

workman through an incentive method of payment to exert himself toward increased production.

6. Finally, the general acceptance on the part of the average manager of the desirability and place of the scientific method in the management of business has been particularly noticeable during the last few years. It is true that many managers still shy at the word "science," and it is true that we have as yet barely scratched the surface in the application of the scientific method to industry, particularly as regards departments other than the shop; but the entering wedge has been driven, and as Professor Sederholm of Finland has said:<sup>21</sup>

Industry . . . has not yet advanced beyond the Mesozoic stage, but the time will soon come when people will regard shops without a planning department of sufficient size, shops where hundreds of laborers are managed by half a dozen of engineers and foremen, with the same wonder as is felt by us when we look at the skeleton of a *Diplodocus Carnegie* with its gigantic body and almost microscopical brain.

### III. Neglected Opportunities

It has previously been stated that it would be improper to claim for the Scientific Management movement any monopoly of effort and accomplishment along many of the various lines indicated previously, although this movement has always been at the front of new developments. In considering what seem to me to be some of our neglected opportunities, I wish also to state that Scientific Management as such must not be blamed because it has not completely solved partially unsolvable problems. It must be remembered that many of the unsatisfactory conditions under which we work today are heritages of an age long past. The problems and ills of the individual due to the massing of workers, the economic dependence of the employee on the employer, the specialization of process and the minute subdivision of labor have not, as is sometimes intimated, been brought on by Scientific Management. They are inherited problems and abuses with which, in common with other agencies, Scientific Management must deal. The following queries are therefore raised, as to whether Scientific Management has made as aggressive an attack on these bigger problems as it might have. The attempt will be made to deal only with those features which we can remedy or at least strongly ameliorate, and which, therefore, will be of concern to any group interested in the future of the movement.

<sup>21</sup>Copley, II, page 126.

#### A. The Art as Distinct from the Science of Management

Oliver Sheldon has forcibly brought out<sup>22</sup> the distinction between "operative sciences," which embody standards of procedure with respect to different kinds of processing, the "managerial sciences" or the sciences of putting these standards into operation, and the general administration of an enterprise. He further brings out very clearly the fact that while there may be a considerable managerial science, there is without question much in management that must remain an art. There must still be required the skilful exercise of human faculty, since there can be no science, for instance, of cooperation—cooperation rests not on scientific but on ethical principles. I believe Sheldon has done a real service in putting this viewpoint before the Society and that because we have not sufficiently recognized these distinctions in practice, we have fallen into a number of serious errors.

I wonder whether we have given sufficient weight to the question of personality in management; I wonder whether we have not tended a little too strongly to establish scientific methods, to tie these together into a logical "system," and to rely on this oftentimes beautifully designed machine to accomplish our objects, forgetting that such a system, just as is the case with any other system or mechanism, requires human direction and control?

I wonder if we have sufficiently realized that, in order to live up to Mr. Taylor's ideals, the need of real leadership is even more necessary than under the older types of management; I wonder whether on the contrary there has not been a tendency to employ too cheap clerks at certain strategic positions in the organization, trusting that the carefully outlined procedure would make up for their lack of leadership and personality?

I wonder whether, with our admirably proper insistence on considering each individual as an individual, we have not obscured the possibility of making that individual and his fellows more productive and more contented through recognizing the psychological benefits to be gained through group dealings?

I wonder whether we have considered the question of fatigue from a too coolly scientific viewpoint?

