

selves together for the accomplishment of certain results. If we discover these laws and learn to act in accordance with them we progress. By this kind of direction we conform rather than control. I think there is an important distinction. On the economic side also too many things are matters of opinion. A quantitative basis for dealing with economic factors must be worked out, but it is my opinion that it will be some time before this is accomplished.

I should like to suggest that in attacking this problem of the proper size of organization some means of measurement be established. By size of organization the total number of men employed might be meant, or the number employed in direct labor, or the number employed in indirect or service labor only. There are possibilities of confusion here that call for more exact definition of terms. Mr. Williams has referred to the kinds of projects that an organization must accomplish as functions. I like to use the term units of work. In order to determine the proper size of an organization it is necessary not only to discover the units of work inherent in a given organization but also the number of people necessary to accomplish the work of these units.

The engineer or manager must be able to answer such questions as the following: First, is the organization too large for the work to be done? In other words, can the same work be done by fewer people? Second, is the organization too small for the work to be done, i.e., should more people be at work if the work is to be done economically? Unfortunately there is a popular belief that the percentage of expense for factory labor should be low, whereas organizations could frequently work more effectively if the amount spent was much higher. This would involve a lowering of the expense for direct labor and an increase in the amount spent on service to make labor more effective. In the manufacturing division of a given business we may find one service employe for every direct labor employe. In another organization we may find one service employe for every two direct labor employes, and in another, two service employes for every direct labor employe. In the merchandising end of business you may find the same differences in ratio. Are we to compare industries on the basis of the number of people employed, the amount of business done—in units of product or dollars—or on the basis of their different ratios of service to direct

labor? There are many things that have to be analyzed quantitatively before we can arrive at an intelligent answer as to what type and size of organization are necessary to accomplish a given result.

I am very much in favor of the flexible budget, a form of which I have used. The first thing necessary is a picture of the industry. In order to get this I use a chart which shows the economic characteristics of the business and enables me to get variations in cost and profit with different volumes of production and sales. From this I am able to set up the budget items which should appear at different volumes of sales.

I think, also, that the idea that the engineer and the accountant both have a function to perform should be emphasized. It should be the function of the engineer to determine what is worth accounting for, what are the prime variables. It should be the accountant's job to set up the mechanism by which these things may be observed.

John M. Carmody.⁶ I should like merely to emphasize the importance of the psychological factor, which Mr. Coonley so ably discussed in his paper, and to illustrate by some examples from my own experience Mr. Williams' point on the importance of accounting in developing initiative. I once spent a brief time with a group of retail stores in order to get a picture of that particular phase of business activity. There were twelve or thirteen stores in the group. Each store had its various departments, each one representing specific responsibilities of persons. The books were so kept that every single executive in every store got a weekly report on the results accomplished by every other executive responsible for a similar activity. What was the result? In a great many cases these men and women had had no accounting training, but this method of control made business men and women of them overnight. They learned not only to compare their results with those of others with similar responsibilities but to go to the controller to find out where they had fallen down in their efforts to be as good as the best. You can have no idea of the inspiration given to individuals by this method. It also developed close personal ties by strata. The buyer of leather goods in Detroit was

⁶Editor, *Factory and Industrial Management*, McGraw-Hill Publishing Co., Chicago, Ill.

tremendously interested in the buyer from Boston, and so on. Because they were in different cities they were non-competitive.

I have worked with budgets for some twelve or thirteen years in three separate industries—the garment industry, coal in West Virginia and now the publishing industry. We publish about thirty journals, each in many respects a separate business. Each is managed by a group of men—a business manager, a circulation manager and an editor. Each of these men is responsible for his own budget, which is a part of the budget for the paper, which is in turn a part of the budget for the organization. When these are finally approved by the budget committee each unit knows what its job is for the year and feels a sense of responsibility for an individual business. So long as he does not exceed his budget each man has little interference from the top. In fact those at the top are glad to be free of the responsibility of doing more than coordinating the various activities. This was one of the things that inspired me about this particular business, about which I knew nothing when I went in but to which I was able to adjust myself very quickly because of the fact that it was operated on principles with which I was familiar.

A. B. Rich.⁷ I should like to ask for a little more light on Mr. Coonley's statement that personality may become less of a factor in business as time goes on. Certainly the psychology of management is the biggest factor entering into any of the problems that have been discussed this morning. Even the economists are putting their problems up to the psychologists. And my experience, even though with only one concern and that a fairly small one, has been that this question of desirable size is almost entirely dependent on psychological factors. It depends on your ability to get together the group of men who are able to handle the functions of your business and to work together effectively.

William H. Leffingwell.⁸ It seemed to me that Mr. Williams gave us both a "yes" and a "no" answer. There are circumstances under which the answer is positive for large companies, and others when it is not. I believe that the question of size is almost entirely one of human equations. If you

⁷Dennison Manufacturing Company, Framingham, Mass.
⁸W. H. Leffingwell, Inc., New York.

have the right kind of management you can grow to a very large size. We have two outstanding examples of this in the American Telephone and Telegraph Company and the Western Electric Company. On the other hand, I know of another company of about 18,000 employes that I think has reached the limit as to size. This is not because larger companies cannot be organized in that line but because this particular company has used research analysis in certain lines and entirely ignored it in others.

We have to consider another thing, and that is, that a large majority of existing companies either knows nothing of or pays no attention to the things that we, the Taylor Society of management pioneers, are saying about how to manage. This is not necessarily a cause for discouragement, however. We find as we look back over the history of industrial development for the past ten years that progress is being made in the use of the techniques of analysis and research in almost every branch of business. The attitude of today, therefore, may not be the attitude of tomorrow or ten years from today.

L. Herbert Ballou.⁹ I quite agree with the last speaker that human capacities and managerial abilities are the all-important things in determining to what size an organization can grow. During the past year we have seen repeated instances of large industrial mergers. How far can this go? There seem to be two aspects to the problem—one the human and the other the financial.

Consolidations of banks with a resulting concentration of money power have been going on also. Proposed legislation may be the limiting factor in this development. I have always had confidence that the limitations of management would act as a safeguard against industrial consolidations going beyond a certain size. I think there is more cause to worry in the case of banking mergers.

I can heartily support Mr. Williams' accounting theory. I consider it one of the most important factors in the situation. Clean-cut accounting is essential to sound administration and to the stimulation of an organization. A sound and suitably developed accounting procedure is a prime necessity in the accomplishment of the result.

⁹Vice President, The Kendall Company, Boston, Mass.