

Accounting

About three-fourths of those replying state that they use either standard costs or job costs, and about the same proportion say they tie in their costs with the general books. In 43 per cent of the replies the overhead is distributed by departments, and in about the same percentage by a per cent of labor costs. Fourteen per cent distribute by groups of products. Here again we note definite possibilities for improvement.

Budgets for expected sales, expected production and permissible operating costs are maintained in about two-thirds of the replies. Monthly or four-weekly profit and loss statements are reported by 90 per cent of those replying. This common practice, like most of the other features considered, has developed almost entirely during the last twenty years. Taylor worked out the basis of present accounting methods in the early 1890's.

Organization

Functional management, that is, the distribution of authority by function rather than entirely by line, is necessary properly to control the working of a business organization. Consequently the questions regarding special departments or functions under a sub-executive or specific individual on whole or part time are of special interest.

Of the firms replying some 90 per cent stated that they maintained such divisions in production and control. Almost two-thirds have time and methods study divisions; over 80 per cent carry repair and maintenance departments and 70 per cent separate employment or service as a distinct function of management.

Marketing

While in production we find a preponderance of what may be termed scientific methods, in marketing we find a different picture. Unstandardized methods predominate. It is here that we find that nearly half of the companies pay straight salaries, most of them with expenses; about one-quarter pay commission with or without a drawing account; and the remainder pay salaries plus commission, or use both salaried and commissioned men.

A most striking feature of the returns is the preponderance of the plan of compensating solely on the basis of volume sold without regard to any other factors. Manufacturers apparently fail to realize that compensation on a basis only of volume sold, with no consideration of effort, balanced sales or profit, is akin to the antiquated and obsolete payment in factories of uniform piece rates regardless of variation in the character of the operations.

In determination of quotas, in allocation of territory, in routing salesmen, and in utilizing the accumulation of knowledge regarding product demands, there also is marked deficiency in application of the scientific method of approach and its utilization in practice.

The unscientific methods of commission payment are striking—and it must be remembered further in all of this marketing tabulation as well as in production that there is an unavoidable weighting of the results on the high side. Four-fifths of the concerns which report commission payment pay on volume sold alone—only one-fifth considering profit or type of product. Considerably less than two-thirds set quotas. Only 25 per cent allot territories by definite rule, the large majority using judgment only. Again we find that the majority route their salesmen merely by total territory—only 7 per cent route salesmen by exact schedule.

In the selection of salesmen more than half select merely by references. More than three-quarters train simply by verbal instructions.

In the knowledge of markets the picture is somewhat better. Nearly two-thirds of those reporting think they have a fairly good idea of their markets and the proportion of the business which they themselves get.

The conclusion is obvious, however, that sales management in the majority of industrial concerns, even the larger and better managed ones, is markedly inferior to the management of production; and yet the dire need is evident, in this period of unbridled competition, for the most effective and profitable sales methods. Executives throughout the land are devoting their efforts chiefly to marketing problems. It would appear that there is an opportunity as yet unappreciated by many of them for profitable sales through more scientific methods of sales management.

General Progress

Marketing Progress. All in all, while it is evident that progress in the science of sales has been markedly less than that in production, the returns do indicate a definite progress and foreshadow a sound and rational advance. This is particularly certain if we examine what some individual concerns have accomplished in scientific sales development. A few have in fact attained a standard of practice equal to the highest developments in production lines. These accomplishments have resulted from the utilization of methods closely akin to those which have produced such outstanding results in production lines. In professional work carried on by our own organization, for example, we have adopted similar principles of analysis of the problems involved to those which have proved so satisfactory in other branches of management. Planning and control are as necessary in selling as in production. The introduction of salesman's compensation involves principles similar to those required for wage or salary compensation in the factory. Market analysis is based on a scientific examination of the needs of a situation and the simplest means of obtaining desired results.

Production Progress. The status of progress in production can be somewhat more closely defined. Viewing the picture as a whole on the basis of a general examination of returns rather than of computed values, it would appear that more than 75 per cent of the firms replying are working with a preponderance of scientific methods. Allowing for the measurable weighting in the returns which has been noted, we may estimate, I believe conservatively, that at least 50 per cent of the industrial production in the country is carried on by methods which in the main fall under the category of Scientific Management. In marketing the estimate would fall as low as 25 per cent. Many of these, of course, fall far short of the ideals of Frederick W. Taylor ("Principles of Scientific Management": Science, not rule of thumb; harmony, not discord; co-operation, not individualism; maximum output in place of restricted output; the development of each man to his greatest efficiency—and prosperity) but the accomplishments have been remarkable.

Development in Machines and Processes. In the introduction we mentioned other phases of scientific development which have taken place coincidentally with the development of management. These are power, mechanization and process. The development of power has been chiefly dependent upon electrical progress, although oil and gas and coal have played their part, which in turn has involved the highest degree of scientific research.

