

speaker particularly. All I am going to say is practically a repetition of the same thing. If a thing is repeated, sometimes they don't want to throw the paper in the waste basket without reading it.

The reflections—using the word Professor Drury used—the reflections of the Professor about past, present and future of scientific management have brought him and the readers of his paper nowhere. The hearsay information that was the source of his lengthy narrative is not illuminated by a true understanding of causes and aims of this movement, and I am tempted to point out some of the errors into which he has fallen.

The historical perspective of the genesis of scientific management is artificially staged so as to make us believe that the gain of capital and number of workmen had something to do with the subject. Neither the Civil War nor any other historical event would have occurred had they not their economic reasons. Evolution in the economic relations in this country, as everywhere in the world, was the evolution of the mode of production. When feudal and individual production was replaced by capitalistic production, or, in other words, when the workman had lost the ownership of means of production his only means of existence was to sell his labor-power. The instruments of production were controlled by those who had the money to build them, and the workmen were hired at as low a wage as afforded them a means of existence. The value of their labor, added to the value of the raw materials, supplies, rent, wear and tear of machinery used, and so forth, made the value of the finished product higher than the cost of production. In the ideology of the working class this surplus value and profit appears as unpaid labor, that is, the value added to the product by labor for which it did not receive in his opinion the full pay. This economic structure of our society thus finds its expression in the class struggle—the workmen desired to receive the full value of their labor; the capitalist just as anxious to retain as much profit as he could. Under such conditions, to speak about the possibility of establishing the harmony of the interest of employers and the employees is to reveal one's own ignorance as to the economic foundation of our social relations. This is the impression that we gathered from Mr. Drury's paper. Something like Mr. Gantt says, the system is established and should be based on egotism if it is to work at all; and this is what, in my opinion, Mr. Drury in his paper overlooked altogether.

Taking the wrong road, he naturally flounders helplessly through the mass of facts, the real significance of which was not explained to him by the books and the papers he read, until he is forced to leave this vicious circle and evasively admit that "un-

derneath these surface arguments there exists a real clash involving fundamental principles." Yet he does not point out the fundamentals of the conflict, but hides behind the words pertaining to shortcomings of management, and talks further about "benevolent employer" and the like. The use of the stop-watch and other means adopted to substitute the knowledge of facts for old traditions and guessing had only one object in view: to increase the value of labor in larger proportions than the wages are increased by premiums. No learned treatise could hide this aim from the horse-sense of workmen, and the terms on which he consents to further increase the profits of his employer, is the improved working condition as far as hygiene, treatment, safety and so forth are concerned. The evolution within the scientific management movement itself was completely overlooked by Mr. Drury. The arsenal of facts both scientific and empirical upon which the training of workmen is to be made reached the proportion that the average management cannot handle, much in the same manner as the wild race for the improved equipment has reached the point when only part of it is utilized to advantage. Thus we do not need to be much worried that the timing of workmen met with opposition when a bigger problem looms so large: *how to increase the efficiency of the financier and the manager.* If the financial interests, controlling certain railroads, prefer to buy the power at nearly double the cost of their own production, leaving almost two-thirds of their equipment idle, the efficiency of firemen matters but little. As long as the factory owner ridicules the idea of, reducing production cost, while he has still the opportunity of increasing the selling price, exact knowledge of facts pertaining to economic production is of no avail.

The democratization of industries as we see it, cannot be done through choirs or debating societies, but will be accomplished by the consistent admission of the principles that the industry shall benefit the whole country, not only the individuals controlling it. Then and only then the management aiming at making the commodities dear will collapse and the workmen getting the benefit of increased production will,

"Work for an age at a sitting
And never get tired at all."

