

that his job begins and ends by helping his client to understand and fulfill those laws. Thus he is valuable either to employers, employees, or the public, and whichever is his client, in the sense of paying him, can expect from him only such service as is to the interest of all three parties. No scientific and just service could be built on other grounds. It should be repeated that his job begins and ends by helping his clients to understand and fulfill those laws; and thus he is valuable alike to employers, employees, and the public.

POSSIBLE RELATIONS OF SCIENTIFIC MANAGEMENT AND LABOR UNIONS

Suppose a manufacturer should say to me, "I wish to start, equip and run a new plant in a certain section of the country." I suppose the ordinary method would be to begin to decide about the size of the plant, what you would make, et cetera. After you had decided what you were to manufacture you would start to consider building the plant and equipping it, and the processes of manufacture and management. And after it was all together you would expect to pick up your labor supply.

The first thing that I would do if I were confronted with such a proposition would be to make a study of the labor situation in that locality before the ground was broken. First I would take up the question of labor supply with all the existing sources of labor supply at that time. I would go to the labor unions and raise all the questions in advance that might be raised afterwards, as far as one could humanly foresee them. Next, I would show that insofar as there were any unions in that vicinity connected with those trades—I should run a preferential shop—I would appeal to the unions for men before I appealed to anybody else. If they could give the men I wanted I would take them in preference to anybody else. Then I would say that I would pay as the piece rate of my wages the union rate in that vicinity, regardless of whether or not the shop were unionized. And any other methods of pay would have to be built on that.

Then I should make the union mad by telling them that I would pay a minimum wage in that factory. My great quarrel with the union men is that they have their minds fixed on so much an hour, and they are giving shamefully too little attention to the idea that a week is the shortest unit a man can count on.

I should like to see the union leaders awakened to the job, and see that the ideal of employment is not the week but the year. A year containing the four seasons

is the lowest ideal unit of planning which one should engage in. But if one could get industry on a carefully graded weekly basis, instead of the hourly rate, a great step in advance would be made.

When I put that question to a small group of manufacturers the other day, they came back and said, "Supposing you could not afford to pay the minimum wage in some catastrophic time?" Then I said, "That concern should be declared industrially insolvent, exactly as they do when a man does not meet a note or a company does not meet the interest on its bonds."

Then I would demand that you plan as far as you possibly could for regularity of employment, first by regulating your own business to the greatest extent possible; secondly, by establishing some cooperative relationship with other concerns in other lines of industry, so that when your slack period came against his full period, you could make some shift to the advantage of each; and thirdly, as business men looking after your own interest, by taking some kind of interest in state public work, so the state would not be going into the market when wages were high and business good, but instead would wait until conditions of unemployment were bad.

When I had done those things in regard to the labor situation then I should turn to the side of production, and I should consider there everything that deals with individual capacity in its relation to securing the greatest possible output socially possible at any time. To meet the problem of limitation of output, it seems the first thing is to develop the selling department as nearly as possible to a state of perfection, and study the flow of orders that will come into that plant through proper salesmanship. It has been my experience that frequently the selling side of the business is left to be organized until long after the factory side has been organized. When I had the selling organization completed in this new factory, then I should do all my planning work, and all the system for maintenance of schedule, and all kinds of work analysis. I think before the motion-and-time study people get on the job and task matters are considered, these things should be considered.

Then I would shift the lower costs to the heading called "The rights of the Consumer in the Business"; and there I should lay out the maximum conditions of the business. I should not wait for the law to reach me—I would have no watered stock, restricted dividends, no concealed management salaries—and I would see that the sanitary conditions are good; and then I

should say, that it is due to me and to the consumer for me to get my unit cost lower and lower and lower.

If there were some labor union men in this meeting I should take pleasure in saying that where I had arranged to deal with the unions—and this of course would be easier in a perfectly new undertaking, rather than in an old one, although it is practical in both—I could still get by every single thing that a majority of you people in this room would declare to be legitimate scientific management; that I could get by every single element, because the whole business of relationship between employer and employee would have been shifted from the violent method of adjustment to a constitutional basis, and the whole list of crimes now committed by labor unions and by employers also would have departed.

II. THE PROGRESSIVE RELATION BETWEEN EFFICIENCY AND CONSENT¹

DEFINITION OF SCIENTIFIC MANAGEMENT

BY SCIENTIFIC management I mean those principles of business conduct which are both explicit and implicit in the life and work and writings of Frederick W. Taylor.

I mean those principles considered in their purity as principles and considered apart from the particular and local applications of them made by Mr. Taylor.

I mean those principles considered as principles very gropingly stated by him and as to statement still in their youth, so to speak.

I mean those principles considered as one root of economic life, and to that extent thoroughly sound, but still showing clearly in their present statement that they have not been worked into thorough coordination with other equally vital principles of the economic and social world.

By scientific management I mean further attempts to apply the principles as stated by Mr. Taylor as they are applied, for example, in the Tabor Manufacturing Company of Philadelphia, the Plimpton Press of Norwood, Mass., and the Link Belt Company of Philadelphia.

And the actual methods of applying the principles at those plants I regard as only indicative of what the real application of the principles as laid down by Mr. Taylor would be. They are sufficiently indicative, how-

¹ Abstract of an address presented at a meeting of the Society held in New York, December 10 and 11, 1915.

ever, to furnish the materials for a sketch of an ideal shop run according to the Taylor principles. They further furnish us, I believe, with the basis for the belief that the principles stated by Mr. Taylor, insofar as they are fully applied, furnish the latest word in the progress of the mechanics of industry. For simplicity, in this paper, we shall deal with these principles only from the point of view of the mechanics of production.

I am not forgetful of two important facts in connection with Mr. Taylor's life:

1. That many of the impressions he conveyed in describing his ideas did his ideas themselves and his real spirit great injustice.

2. That his own conception of much that is contained in his writings is in many cases fragmentary and apparently short-sighted.

It is, nevertheless, my belief that when the fullest allowance is made for these two facts, Mr. Taylor's contributions to the industrial world will gradually prove themselves to be among the major contributions to human progress. The human limitations of Mr. Taylor's thinking and methods of expression and the crudities of the application of his principles in practice at the present day will weigh little as compared with the revolutionary effects his conceptions will have on the progress of the world when they are thoroughly understood and freed from confusion with the short vision of the ignorant, the merely imitative, or the shyster practitioner.

It should also be noted at this point that much which is being done under the name of scientific management and much of the criticism of scientific management is only serving to give undue importance to the work of the efficiency charlatan, to the loose social thinker, and to the attitude of the half-informed public, all of which obscures the real issue. The useful thing to do is for all persons honestly interested in the subject to simplify the problem and to try to solve it in its purity apart from considerations which are not of its essence. It is precisely this which both the most earnest advocates of Mr. Taylor's principles and the most earnest advocates of labor had failed to do up to the time of Professor Hoxie's work. If Professor Hoxie can complete his work through digesting the materials he has gathered, and also through making an investigation of labor in its relation to scientific management as he has made of scientific management in its relation to labor, we shall begin to be in a position where we can get at the question of scientific management in a truly scientific fashion.