The design of machines, made possible by power, has proceeded apace. Taylor used to say that up to the 1880's machines were built by guess with no computation of stresses. If a part broke, it was enlarged the next time. More recently machine development in certain industries, but by no means in all, has

The Future of Scientific Management

But do not misunderstand me. I am talking about unit productivity and not about total production. We cannot absorb an unlimited quantity of shoes; we cannot eat more than a certain amount of food. We can absorb more automobiles, radios and airplanes. We can use better houses, better clothes and more luxuries. It is evident as our productivity continues to increase that real satisfaction in life requires a broadening of our consumptive capacity through greater production of those things which make for higher development, physical, social and spiritual. To provide employment and purchasing power for all under such conditions involves creating greater opportunities in the so-called service industries and public services. With the greater leisure that should be at our disposal—not forced leisure as at present, but planned leisure—we shall have the time and opportunity for enjoying these broadened interests and activities.

Influence of Scientific Developments Upon Business in General

We cannot close without looking at the broader business and social aspects of scientific development. Has the getting of wealth made us poor? Must we, as some would have us believe, drop all our philosophy of productivity? Must we, as some of our orators would tell you, dig our dirt with tea spoons? Shall we throw away our automatic machinery? Shall we adopt permanently the cannery policy of Great Britain to work slowly to make the work go round—a policy that in 1926 caused America to produce three and one-half times as much goods per man as Great Britain?

To answer this question let us examine the philosophy of increased unit production. Let us for simplicity assume a small, self-supporting territory. Let us suppose that the automobile manufacturer in this territory reduces the intrinsic cost and selling price of his automobile one-fourth. This throws, let us say, 1000 men out of employment. But the rest of the people in the community by saving 25 per cent on their car can purchase more of other goods. The men thrown out of the automobile factory will therefore obtain jobs in other places. And note this: every man by being able to buy more goods will raise his standard of living. This is what actually has been happening in the United States ever since its founding. And now we are told that we are reaching the limit of our consumptive capacity; we have no more absorption power. I tell you, friends, that this is the most dangerous possible philosophy irrespective of whatever social order we may develop. If we are to progress, if our \$1,000 a year men are to become \$4,000 a year men, we must continue to increase our unit productivity.

We must have a bold stimulation of business activity in contrast to a policy of drifting toward lower levels. There are only two alternatives: either let matters take their course with only sufficient action to avoid banking collapse, or else, as we would do if war were declared, start industry through the immediate injection of the means to increase purchasing power among the rank and file of our people who are now suffering and in some instances dying. All of these things are a challenge to Scientific Management; to the extension of the science of management to the broader fields—not only to marketing, but to the analysis of the broader problems of distribution, credit and finance. Means will be found in the coming years for adjusting the volume and flow of goods to all consumers just as surely as it has been worked out in the factory from the old rule of thumb to the scientific control visualized by Frederick W. Taylor. Means will be found if our present social order is to survive for a control and scheduling of financial investments and credit. These things can be solved by the same type of scientific analysis which has produced such astounding results in production.

Finally, it must be recognized that it is a national duty to provide work at least a subsistence wage to all who desire it. This is a social responsibility which must be solved by the scientific method.

Address before a meeting of the Taylor Society, New York, December 8, 1932.

(Comment continued from page twenty-one)

should not forget that the political Administration has manifested intent and will and adroitness, and has every day more votes to respond to any appeal, and the next stage would likely be one of removing the resistances in a whirlwind "emanipation" campaign.

While there may be danger from slowness in submitting codes, we do not believe that to be the greatest danger. The greatest danger lies in our expectation of too much from NIRA as a restorative.

The principal value of NIRA is its power by establishing conditions of fairer competition to reduce the probability of a new depression after we have emerged from the present depression. As a stimulant to rapid emergence from the present depression its value is secondary and likely not sufficient. To be sure, there is a moderate basic and substantial renewal of activity underlying the superstructure of speculative inflation

which may not prove to be so substantial. Because of prospective inflation and probable increase of the price level there is more of a willingness all along the line to assume the responsibility of carrying inventories. But these activities are largely a flight from the dollar and will have a stopping point. Manufacturers of consumer goods will not go far beyond this speculation in commodities until there is a positive demand for their output; and manufacturers of producer goods, in which there is the greatest unemployment, will not go very far until consumption is of such volume as to cause a demand for additions to or replacement of now idle consumption goods equipment.

The provision in the codes for shorter hours will spread income among more spenders, and the provisions for minimum wages and maintenance of higher wage differentials will increase labor's income; but only to the extent that there is actual employment. The extent to which there will be increase of em-

(Comment concluded on page thirty)