

one best way as the supreme law. In other systems the supreme law was the say-so of the boss. In the Taylor system the supreme law is the way scientifically proved to be best.

#### Reign of Law

Taylor is thus the lawgiver of industry. Before his day the government of industry was—in fact for the most part it still is—in the same primitive stage that political government was in before constitutional monarchies came into being. The say-so of the king was the only law. It followed that “the king could do no wrong.” Contrast this old doctrine with England’s constitutional monarchy today where the king is bound by the law as truly as are his “subjects”!

So it was that Taylor called the ordinary system the “military” system; a hierarchy of arbitrary power in which the head of the business, as captain of industry, simply subdivided the command among departments under lieutenants, who still further subdivided it; as in an army a General’s authority is subdivided among Colonels, Majors, Captains, etc. In such a system, each commander’s word is the supreme law for those below him. In Taylor’s system, on the other hand, every functionary was himself subject to the higher law of what had been proven best.

The following is quoted from the manuscript he prepared for his Harvard lectures, the italics being his:

“You realize, of course, that the military type of management has been here entirely abandoned, and that each one of these functional foremen is king over his particular function; that is, *king over the particular class of acts which he understands, and which he directs*; and that not only all of the workmen throughout the place obey the orders of this functional foreman in his limited sphere, *but, that every other functional foreman obeys his orders in this one respect!*”

“Thus we have a radically new, and what at first appears exceedingly confusing state of things, in which every man, foreman as well as workman, receives and obeys orders from many other men, and in the case of the various functional foremen they continually give orders in their own particular line to the very men from whom they are receiving orders in other lines. For this reason the work of the planning department represents an intricate mass of interwoven orders or directions, proceeding backward and forward between the men in charge of the various functions of management.” [Volume I, page 290.]

Actually there is only one master, one boss: namely, knowledge. [Vol. I, page 291.]

Copley says of Taylor himself:

“Imperious as Caesar, he was *not dogmatic or arbitrary*. He did not pretend to be a lawmaker—only a lawfinder. You had to do what he said, not just because he said it, but because he knew the best way; and you had to take

his word for this only for the time being, or until the thing could be proved by its workings. If you could prove that yours was the best way, then he would adopt your way and feel very much obliged to you. Frequently he took humble doses of his own imperious medicine. [Volume I, page 175.]

As the novelty of functional management impressed itself on Taylor he realized how hard it would be to convert others to it.

The prepossession in favor of the military type was so strong with the managers and owners of Midvale that it was not until years after functional foremanship was in continual use in this shop that he dared to advocate it to his superior officers as the correct principle. [Volume I, page 304.]

#### Science vs. Tradition

Doubtless it might be answered that even the ordinary shop management has its laws or customs to which managers and men are subject. Granted that this is true, nevertheless, the law of tradition and the law of science are as different as night and day.

Practically never can we find “the one best way” by guessing or groping in the dark. One might as well try to predict the next eclipse by guessing. Yet tradition rules our lives more than any other force.

When, after hoary ages of tradition, science enters on the scene a battle royal is inevitable. It is therefore no accident that we find the conflict between science and tradition in the biographies of Copernicus, Galileo, Darwin or Pasteur as in Copley’s biography of Taylor.

Such a conflict was inevitable. Taylor had to pay the price for disturbing the peace in industry—industry being sublimely unconscious of its shortcomings and unwilling to be reformed.

It might naturally be supposed that if scientific management is capable of enriching employer and employee to the extraordinary extent shown in Copley’s account, it would be eagerly adopted by every business concern. The fact that this has not yet happened is sometimes made the basis of childlike argument to prove that there must be something radically wrong with it.

Even today scientific management has to fight its way. Copley’s book will help enormously to smooth the path of the Taylor Society. But with the best of salesmanship, progress against the inertia of tradition will be slow.

Copley tells us of Taylor:

In 1909 he wrote to a fellow worker in the field of industrial management: “I have found that any improvement

of any kind, is not only opposed, but aggressively and bitterly opposed, by the majority of men, and the reformer must usually tread a thorny path.” [Volume I, page 416.]

