competitive conditions, may be held responsible. Only those who actually lived in Germany prior to a decade ago can have any appreciation of the absurd lengths to which secrecy concerning business—and for that matter, most other affairs—was universally carried and of the extreme difficulties entailed in attempting to penetrate anywhere the artificial walls with which business and industry were surrounded.

Perhaps another cause may be traced to the fact that until the great collapse of 1918, the Germans, as a nation, thought largely in terms of materialism, machinery and mechanics; such a concept as human incentives was still far beyond the boundaries of their practice or philosophy. What was there, then, to write about, and who dared to take the initiative in publishing valuable information concerning business which might inure to the benefit of a formidable competitor?

How different is the situation today! Instead of a handful of books, there are now literally hundreds in existence in Germany, treating of all phases of business and especially of scientific management with its many ramifications. Furthermore, there are a number of well-edited periodicals in the field, and each year sees a large increase in the output of works on business and business management.

In accounting for this change, we must recognize as one of the important influences the fact that during and after the Great War, Taylor's work and his phil-

<sup>1</sup>A review of "Arbeitsvorbereitung" by Eduard Michel, V. D. I. Verlag, Berlin; pp. xvi, 310.

<sup>2</sup>Senior Member, H. A. Hopf and Company, Management Engineers, New York.

osophy became widely known in Germany and the principles of scientific management were soon accepted as sound and applicable to German conditions. But another and even more important consideration undoubtedly lay at the base of the concentration of human thought upon scientific management, and, curiously enough, this comes to expression in the very first paragraph of the introduction, by Dr. W. Hellmuth, to the book which is the subject of this review. Freely translated, one reads the following passage:

Formerly a rich country with almost inexhaustible sources of raw materials, and now limited purely to labor as its chief productive asset, Germany must exert herself to the utmost to exploit this asset as advantageously as possible. Far-seeing institutions have recognized this and have found ways and means to regain their former positions in the markets of the world.

Throughout Germany today the slogan in industry is: "Die Arbeit muss billiger und einfacher gemacht werden." Realization of the acute need for lowering costs of production and for simplifying industrial methods and processes has induced German industry to absorb with avidity the substance of scientific management, interpreted and adapted to German conditions by such students as Miss Irene Witte, who have made thoroughgoing studies of the underlying principles and technique under American engineers, and by others such as the present author, Mr. Eduard Michel, Consulting Engineer, who acquired knowledge at long range through the medium of the standard works of American authorities and have tested it in actual application to German conditions.

A review of Michel's treatise, "Arbeitsvorbereitung," (literally, "Work Preparation," or, in a free translation of the full title, "Planning as a Means of Lowering Production Costs") may logically begin with an examination of the foreword, as it is here that we may expect to find disclosed a statement of the author's point of view or philosophy. We are not disappointed, for with commendable breadth of view and inclusive grasp of the important fundamentals, which of course have long since been recognized and accepted in this country, Michel proceeds to group in succinct form the chief tenets of a philosophy that cannot fail to meet with substantial endorsement by American readers, whether or not German industrialists may be led to see it in the same light.

In speaking of the spirit of leadership and the will to do, Michel points out the need for overcoming many conflicting elements which exist under present conditions. He insists that the necessary interplay between men and machinery imposes obstacles to the

profitable conduct of industrial establishments, and that the solution of the problem is not to be found in the realm of the physical so much as in the successful answering of the question: "What is needed to produce the harmonious functioning of the invisible threads which pass pendulum-fashion between control and execution and to weave the whole into organic unity?"

In his comment on this question, Michel emphasizes the fact that authoritative analysis will disclose the influence of personal traits, among which he stresses habit, prejudice and pride, on operating conditions and results. He takes the position that recognition of the new order of things, that is, scientific management, can come only if in place of former points of view and habits, one is willing to recognize and concede that employees, and in particular workmen, are not lifeless machines but human beings, and that the greatest results can be achieved only if they can be brought together in organized endeavor "unter Wahrung ihrer Persönlichkeit" (without suppressing their personalities).

He adds that in any living organism no one member can in the long run remain an opponent of the other; he therefore argues for the wiping out of class distinctions and for the strengthening of a feeling of solidarity between all those who are laboring shoulder to shoulder in a given industrial enterprise, as among the chief objectives of progressive management.

Michel concedes that the task of securing unity of interests and action in German industry through the means of organization still represents virgin soil, and that the introduction of modern principles, which has been retarded in many respects, is possible only where the approach is made carefully and to a limited extent. Inclusive and thorough application of principles of organization must be made gradually and cannot be achieved until management has recognized its responsibility to the full and has learned to master the scientific means placed at its disposal.

The author points out that the tendency has developed in German industrial enterprises, particularly where the training of those in responsible authority has taken a commercial direction, to neglect planning in favor of cost accounting. He quite correctly states that while cost finding systems may be relied upon to yield information concerning current accomplishments, they rarely permit of comparison between these and the highest possible standards of attainment and they fail completely to be of any service when put to the test