

sense it is absolutely not true. The way business is conducted to-day there can be no other way than that the management lays down the general policy. For instance, I do not think that anybody to-day could find exception with the management for either wanting to introduce a system like ours or for not wanting to. I do not think that we could go to work and at the same time canvass the employees to ascertain what their wishes would be in the matter, as it would be impossible at the present state, when the system is so absolutely misunderstood, not only by most workmen but even by most managers, to get an expression of opinion that would be worth anything whatsoever; and for this reason the general policy of management must still be vested in the management.

The Chairman: If the general policy of management must be vested in the managers, and the application of that policy in any manner affect the workman, is it not entirely wrong to have absolute and final power vested in the hands of the management, so as to apply to those workers individually?

Mr. Barth: On that score I used to feel and think a great deal, as a younger man. I keenly felt, and still feel, the injustice of the present order of society. I have suffered much because I have expressed opinions against it to people who are satisfied with things as they are. I have arrived at the conclusion, however, that whatever general conditions exist at any one period of the world's history is, in the main, part of a natural development which can not readily be changed into anything better except through further slow and painful development of each individual rather than of the development of society as a whole.

And I will not hesitate to tell you that the only religious belief I have, the only faith I have, is that some time this world will develop, helped a little through the efforts of men who feel like you and I do, so that all men will be more nearly equal in every way, physically, mentally, and morally, and that that is the only heaven that humanity can ever look for.

I have learned to look upon myself as one of the little bricks in the building up of the future grand humanity, and I want to try to be as good a brick as I can with my limited abilities and opportunities; and in my present work I believe that I have found a little niche in the world that I can fill, not only

without detriment to anybody, but even with some beneficial influence on my immediate surroundings. I am a product of these surroundings; and I have to work in these surroundings as I find them; and I do not see how I can work as an engineer without accepting the proposition, the ordinarily accepted theory, that the manager or the owner of a business has a right to lay out the general policies; because, as a rule, he is a broader man than the men who work for him, and because as an individual he has more at stake, as things are now constituted.

I am very much concerned that the statesman, as his enormous task in the world, shall eventually find a solution for the present wrong order of society, and as one part of that solution the proper distribution of all wealth produced. But I do not consider that it is given me to become a statesman and meddle with those affairs, so I have resigned myself to my fate of doing my share of the world's work as an engineer, whose business it is to do all he can to produce wealth without in any way oppressing any individual or class of individuals, but, on the other hand, to do it along so broad-minded lines that he helps men to develop, so far as possible, into the highest type of normal human beings.

One of the requisites for this is, it appears to me, that a man who works for somebody else is honest both with himself, his employers, and his general surroundings, as regards what he does and can do.

The Chairman: Now, assuming that this scientific management, or the Taylor system, in all its phases, with the exception of those phases that induce a greater expenditure on the part of the workman, are introduced, would you not thus have added to the productivity of the man?

Mr. Barth: Yes.

The Chairman: Having added to the productivity of the man by introducing these methods, and added to the productivity without any increased energy on the part of the man, and with the knowledge that the man's productivity is 20 times greater than it was 150 years ago, as stated here the other day, what social or economic necessity is there for introducing into these systems anything that increases the expenditure of energy on the part of the workman?

Mr. Barth: As regards the expenditure of in-

creased energy on the part of the workmen, we all know that a certain amount of expenditure of energy is absolutely necessary for the normal growth of individuals. We cannot grow into healthy human beings without expending a certain amount of energy every 24 hours, with occasional rests between, which will not be hurtful. However, this is not the case when a man lets on as if he is working when he is not or when he runs his machine at a lower rate than he himself knows that it may be run or a lower rate than we so often can show him how to run it.

I believe that men frequently spend more all-around energy in letting on as if they are working hard when in reality they are doing but little, and this is certainly energy of a most deplorably wasteful kind.

The Chairman: Admitting, for the sake of illustration, that continuous work, uninterrupted, would be beneficial to the productive capacity of mankind, are there not other phases of man's nature that can be benefited by occasional rest from the grind of production?

Mr. Barth: Surely; but I believe that it would be much better if these interruptions were only daily and not by days, weeks, or months, as so many people want them.

The Chairman: Would that not be better from the standpoint of production and not from the standpoint of the comfort or pleasure or happiness of the man?

Mr. Barth: Personally I do not believe so. I find myself far happier when I have enough recreation every day and work every day, including Sunday, for which I make no distinction from the rest of the week, and never shall.

Mr. Redfield: Mr. Barth, is it or is it not the fact that in your system, so far as the man is concerned, you aim to cut out useless and wasted motions?

Mr. Barth: Absolutely.

Mr. Redfield: Is it a fact, and if so, can you say to what extent, that in so doing your aim is to teach the man to do the same or a greater amount of productive work with a smaller expenditure of energy?

Mr. Barth: Either a greater production with the same energy or the same production with less.

Mr. Redfield: The same production with less energy?

Mr. Barth: Yes, sir.

Mr. Redfield: To what extent is it true, if it is true at all, that your system does call for a greater outlay of energy on the part of the worker?

Mr. Barth: I can not say very much on that subject, because my part in the whole scheme has grown bigger than, as a rule, to deal with individual cases, and I now principally have to confine myself to lay down the law to those who deal directly with the workmen. It is only a comparatively short time I can remain with a concern after they get far enough along to get time study going and that is turned over to other men. But these are instructed by me along the lines of never overworking anybody; and if any case arises where there is any doubt, that the man shall have the benefit of that doubt.

The Chairman: If there is no desire on the part of scientific management to have increased expenditure of energy, why the continual protest against the loafing and soldiering which existed under the old conditions and which, you contend, are eliminated under the new conditions?

Mr. Barth: We certainly want increased expenditure of energy where previously there was none, or we want to change nonproductive energy into productive energy.

The Chairman: There have been statements made here of soldiering and about the elimination of soldiering under the new system. If the new system eliminates soldiering, would not that of itself require greater expenditure of energy on the part of the man who had been soldiering?

Mr. Barth: Most assuredly.

The Chairman: Who is to determine what is soldiering and what is not soldiering?

Mr. Barth: I think we have already settled that.

The Chairman: Who has decided?

Mr. Barth: We have already talked a great deal about it.

The Chairman: Who is to decide under your new system, and who decides under the old system.

Mr. Barth: That is mutually agreed upon between the time setter and the man working.

The Chairman: Is it not, as a matter of fact, a question of judgment on the part of somebody as to whether somebody else is soldiering, or is not soldiering, in many instances where soldiering is said to exist?

Mr. Barth: I dare say because I have not been