

half the saving was established and in which the manager who did it now regrets the decision.

The Chairman: You mentioned, either in this statement here or in connection with it, that when you employed a skilled molder you wanted a laborer to shovel his sand.

Mr. Barth: Yes.

The Chairman: Have you ever given any attention to the idea that a change of work is rest?

Mr. Barth: Oh, yes; a good deal.

The Chairman: Is it not true that the more you specialize the work and concentrate the attention of the workman on any given line of work, that there is less opportunity for the use of all the muscles?

Mr. Barth: Mr. Chairman, I am perfectly frank to say that we are only on the threshold of knowing how to make the best of all these things. There is not a leader among us to-day that dares to say that we know all about it. We make no great pretenses. We are only earnest men trying to work in the right direction. We recognize this element, but have not been able to make much use of it, and in so far we have failed in being thoroughly scientific.

Mr. Chairman: Mr. Barth, last night, I believe, you made a very severe criticism of our school system.

Mr. Barth: Yes, sir.

The Chairman: Now, our school system has been developed under the leadership of men who have been specialists in that particular line and who believed that they had scientific methods of teaching. Do you not think that there is just as much room for criticizing any other line that assumes to be scientific, unless it fully demonstrates that it is scientific?

Mr. Barth: Absolutely. We admit that, and we do not pretend to be perfect in this. We are doing our best and all things have to have a beginning. But the beginning has already resulted in a great deal of good.

The Chairman: In other words, you are but experimenting?

Mr. Barth: Not altogether experimenting; but we are big enough to realize that there is a great deal more to be done, a great many more experiments to be made, that a great many more minds must be brought to bear on the thing, a great deal more knowledge obtained. The point in which we

are especially weak, I believe, is psychology, which, however, is a comparatively new science, of which but little practical use has as yet been made in the world. How have we been dealing with criminals until recently? Absolutely in the wrong way, as investigation shows; we are only beginning to get light on that subject.

As regards education, I can tell you that this country is still looking for the solution of problems that were solved in my native country 40 years ago. I happened to get the benefit of the solution of the problem of teaching mathematics, and that is the reason why I am looked upon as somewhat of a mathematician, and I did not spend a fraction of the time in learning mathematics in school that the school children of this country spend to-day.

The Chairman: Mr. Barth, can you give any instances of men having been bettered by your system?

Mr. Barth: As an individual who has as much right as anybody else to be happy in this world, so I also have a right to take my own case as an answer to that question. I have in this work found a real ideal to work for, and in spite of an awful lot of trouble I have had in connection with the same, I am to-day a far happier man than I used to be. I have also made other people happier by getting them to cooperate with me for the same purpose, and I will particularly mention the case of one man, who had a great struggle, when young, to acquire an education. He managed to scrape up enough money to go through a university and did so well that later on he became a professor in another university, a position in which he expected to find an ideal to live and work for. Herein he was disappointed, however, so that after three years he gave it up and went back to the shops in which I found him.

I have a letter at home that I cherish highly, in which this man states that he owes it to me that, for the first time in his life, he has found something worth while working for. There are plenty of others, though I have nothing to show for it, black and white, except this one case. Neither can you ignore Mr. Taylor himself, who certainly is happier now when he is working and devoting his whole life to this same ideal, and has done so for the last ten years without receiving a cent of compensation; not a phantom ideal, but a practical one, one that can and will be more nearly approached in this

world as the years roll by.

Besides, there are any number of young men who have been materially promoted through our system; and it is my firm conviction that there is not a man who has it in him to become a better man, that is not made more manly because of working under the conditions that we strive to create.

As a further answer to the question as to the necessity for increasing the productivity of the men, so long as we yet have not solved the problem of properly distributing what we already produce, one thing that surely could be done long before the final solution of this problem has been found, is by the increased productivity of men, to get women and children out of the factories, to stop all night work which is not absolutely necessary, and to make it possible for many a girl to stay at home and be a part of a happy home who now is compelled to sell herself in the streets of our large cities in order to hold soul and body together.

The Chairman: Mr. Barth, do you look upon a time study in the manner in which it is taken in scientific management, with a certain amount of time arbitrarily added to the time study, as being a scientifically accurate determination of the time that it ought to take to produce an article?

Mr. Barth: Mr. Chairman, I am very glad you asked me that question, because I gladly and frankly admit that some of those percentages are not as scientifically ascertained as we would like to have them, and as we hope to get them some day in the future. We have time-study men who have done enough work, however, to have very good judgment about such percentages, and no harm is done when that percentage is not sufficient, because it is immediately corrected and it helps to better preparation in the future. But the only scientific way, which has been practiced in all occasions where the product comes in sufficiently large quantities, is, besides taking the individual operations and the sum total of these, to take the total time, as a man does a job; as fully explained by Mr. Taylor the other day.

Mr. Chairman, if I were not confronted with the necessity of still, for some years, to make money, I should establish a laboratory where I could study all those conditions at my own expense; and there is, in fact, a group of men now that have seriously under consideration the matter of finding ways and

means to give me money to carry on experiments and investigations of just this kind, which, however, really should be undertaken by the United States Government. We gladly admit that we are not as thorough as we would like to be—who is in this world? But I have the inclination and patience to do that kind of work, as shown by the fact that I spent 15 years on one mathematical problem, and 3 on another, while I have a great many unsolved ones now. However, I still have to work to make money, particularly as I, unlike most people, do not care to have my savings make more money for me through investments; and this, because I believe the time will come when nobody will get the things money now brings except by the personal services he renders to the community; though that time may still be 5,000 years coming.

Commander Long: In your opinion, how would a system of management work wherein there is no premium or bonus contemplated, but where the work is systematically routed, properly, scientifically, and fairly timed, the only recourse being discharge when a man persistently fails to come up to the perfected standards. I use these words advisedly, "systematically routed, and properly, scientifically, and fairly timed, the only recourse being, when a man persistently fails to come up to the perfected standards, to discharge him?"

Mr. Barth: A system of that kind is perfectly workable, in my opinion, but I should not want to lend myself to the adoption of such a system because a system of that kind would be far more liable to result in increased production without the working man getting his share of it.

Commander Long: I was not expressing any opinion; I was just asking a question.

Mr. Barth: I understand that. I am afraid, Mr. Chairman, that with such a system your fears would be more justifiable. That is all.

Thereupon, at 5.10 o'clock p.m., the committee adjourned to meet at 2 o'clock p.m., Friday, February 2, 1912.

Wilfred Lewis

October 15, 1954

December 29, 1929

As we go to press word has just been received of Mr. Lewis's death at sea on his return from the World Engineering Congress in Japan, where he had been serving as a Taylor Society delegate. Details of his life and work will be printed in the next BULLETIN.