#### B. Labor

Many of us feel that it is unfortunate that Mr. Taylor expressed himself so frequently and so forcibly

<sup>22</sup>Bulletin of Taylor Society, December, 1923, page 210.

on the question of soldiering, and that he emphasized the profit motive on the part of the workman almost to the exclusion of other instincts and motives in life in which at heart he knew every workman is interested. This attitude on the part of the leader I fear has been too largely inherited by his followers. I believe it is true that the average American workman is not inherently lazy, but on the contrary is delighted to put forth his best efforts in production and in cooperation where he can be even reasonably assured that the management is doing its own part and that it really has his best interests at heart. Have we had the dollar so firmly fixed before our own eyes that we have assumed that the workman is similarly constituted, overlooking the workman's pride in workmanship, his logical desire to retain what he considers to be his own tools of livelihood . . . his trade secrets . . . and his desire to be a regular fellow in his own group? I wonder if we have sufficiently remembered Mr. Taylor's admonition:

The principles of Scientific Management must rest upon justice to both sides, and it is not Scientific Management until both sides are satisfied and happy.

Now if the mechanism . . . of Scientific Management . . . is used by unscrupulous people, it is not then used under Scientific Management; it may do a durned lot of harm.<sup>23</sup>

Can we honestly say with Mr. Taylor:

. . . if the results of my work were merely to increase the dividends of the manufacturing companies, I certainly should not devote my time to this object. Scientific Management is for me, then, primarily a means of bettering the condition of the working people.<sup>24</sup>

I wonder whether we have sufficiently realized that to get real cooperation on the part of all of our people it is desirable to give them the psychological appeal of at least some stock ownership in the enterprise? Experience has proved that stock ownership by the employee has a tremendously beneficial effect upon the management. Incidentally, I wonder whether we have considered also our obligation to the public at large, whether Mr. Taylor's comment given below does not apply with considerable force even today:

Most of us see only two parties to the transaction, the workmen and their employers. We overlook the third great party, the whole people, the consumers, who buy the product of the first two and who ultimately pay both the wages of the workmen and the profits of the employers.<sup>25</sup>

The rights of the people are . . . greater than those of either employer or employee.<sup>26</sup>

<sup>23</sup>"Hearings," pp. 1459, 1462.

<sup>24</sup>Copley, II, page 236.

<sup>25</sup>In a letter written in 1911, Copley I, page 13.

#### C. Organized Labor

Scientific Management has to date neglected its opportunities and obligations to organized labor. There are many indications that organized labor's attitude and cooperation with managers in the application of the principles of Scientific Management have changed for the better. We should, however, show more readiness to meet organized labor half-way in a constructive program, and also aid by combating in a helpful non-antagonistic spirit the uneconomic practices on the part of some labor leaders. I believe there are great possibilities for cooperation, but they imply a prime obligation on our part of absolute straightforwardness and friendly instruction in the high principles for which we stand. It also places upon organized labor a prime obligation of recognizing that all men are not created mentally, mechanically or productively equal, and of allowing individual liberty to produce up to individual ability.

Mr. Taylor's attitude towards organized labor has been misunderstood by most people. For his views we can turn to his own writings:

. . . in many establishments under the ordinary system, collective bargaining has become and is in my judgment an absolute necessity.<sup>27</sup>

. . . there is no reason on earth why there should not be collective bargaining, under Scientific Management just as under the older type, if the men want it.<sup>27</sup>

. . . I have not the slightest objection, and never had had, to collective bargaining, but I merely say that under the principles of Scientific Management that necessity has never come before me.<sup>28</sup>

#### D. Lack of Adequate Analysis

What I shall have to say under this topic will be largely destructive criticism. It is offered merely as having possible value for future analysis.

It seems rather an anomaly to charge against engineers and scientific managers, above all things a lack of analysis, yet I feel that this is one of the most serious criticisms to be leveled against most of us who attempt to follow the technique of Mr. Taylor. I believe it is partially due to the fact that we are so intent upon following him that we do not always stop to realize that he himself would undoubtedly have disapproved under present conditions numerous things which we have done and have left undone in his name.

Our most serious failure is neglecting sufficiently to analyze the particular sales, production and finan-

<sup>26</sup>"Principles of Scientific Management," page 136.

<sup>27</sup>"Hearings," page 1444.

<sup>28</sup>"Hearings," page 1458.