THE TAYLOR SYSTEM

1912

Frederick W. Taylor

Frederick Winslow Taylor (1856–1915) was a mechanical engineer who developed a widely used system to make industrial production more efficient. Known as scientific management or Taylorism, this system standardized the tasks workers performed and required managers to closely supervise workers. In 1912, Congress appointed a special committee to investigate scientific management and its influence on the workplace. The following excerpt is drawn from Taylor's statements made before this committee.

THINK THROUGH HISTORY: Drawing Conclusions
Taylor describes the benefits of standardization. What might be some of the drawbacks to standardization?

Thursday, January 25, 1912.

The committee met at 10.40 o'clock a.m., Hon. William B. Wilson (chairman) presiding.

TESTIMONY OF MR. FREDERICK WINSLOW TAYLOR

The witness was duly sworn by the chairman.

The Chairman. Will you please give your name and address to the stenographer, Mr. Taylor?

Mr. Taylor. Frederick Winslow Taylor, Highland Avenue, Chestnut Hill, Philadelphia, Pa.

The Chairman. Mr. Taylor, are you the author or compiler of the system of shop management generally known as the "Taylor system"?

Mr. Taylor. I have had a very great deal to do with the development of the system of management which has come to be called by certain people the "Taylor system," but I am only one of many men who have been instrumental in the development of complication, and in the time required to develop it, almost an extreme case in the mechanic arts. Yet even in this very intricate science within a few months after starting enough knowledge had been obtained to much more than pay for the work of experimenting. This holds true in the case of practically all scientific development in the mechanic arts. The first laws developed for cutting metals were crude and contained only a partial knowledge of the truth, yet this imperfect knowledge was vastly better than the utter lack of exact information or the very imperfect rule-of-thumb which

existed before, and it enables the workmen, with the help of the management, to do far quicker and better work.

For example, a very short time was needed to discover one or two types of tools which, though imperfect as compared with the shapes developed years afterwards, were superior to all other shapes and kinds in common use. These tools were adopted as standard and made possible an immediate increase in the speed of every machinist who used them. These types were superseded in a comparatively short time by still other tools which remained standard until they in turn made way for later improvements.

The science which exists in most of the mechanic arts is, however, far simpler than the science of cutting metals. In almost all cases, in fact, the laws or rules which are developed are so simple that the average man would hardly dignify them with the name of a science. In most trades the science is developed through a comparatively simple analysis and time study of the movements required by the workmen to do some small part of his work, and this study is usually made by a man equipped merely with a stop watch and a properly ruled notebook. Hundreds of these "time study men" are now engaged in developing elementary scientific knowledge where before existed only rule-of-thumb. Even the motion study of Mr. Gilbreth in bricklaying involves a much more elaborate investigation than that which occurs in most cases. The general steps to be taken in developing a simple law of this class are as follows:

First. Find, say, 10 to 15 different men (preferably in as many separate establishments and different parts of the country) who are especially skillful in doing the particular work to be analyzed.

Second. Study the exact series of elementary operations or motions which each of these men uses in doing the work which is being investigated, as well as the implements each man uses.

Third. Study with a stop watch the time required to make each of these elementary movements and then select the quickest way of doing each element of the work.

Fourth. Eliminate all false movements, slow movements, and useless movements.

Fifth. After doing away with all unnecessary movements, collect into one series the quickest and best movements, as well as the best implements.

This new method, involving that series of motions which can be made quickest and best, is then substituted in place of the 10 or 15 inferior series which were formerly in use. This best method becomes standard and remains standard, to be taught first to the teachers (or functional foremen) and by them to every workman in the establishment until it is superseded by a quicker and better series of movements. In this simple way one element after another of the science is developed.

In the same way each type of implement used in a trade is studied. Under the philosophy of the management of "initiative and incentive" each workman is

called upon to use his own best judgment so as to do the work in the quickest time, and from this results, in all cases, a large variety in the shapes and types of implements which are used for any specific purpose. Scientific management requires, first, a careful investigation of each of the many modifications of the same implement, developed under rule-of-thumb; and second, after a time study has been made for speed attainable with each of these implements that the good points of several of them shall be united in a single standard implement, which will enable the workman to work faster and with greater ease than he could before. This one implement, then, is adopted as standard in place of the many different kinds before in use, and it remains standard for all workmen to use until superseded by an implement which has been shown, through motion and time study, to be still better.

With this explanation it will be seen that the development of a science to replace rule-of-thumb is in most cases by no means a formidable undertaking and that it can be accomplished by ordinary, every-day men without any elaborate scientific training; but that, on the other hand, the successful use of even the simplest improvement of this kind calls for records, system, and cooperation where in the past existed only individual effort.

Now, what I want to bring out and make clear to you is that under scientific management there is nothing too small to become the subject of scientific investigation. Every single motion of every man in the shop sooner or later becomes the subject of accurate, careful study to see whether that motion is the best and quickest that can be used, and as you see, this is a new mental attitude assumed by the employer which differs radically from the old. The old idea, both of employer and employee, was to leave all of these details to someone's judgment. The new idea is that everything requires scientific investigation, and that is what I am trying to make clear to you.

Source: *Hearings Before Special Committee of the House of Representatives to Investigate the Taylor and Other Systems of Shop Management Under Authority of House Resolution 90*; vol. III, pp. 1377–1508. Reprinted in *Scientific Management* by Frederick Winslow Taylor (Westport, Conn.: Greenwood Press, 1972), pp. 107–111.

THINK THROUGH HISTORY: ANSWER

Students may answer that standardization's drawbacks include the mental and physical stress it puts on the workers. Students may observe that by breaking down tasks into their smallest component parts, owners deny workers the satisfaction of doing varied work and playing a major role in the creation of a product. Students may also note the expectation that workers can repeatedly perform the same tasks with perfect efficiency is unrealistic.