MR. H. K. HATHAWAY.¹ I have only had an opportunity to glance over in a hasty way Mr. Drury's paper and consequently I hesitate to discuss it. Nevertheless there are two or three things that it might be well for me to get off my chest. I have for twelve years been directly engaged in the introduction of the Taylor system in various industries, and

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incidentally have been managing a manufacturing company under that system. I have thus had opportunity to see things from two angles: first, from the standpoint of the engineer making the installation; and second, from the standpoint of the man running a business under the system and dealing with men working under the system. I object very strongly to certain conclusions which Mr. Drury has expressed with respect to Mr. Taylor. I object to his statements as to the imperfect stage of development to which the system was brought under Mr. Taylor's own guidance. I am today applying in the plants of my various clients the system essentially as Mr. Taylor had it worked out before I came into the work twelve years ago. I do not find that it is at all imperfectly developed. I object to Mr. Drury's statement that Mr. Taylor himself was not much of a manager. Mr. Barth and I may have a difference of opinion on that, but I think it is a difference which could easily be reconciled. The fact that Mr. Taylor did not bend his course to the exigencies of the situation does not prove that he was not a good manager. It is to Mr. Taylor's unwavering steadfastness, his constant striving for an ideal, his unchangeable attitude that we owe the fact that we are meeting here to-day as the Taylor Society to discuss scientific management. Had Mr. Taylor yielded to the exigencies of the occasion, had he been willing to trim, he would have made his own lot much easier, but he did not do it. He stood fast for his principles. I think that is something we should be mighty thankful for, and for which future generations will be mighty thankful, rather than consider it something to be criticized.

As to Mr. Taylor's skill as a manager, I know in my own case, so far as managing me was concerned, it was quite satisfactory. I found early in my association with Mr. Taylor while I was working under Mr. Barth that when I did what Mr. Taylor told me to do, usually things came out about right. If I deviated from what he told me to do, they did not come out so well.

Mr. Drury's paper is, in a sense, a criticism of scientific management or the Taylor system as we today are endeavoring apply it. It may also be considered a criticism of a great deal that we would not be willing to accept or sanction as the Taylor system; but Mr. Drury's paper in common with the writings of certain other men who have not been in close daily contact with the running of a shop, the management of an industry, the handling of workmen—I have reference to Mr. Hoxie's book, and certain writings of our late friend, Mr. Valentine—it is a criticism of practice designed to meet existing conditions; conditions with which we have got to work. To meet the needs of men with whom we have to

work; based upon a comparison with theoretical conditions which do not exist in fact. It is an error which any man who has not come through the mill will make. I am not saying this because I wish to criticize Professor Drury—I think he has done a fine piece of work here. The fact that several years ago, when he was quite a young man, he was able to make a study of scientific management, based upon his opportunity for investigating it, and write such a book as he wrote, I think speaks mighty well for Professor Drury. It is upon the efforts of men like him that we have got to fall back, after all, sooner or later, for aid in securing the cooperation which we want, the true cooperation with the workmen. We are getting it in the shops where we have scientific management in a small way; but we want it in a big way, in such a way that there will not be criticism which is unjust, nor opposition which is based upon misunderstandings and lack of knowledge as to the real interests of the worker such as was the case in the recent stop-watch legislation.

It might be assumed from reading Professor Drury's paper that the workman has not any part in the management of the shop; that you have the management on one side and the workmen on the other. Mr. Drury has not the proper conception of the spirit of scientific management or he would see that there does not exist between workmen and the management that sharp line of demarcation, that high stone wall which puts them in two different camps. In practice that is not the case. It is the case under the old type of management, but not under our type. As a matter of fact, the greater part of the management of a shop run under the Taylor system is in the hands of the workmen. Who are the men who run your planning department? Are they workmen or stockholders? Do the stockholders and directors come in and run your planning department? Not for one moment. Usually the principal men are those who have come from the shop, who have been promoted as opportunity presented and as they fitted themselves to take advantage of such opportunity.

In that way the workman has his say in the management. I do not run the Tabor Manufacturing Company, although I happen to be vice-president. Mr. Lewis, who is here this morning, the president of the company, does not run the Tabor Manufacturing Company.

There are fifteen or twenty men who do run that company. Every one of them has come from the ranks of the workmen. I see in this room to-day some of the men who came up through the ranks in the Tabor Manufacturing Company as workmen and to-day have advanced to such a point that the Tabor Manufacturing Company is too small for them.