Take for instance, the specific example of Taylor’s discovery that a stream of water continually poured on the cutting edge of a tool would cool the tool so as to increase the speed of cutting 30 to 40 per cent.

A French scholar, on reading of this discovery, remarked, “[This fact is] so easily verified that one is justified in being astonished that [it is] not known to everybody.” Although this fact had been known to the public since 1884, Taylor wrote in 1906:

“So far as the writer knows, no other shop [than Midvale] was similarly fitted up [with water supply for the machines] until that of the Bethlehem Steel Company in 1889, with the exception of a small steel works which was an offshoot in personnel from the Midvale Steel Company.” [Volume I, page 242.]

The disinclination to change expresses itself in every sort of excuse for not changing. Taylor said:

“It is a very curious fact that each individual manager looks upon his problem as the most difficult there is anywhere in the world, and as having little or no relation to any other problem of management. This is caused by the fact that each manager realizes the special difficulties which he has to face in his own problem, and fails to see that other managers are faced with equal difficulties.

“For example, the man who is managing a simple type of company, in which the work is rather elementary, will say, ‘Scientific management can very readily and very properly be applied to an elaborate company, in which there are a great many trades calling for especial skill, etc., but for my company, which is very simple in its nature, scientific management calls for too much red tape.’ On the other hand, the manager who is at the head of an establishment calling for intricate work, and work of great variety, will state, ‘Scientific management can very readily be applied to the simpler kinds of work, but my work is so intricate and difficult that it can never be reduced to anything like scientific laws or rules.’

“I have hardly ever seen the manager who finally believed at the outset that scientific management could be successfully applied to his particular work.” [Volume I, page 363.]

#### Obstacles to Progress

All or most of the obstacles which impede progress may be included under the head of conservatism, but in the present case, we may conveniently distinguish six sub-divisions: laziness, ignorance, offended pride, offended special interests, labor prejudice, and false economic theories.

#### Laziness

Laziness in some degree may perhaps be said to be a universal human attribute. We all dislike the effort required to get out of a rut or habit.

There still are many thousands of men and women who are so worried and generally upset when called upon to depart from a fixed routine that the only thing you can do is to leave them to the routine or wear them away from it very gradually. [Volume I, page 434.]

It takes gumption to make any change, and after it is made, every nerve must be stretched to keep the new system going full speed. One essential of the Taylor System is that everyone should do his utmost while the natural tendency is ever to play the slacker. It is the old conflict between our higher and lower natures. We like to see others try but seek to avoid the strain ourselves.

The following shows how insidious is the tendency to back-slide and take it easy.

Though Midvale did not throw out Taylor’s methods, it began, not long after he left there, to slough them off. For this sloughing or sagging, there is a ready explanation: no one at Midvale except Taylor himself was imbued with the philosophy that lay back of his methods and mechanism. In his later years, Taylor came to see clearly that scientific management could not exist in any establishment until chief executives, planners, supervisors, and executors or operatives all had undergone the “complete mental revolution” involved. [Volume I, pages 339-340.]

To Taylor, laziness was a deadly sin. He disliked seeing anyone do less than his best. “What William James calls the habit of inferiority to your full self,” was his special object of attack. The “one best way” seemed, in Taylor’s mind, to stand out not as the top of a rounded hill, but as the sharp peak of a mountain.

He disapproved not only of lazy workmen but of lazy managers. He believed they often put details up to the workman not really because they thought this the best way, but simply because “the management was disinclined to assume the duties, burdens and responsibilities that naturally belonged to it.”

#### Ignorance

As an example of ignorance, we find the curious spectacle of a great captain of industry under the traditional “military” system, ruthlessly replacing scientific management by his own accustomed methods, without, apparently, knowing or wanting to know exactly what it was which he was throwing away.

Taylor wrote to General Crozier in 1910:

“I think it is quite remarkable that our system should have survived as well as it appears to have done at the Bethlehem Steel Company. I think I told you that the moment Schwab took charge of the Bethlehem Works in 1901, he ordered our whole system thrown out. He saw no

[Volume I, page 241.]