

on management. It is both a condemnation and a challenge. The philosophy of Taylor alone points the way to greater efficiency and it is upon management that the main responsibility must lie for bringing it about. General Crozier singled out as the feature which distinguished the scientific from other principles of management "the amount of administrative energy which is devoted to it," and by that energy alone is the herculean task of attaining the highest efficiency to be completed. Even amongst the managements which are definitely in sympathy with the underlying principles of Scientific Management, there is often a certain hesitation in putting any system based on those principles into operation, on the score of expense. Taylor himself, in fact, was often accused of "making the money fly." The tendency of most manufacturers, especially in times of depression, is to keep a very tight grip on the expenses ledger. Any system of scientific management, however, by throwing a greater burden on the management and by insisting that management shall work scientifically and not by arbitrary "rule-of-thumb" methods, necessarily involves, in most cases, an increase in the number of purely brain-workers over the number required under any non-scientific system. "The belief is almost universal among manufacturers," writes Taylor, in "Shop Management," "that for economy the number of brain workers, or non-producers, as they are called, should be as small as possible in proportion to the number of producers, i.e., those who actually work with their hands." And again, he wrote, "It has been my observation that there is no definite relation of any kind in the ratio of overhead expenses to direct expenses in the prosperity of a company . . . I have found, however, that those companies which are managed in the very best way and which are earning the largest dividends in relation to their competitors, have the largest ratio of overhead expense in relation to direct expense . . . As a general rule, I can say that the more men you can have working efficiently in the management, that is, on the management side, the greater will be your economy. No greater mistake can be made than to assume that economy is realized by cutting down the so-called overhead expense. Just the opposite is true in the very best managed companies." Mr. Copley's comment on this extract—that Taylor was a voice crying in the wilderness—is apt indeed, and is still largely true.

Management as a corporate body in industry has yet to see itself in its right perspective. It has yet to

appreciate that business is progressing beyond the stage where it was a game of chance, a selfish, crazy tussle with capricious fortune, with alternating profits and losses, and is gathering speed towards an order of industry where the motive is that of social service and the methods are capable of scientific determination and regularized control. Progress towards this ideal is overwhelmingly dependent upon the energy, concentration and genius of management. Management will be called upon for a far higher standard of ability, a far higher concept of its duties and its relationships with the workers and the community, and a far higher development of its technique. It must bring more brainwork to bear on its task, more ethical considerations to fashion its motives and objectives. Perhaps the essence of what this deepening and widening of the sphere of management involves may be put in a phrase—that management is tending and must further tend to become a profession. The practise of a profession presupposes several things: firstly, a codified and proven body of knowledge, or, a science; secondly, a skill in the application of that knowledge, or, an art; thirdly, a progressive enlargement and intensification of the knowledge, or in fact the constant use of the scientific method; fourthly, a standard by which efficiency in the practice of the profession may be assessed; fifthly, a motive which places first the good of the community. If then, these be the conditions of a profession, management, as Taylor conceived it, and as the industrial world is now slowly coming to conceive it, is indeed a profession in embryo. It is the task of management—as skill comes to replace chance and luck, as more and more thought and research expands knowledge, as definite criteria of efficiency become possible for its various branches, and as the element of social service drives out the false domination of petty autocracy—to develop itself into a profession, with professional standards and ethics.

To this end all Taylor's philosophy leads us; towards this ideal, the idealist in him constantly strove. "It is the promotion of harmony between employers and their workmen that is my chief interest," he said. And again; "All our inventions are meant to contribute to human happiness." Above all men, perhaps, Taylor exemplified the new management to which his vision and work gave birth—a management directed by a social motive, yet operating by severely practical and scientific means.

This book tells us of Taylor's own life and work,

but in the few years since he died, the outcome of his work has been a universal stirring of management to an appreciation of its responsibilities. Consciously or unconsciously, this new movement has been inspired by his teaching and leadership. Scientific Management has come to be recognized as a philosophy which is applicable, not only to shop management, but also to every activity of a business, from accountability to selling, and, further, to every corporate enterprise, whether it be a manufacturing concern, a professional society, or a municipal organization. His principles have spread, like a great flame over all the world. His published works have been translated into every language, from English to Chinese, from Russian to Spanish. Both the French and Soviet Russian governments have given his principles official recognition. From Vienna to Paris, Paris to London, and London to New York, the work he began is being carried on by his followers.

Bringing into the very shops of industry the quality of thought which is normally the attribute of the hermit of the laboratory and study; working in happy cooperation with other pioneers—his friends one and all, whose devotion to him was only equalled by his friendship and respect for them;—gilding his work with the rare gleams of far-looking visions, and buoying it ever on the tide of a high motive and objective; delving deep into the caverns of truth in the work-a-day things of life, and pressing fearlessly forward where the light of truth led him—Frederick Taylor set on its path a movement which, when the time comes to see it in its proper perspective, will have been found to have given a redirection to our social progress. At a time when industry was reaping

the shrivelled harvest of low ideals and selfish, unlightened management he brought to it the fertile seed of high ideals and unselfish, enlightened management. "He injected the concept," in the words of Dr. Person, "that a business should exist for social service, that its purposes can be defined, its objectives planned and scheduled, detailed execution be so controlled as to contribute most economically to the final result, and that the final result can be a productivity of useful things so shared as to increase the comfort and promote the happiness of all concerned." Wherever Scientific Management is the philosophy governing the conduct of any enterprise, there will Frederick Taylor's spirit—and, as he would wish it, the spirit of his associates—be found still working. The day, indeed, cannot be far distant when Scientific Management will come to be recognized as a great social movement, not only by those in industry who are the immediate objects of its service, but by all that commonwealth which industry itself serves.

It was time that the life of Frederick Taylor should be written and published to the world, for, if he was a generation ahead of his time, that generation is now with us. He blazed the trail; we put foot upon a more royal highway. No more inspiring message could come to us than this story—so faithfully told, so intimate yet so heroic and portentous—of the life of him who has been named, in a significantly mingled title,—a mingling of the man and the mission, the family and the world, the sowing and the fruit, the present and the henceforward, the mortal frame and the imperishable legacy, the body that fails and the thought that prevails—"The Father of Scientific Management."

BY THE elaboration of Standards, on the personal side of industry, through the analytical and synthetical methods of Science, and by the deductive determination of the principles and methods of management on the personal or human side, it is the aim of those practicing management to evolve, by a sharing of knowledge and experience, irrespective of trade and business divisions, a *Science of Industrial Management*, distinct alike from the sciences it em-

plloys and the technique of any particular industry, for the several purposes of forming a code to govern the general conduct of industry, of raising the general level and providing a standard measure of managerial efficiency, of formulating the basis for further development and improvement, and of instituting a standard as a necessary qualification for the practice of the profession. (Oliver Sheldon, *The Philosophy of Management*, pp. 290-291.)