

enthusiasm—were devoted to a discussion of the effects of scientific management on the individual worker and on industrial progress. During the past two or three years in the development of discussion of problems of particular interest to us, to the point of view of the manager have been added two other points of view—that of the workman and that of the social scientist. By manager I mean any one of that group of executive officers, of higher or lower degree, who are responsible for the organization and operation of a going industrial concern. By workman I mean the individual employee, or any spokesman of organized labor. By the social scientist I mean that group made up of professors of economics and sociology, social workers, editors of surveys and new republics, and so on. While it is true that individuals who have participated in our discussions may have represented points of view which do not fall clearly into any one of these three classes—points of view which are composites of two or of all three; nevertheless, you will agree that there have been these three distinct angles of approach to the discussion of our problems; those of the manager, the workman, and the social scientist.

It is my thesis that no one of these individuals sees the problems of scientific management with an eye which reveals the whole truth; that each is, by some economy manifest in the unconscious organization of persons for the investigation of truth, a functionalized observer of industrial facts and judge of their significance; that each is complimentary to and essential to the other; and that no organization which stands as advocate for one of the latest major contributions to industrial development, as does this Society, can accomplish its purpose if it fails to consider every possible approach to the examination and valuation of the particular contribution which it seeks to promote.

Each of these examining and appraising agencies—manager, workman, and social scientist—in the performance of the common function, possesses advantages and disadvantages not possessed by the other two. What are the principal advantages and disadvantages of each?

THE MANAGER

The manager of a business is one who performs the social service of adjusting the creation of certain utilities embodied in commodities or services, to the demands of individuals, for those utilities, in a manner economical of human energy and equipment. The allowance which society makes to him and to his family as a reward for this service should enable him and his family not only to live but also to enjoy certain things which make life to them worth living. The amount of this allow-

ance is determined in most instances (I do not wish to go into refinements) by the degree to which he is economical of human energy and equipment. That economy is popularly called efficiency. To succeed in putting together economically the energy, skill and materials necessary to create commodities or services is no easy matter. In the first place, a very small change in conditions causes the manager's operations to pass from an efficiency which society approves and rewards to an inefficiency which society may not only refuse to reward, but for which it may exact a penalty. In the second place, the elements which the manager must unite in his operations are not stable, and a combination which may be economical at one moment may not be so at the next. There are two results of this instability of elements with which the manager works and of this narrow margin for social approval within which his variations in economy are confined. One is the constant, concentrated attention he must give to the varying elements and their varying combinations—a confinement which deprives him of the opportunity for developing breadth of view. The other is the effort to minimize these variations in elements by standardization of one sort or another, an effort which incurs the danger of his achieving an apparent but unnatural stability which results, without his perceiving the reasons therefor, in maladjustments to the changing industrial world in which he operates.

This simple description of the nature of the manager's function makes it apparent that in valuing industrial mechanism, processes or policies, he suffers disadvantages and enjoys advantages which are unique to him.

There seem to be four disadvantages. First: the fact that the manager's attention is concentrated on the unstable elements of his business—the varying details. I admit that the supervision of many of these details may be delegated, and to the extent that they are delegated the manager frees himself from this limitation. But those who thus free themselves are so few as to be conspicuous. This concentration on technical aspects of the business denies to the manager opportunity to observe the great facts of social and industrial evolution. He may even not keep up with the development of human thought concerning the very service which he performs for society. He has but little time to acquaint himself with the results of investigations of others. He has but little time for books which are the records of the investigations and thinking of others. He has, in fact, but little time for newspapers and other periodicals. Lack of time from business is too frequently as fatal for him as is lack of education for many others; he falls into the habit of accepting statements of facts of industrial evolution which are not true, and opinions

of others concerning economic principles which are not sound.

Second: the very nature of his responsibilities compels him to regard and to value all things from the point of view of profits. In most instances he is wholly unaware that there are other standards of valuation of the mechanism, processes and policies, which he is called upon to consider. In those instances in which he may feel there are other standards of valuation, he is too often unable to free himself from the insistent demands which the problems of the ever changing elements of his business crowd upon him, to inquire what those other standards may be. His is a business in which he who hesitates is lost, and he therefore may not stop to work out more than superficial changes; he may not stop to inquire about the fundamental principles of his own managerial activities.

Third: he is subject to the tendency to seek relief from changeability and uncertainty in the elements which he controls by unconscious over-standardization of all of those elements. Some of them—the material elements—by their nature may be standardized, and their standardization brings relief. Others, such as the quantity and quality of demand and the human elements in production, do not lend themselves to the same kind or degree of standardization, but he too frequently fails to perceive distinctions and attempts to reduce these elements to the same kind and degree of control as he applies to others. The result is a mass of new problems added to those with which he is already overwhelmed.

Fourth: he is subject to the danger of regarding all the elements which he directs as commodities, and of failing to recognize that spiritual factors are involved. Particularly, he too frequently fails to recognize that labor as a simple physical force cannot be separated from labor as a distinct and original seat of human intellect, feelings, desires and opinions. Labor as a spiritual force is the most subtle and changeable of all the factors which he combines for the purpose of service through production.

These are the limitations, suffered in various degrees by various managers, which seem to me to render it impossible for them to see the whole truth in estimating new contributions to industrial progress. However, these are but limitations to conspicuous advantages. What are the manager's advantages?

I shall not dwell upon the most significant of his advantages: they are well-known and come immediately to our minds. They proceed from superior intelligence combined with experience in the conduct of industrial operations. Most managers are men of great natural ability which is made more effective by technical or other training. Those who have not had

the advantage of formal training enjoy perhaps compensating superior natural ability which has enabled them to forge ahead in managerial operations: which has caused them to be set aside by natural selection as industrial leaders. Intellectual ability, disciplined by experience in the industrial field, makes them the keenest observers of industrial facts and renders their judgments in the treatment of industrial problems the soundest. I do not do more than indicate these advantages, dominating as they are, because they are so patent.

His other advantages may be summed up in the statement that the industrial machinery is a result of evolution; that at any one moment it is a complex of numerous finely-adjusted parts; that a slight maladjustment of the parts may bring disaster to many individuals and a major maladjustment may bring disaster to society; that the changes of evolution must be accomplished by small steps and while the machinery is in operation; that the manager himself is a part of this complex machinery; and particularly that he senses all the complexity and delicacy of this industrial machine and the necessity of the avoidance of even slight maladjustment. He senses these facts, even when he does not attempt to explain them, because he has grown up in the midst of them—is of them. He has vast technical information and specially developed faculties which operate in the plane of industrial processes. In the solution of many of his problems, he does not have to rely on the conscious exercise of reasoning powers or the conscious application of rules and directions; he holds sub-conscious intercourse with the laws and principles behind his problems, and solves them "on the wing." Otherwise the solution of many of them would be impossible; the opportunity to solve them would vanish before investigation and deliberate reasoning could become operative. As the driver of a motor-bus evolves a sense for velocities and distances, which enables him instinctively to make openings which are to the passenger apparently impossible, so the manager develops special senses, which enable him instinctively to estimate the adaptability to industrial processes and the influence on them, of new mechanism, processes or policies. To those not performing the managerial function, this technical information and these special senses are denied. It is possession of this technical information and of these special senses, that makes the manager the "practical" man. The intuitive judgment of the practical man is as reliable and necessary as the consciously reasoned judgment of other men.

These advantages enable him to discern aspects of the truth, in considering the effects of new industrial mechanism, processes or policies, which other judges are unable to see.