

## Applied Scientific Management

### III. Organization: Functions of Major Executives, Especially the General Manager

By KING HATHAWAY  
Consulting Engineer, New York

THE FOUR principles of scientific management formulated by Taylor have become to me living, vital things rather than so many words expressing abstract ideas or theory. I have found them a guide to conduct in management and a check upon the fundamental soundness of plans and activities. Such a check is of the greatest importance in working out the plan of organization and the methods, or system, for the application of scientific management in a company. It was only after years of experience with scientific management that the full significance of these principles came to me, and I venture to say that a very small percentage of those who have read them have even a glimmering of their meaning. As Taylor stated them, these basic principles and the examples of their application were directly associated with productive or manufacturing activities, but they are so fundamental that with little interpretation and change in wording they become equally applicable to any and all other branches of business. (See page 8 of the Taylor Society book, "Scientific Management in American Industry," for the principles as enunciated by Taylor. On page 10 there is a restatement in broader terms by Dr. H. S. Person.)

The second of these four principles sets forth as a necessity to scientific management "The scientific selection and training of the workman." Now if it is important that this principle be applied, and almost anyone will agree, in the case of the rank and file of workmen, and going a step farther, to the next higher level, the foreman in the shop and planning department, *how much more important is it that it be applied in the case of the major executives?* And yet in many if not most organizations, the selection of men to fill major executive positions, except in the case of engineers whose function is such as to make obvious the need for specialized training, is largely decided on considerations other than the possession of qualifications and training essential to the efficient handling of the job.

It is not uncommon to find chief executives, whether they are called presidents or general managers, assuming that position of greatest responsibility with only the most superficial previous experience in any branch of their particular business, or even in business. Their sole claim to the job frequently lies in the fact that they hold financial control of the company. Nor are cases uncommon in which men are placed in major executive positions or even made presidents of companies solely as a consequence of family or social connections. Even when individuals have advanced from within the organization selections are too often made without due regard to fitness. Owner management was the common and natural thing when the heads of business were frequently the founders, men who had developed the business or had developed with it. Or they were the sons of the founders and had been subjected to rigorous apprenticeship in all its branches. Ownership may give one the right to assume the function of chief executive, but it certainly is not a guarantee of the personal qualities and training essential to a proper handling of the job. All things being equal, one has no quarrel with owner management. There is much to be said for it provided the owner is qualified, and this is equally true with respect to the filling of major executive positions by sons, relatives or friends, for the reason that those

who own the business may have a greater confidence in their loyalty and integrity than they might have in others. If they do not possess the requisite qualifications and training, however, the chances are against the continued success of the business. One does not have to look far to find plenty of companies that have passed out of the picture because of failure to apply the principle of proper selection and training in choosing major executives. Nor does one, particularly if he is a banker, have to look far to find companies still alive, whose salvation, for the same reason, is a doubtful matter.

In the main, the major executive functions should be filled from within the organization, as vacancies occur. And this is of course true of all functions down the line. The ideal situation would make it possible, when a vacancy in the position of general manager occurred, for example, to step the employees up all along the line. This would make it necessary to hire only a new office boy or apprentice. Not only should there be a plan of advancement and an understanding for every position, but there should be a definite plan of training to fit men for each major executive position.

#### Some Qualifications for a General Manager

The general manager should be an all-round man. He should possess those qualities of leadership which will enable him to inspire his organization. His character must be such as to command respect; he must have the courage to make decisions and take actions in the best interests of the company even though he may sometimes very much dislike them. He must be sympathetic, courteous and kindly in his relations with members of his organization, and should possess the patience and tact combined with the right degree of firmness, to guide their actions along right channels and to correct them when they go wrong. He must have the perseverance to insure their carrying out instructions and conforming to policies intelligently and effectively. He must be open minded but not vacillating. And he must be entirely fair and just. His function is largely one of co-ordinating the activities of the major functions of the business, of foreseeing trends and checking those which may be harmful. He should maintain contacts with outside agencies and developments which may have a bearing on his business and affect the shaping of its policies and plans of action. He should act as the flywheel that maintains the even flow of power and momentum of the machine and as the governor that prevents the machine from running away. It is as important that he see that the organization keeps its feet on the ground as it is that he provide the encouragement, the guidance and the stimulus necessary to orderly progress and sustained interest. In other words, he must, like a good horseman, know how to apply the curb as well as the spur, each with the gentleness, which is none the less firm, upon which smooth and steady progress depends.

It has been said that the capable managers are "born, not made." This is of course true in a limited sense, as it is with respect to any line of human endeavor. He must possess those native qualities of intelligence, temperament, energy, will-power and integrity which are necessary. Beyond this, managers are

made by education and experience. Now let us enumerate the things with which he is not born but must acquire: (1) A knowledge of the workings of economic laws, particularly as they affect the company's business. This involves markets, sources of supply and economic trends. (2) A knowledge of what constitutes safe and sound financial practice. (3) A knowledge of the company's products, the materials that go into them, the processes that are involved in their manufacture, the equipment best suited to the processes, the uses served by the products and the potential demand, or the power of the markets to consume or absorb such products. (4) A knowledge of the character or extent of competition in the company's field. (5) A knowledge, with respect to the company's internal mechanism, of its own system of accounting. This should enable him not only to read intelligently the various reports and statements but to visualize what is back of them. In other words, he should not be hopelessly dependent on the professional accountant within or outside his organization. In a lamentable number of cases men at the head of important companies are so ignorant of their own accounting methods that they could not follow a transaction through their books, nor could they find or understand any desired information without assistance. What I have said with regard to the company's accounting system applies with almost equal force to the other elements of managerial mechanism described in my first article as essential to the complete management plan. (See BULLETIN OF THE TAYLOR SOCIETY, Vol. XVII, No. 5, October, 1932, p. 160.)

Such a knowledge is not at all impossible, nor is it incompatible with Taylor's views on detail, which I quote at another place. It is to the general manager what a knowledge of mathematics, strength of materials, dynamics, engineering conventions, etc., is to the chief engineer, who may not personally make detailed application of such knowledge but who must properly supervise the work of designing engineers and draftsmen. (6) A knowledge of the art of management. By this I must imply what is known as scientific management, for the simple reason that it presents, imperfect as it may be, the only philosophy having a definite set of principles, a plan of organization based thereon, together with a definite technique and adaptable system which includes all activities pertaining to the business. It also provides that the various elements shall be so designed, fitted together and coupled up as to constitute a harmonious and complete mechanism of management, calculated to facilitate in the greatest possible degree the operation of the business.

In respect to the art of management, let me quote from "Shop Management" (p. 63):

Modern engineering may also be called an exact science; each year removes it further from guess work and from rule of thumb methods and establishes it more firmly upon the foundation of fixed principles.

The writer feels that management is also destined to become more of an art, and that many of the elements which are now believed to be outside the field of exact knowledge will soon be standardized, tabulated, accepted and used, as are now the many elements of engineering. Management will be studied as an art and will rest upon well recognized, clearly defined and fixed principles instead of depending upon more or less hazy ideas received from a limited observation of the new organizations with which the individual may have come in contact. (Author's italics)

That the art has developed to a considerable degree is a fact, but it is also a fact that few men at the head of industry are aware of its existence or have felt that it might be as worthy of their serious study as engineering or any other profession. If they had any knowledge of the development of such an art, few have felt personally that they might learn anything

by studying it. As a matter of fact, under the prevailing type of management the chief executive is in many cases so harassed and his time so taken up with the multifarious problems and masses of detail with which he must cope that he has little chance for study, even if he is disposed to do it.

On this point let me again quote from "Shop Management" (pp. 126-127):

What may be called the "exception principle" in management is coming more and more into use, although, like many of the other elements of this art, it is used in isolated cases, and in most instances without recognizing it as a principle which should extend throughout the entire field. It is not an uncommon sight, though a sad one, to see the manager of a large business fairly swamped at his desk with an ocean of letters and reports, on each of which he thinks that he should put his initial or stamp. He feels that by having this mass of detail pass over his desk he is keeping in close touch with the entire business. The exception principle is directly the reverse of this. Under it the manager should receive only covering, however, all the elements entering into the management, and even these summaries should all be carefully gone over by an assistant before they reach the manager, and have all the exceptions to the past averages or to the standards pointed out . . . thus giving him in a few minutes a full view of progress which is being made, or the reverse, and leaving him free to consider the broader lines of policy and to study the character and fitness of the important men under him.

If the general manager is to be effective he must have tools to work with. He must not be dependent upon incomplete, vague and often unreliable information which has been given offhand or hurriedly assembled as engineers in a situation may demand. He needs facts, and these should come to him in an orderly and usable shape. They should be presented in the form of regular reports, compiled as a part of his system of management, rather than haphazardly as some unfavorable circumstance may suggest. While these reports, as Taylor said, should be condensed, summarized and supplemented with explanations by some one else, perhaps the comptroller, the system back of them should be such as to make the supporting detail readily available.

A chief executive may be helped or hampered by his board of directors. Not infrequently it is one of his principal problems to keep his board from taking action that may be contrary to the best interests of the business. In a large measure the actions of the board must be guided by the chief executive. Much depends upon the presentation of facts regarding the condition and operation of the business in such a way as to point to the right course of action and carry conviction. The reports mentioned will be of the greatest assistance to the general manager in this respect. It may not be amiss at this point to quote Taylor's views on how a board of directors should be organized, how it should function and its relations to the chief executive. In a lecture at Harvard, he said:

Usually the board of directors consists of men who are elected because they own a large part of the stock of the company, or because they represent others who own this stock. They should be selected, however, not because of ownership of stock but mainly because of their special knowledge and experience in some one or more of the broad sections which together make up the business. For instance, one man should be selected for his financial knowledge, another for his general knowledge of the subject of management, a third for his technical knowledge of the needs of the trade and general knowledge of the selling side of the business, a fourth, perhaps, for his legal knowledge, and yet another for his engineering knowledge which would fit him to direct progress in this