

in the subject of education. We now have our trade union schools, our workers' education bureau and our regular magazines and other publications. I might say, in this connection, that in the New York building trades, employers, unions and the Board of Education are cooperating in the training of apprentices and that the unions are now providing more apprentices than the employers will use. This, let it be observed, is a reversal of the old charge that labor is deliberately creating a scarcity of apprentices throughout the country.

I will take advantage of the fact that I am addressing a technical group to give expression to an idea that I regard as very important. In any approach that you make to workmen, be sure to use language that is comprehensible to them. Many of the technical terms that I have listened to this evening, such, for instance, as "psychology," do little more than create confusion in the minds of most workmen. I am sure that any essential idea may be adequately conveyed in a simple, non-technical way, and if it is connected with work in which the average workman is interested it will be quickly comprehended.

This idea that the average workman, if given the opportunity, is really immensely interested in his work leads me on to another idea which was featured somewhat by Mr. Wolf in his interesting paper. It is this: I think that a shortcoming in most of the recent methods used by engineers for determining the best way in which work should be performed is that they have failed to recognize the fact that the workman also is interested, tremendously interested, in determining for himself the best way in which to work. It is his job that is being investigated, not the employer's job or the engineer's job, and he should be made to feel that he is participating in its creative development. In this way the old pride of craftsmanship can be awakened and preserved and the worker can feel that he is a useful member of society and is making a worthy contribution to the industry in which he is engaged. An outstanding evil which accompanied the transition from handicraft industry to small-scale machine industry and thence to large-scale machine industry was unquestionably the degradation of the workman's job first through the introduction of machines and later through excessive specialization. The problem of counteracting this evil and restoring pride of craftsmanship to the worker is worthy of the serious attention of our best engineers.

While the labor movement requires neither justification nor apology from me, I never lose an opportunity of mentioning in public addresses its more important accomplishments for the working class. I mention them because the general aims of organized labor have in the past been grossly misrepresented by labor's enemies, and also because I have found that such a recital encourages a friendly attitude towards us. Such an attitude obviously must precede any desire to cooperate with the labor movement. What then has organized labor accomplished for the workers of America? It has been successful in securing the eight hour day and forty-four hour week. It has fought to keep labor's wages ahead of the increasing cost of living. It has been largely responsible for the establishment of free public education. It has secured the passage of legislation protecting the lives and health of workers. It has secured the establishment of workmen's compensation laws in the majority of the states. Through its benefit features it has helped the sick and unemployed. It was largely responsible for the passage of the first Free Homestead Law in 1862. It has finally secured the passage of restrictive immigration legislation. It has worked consistently for all measures that would tend to eliminate wars. The American Federation of Labor has consistently opposed violence of every form. It has prevented the spread of the doctrines of the radical I. W. W. in this country. It has consistently fought all attempts of the Bolsheviks to get control of American labor.

You will perhaps hear it said that relations within the American Federation of Labor are not harmonious and that there is a more or less constant undercurrent of internal strife going on in the organization. Also you may hear that the unions and individual members are unsatisfied or that the membership is falling away. All these things are said about us. I wish to inform you that there is not a particle of truth in any one of them. Relations both in the Federation and in the organized industries are essentially harmonious; there is a strong spirit of loyalty and solidarity everywhere and as far as the membership is concerned the following figures speak for themselves. In 1886 it was estimated at 150,000; in 1899, 300,000; in 1904, 1,650,000; in 1914, 2,000,000; the total membership is now approximately 4,000,000 and growing. This indicates the consistent manner in which the American Federation of Labor has grown and developed.

I will refer very briefly to the matter of strikes. I do not believe in strikes. I think that a strike is a great misfortune not only to those immediately concerned but in the majority of cases to the general public as well. I believe that every effort should be made to avert strikes, and that they should only be resorted to when all other methods of reaching an agreement have failed. I believe however in the right to strike which is admitted according to our law. The mere fact that this right exists serves to deter a host of unscrupulous employers from imposing unfair and disadvantageous terms upon workmen, where otherwise they would not hesitate to do so. I agree with Mr. Brown that the development of cooperation between management and the labor movement for the elimination of industrial waste will also develop automatically a mighty agency for the elimination of industrial conflict. A satisfactory solution to the entire problem will, in fact, be found only along such lines.

In conclusion let me say that I don't want to see conflict. The new thought among the engineers is safe. The principle of cooperation between labor and management is fundamentally sound and cannot fail to discover a constantly widening field of application. There will be more papers like Mr. Brown's. The trade union movement will go on.

John A. Fitch.¹⁸ The most significant thing about the paper and the discussion this evening is the evidence afforded of open-mindedness and capacity for readjustment in the membership both of the Taylor Society and of organized labor. This sort of meeting could not have been held ten years ago. At that time there was such deep suspicion in each group of the motives of the other as to make conference and cooperation practically impossible. Many of you remember the rather hostile reception given in a Taylor Society meeting in 1915 to a paper by the late Robert G. Valentine on "Efficiency and Consent." At that time also the subject of scientific management was never mentioned in a labor meeting except for purposes of derision. It was this relationship, apparently so firmly entrenched, that led Professor Hoxie to the view mentioned in Mr. Brown's paper.

The changed attitude in both groups that is so clearly indicated by this meeting is the best pos-

sible augury of improved relations in the future. The unions, formerly centering all their efforts on distribution and taking no responsibility for production, are now coming to see that they cannot have the one without the other. It is the Machinists' Union, which fought Frederick W. Taylor as no other union did, which now has its own consulting engineer to advise on matters of shop efficiency. The engineers of the Taylor Society, who were equally stiff-necked toward unionism ten years ago, are changing their attitude in an equally significant way. Men like Mr. Brown and Mr. Wolf have proved that Mr. Valentine was right in linking efficiency with consent.

This new attitude does not, by any means, offer a solution of the "labor problem," but it is, to my mind, a social and industrial phenomenon of utmost importance and one that more than any other single thing holds promise of a new and constructive era in industrial relations based upon principles that are both economically and ethically sound.

H. C. Metcalf.¹⁹ Mr. Brown's paper is a real contribution to the growing body of literature that is helping us take a constructive view of the hitherto regarded "inevitable conflict between employers and workers." I am in thorough accord with the central theme of the paper, viz., "that these old beliefs are rapidly becoming obsolete and that the logic of events is throwing into constant relief the fact that the troublesome problems in our human industrial relations may be adequately solved only by development and exercise of this same principle of cooperation."

The common interests of employers, workers, and society, according to the general conceptions of scientific management, are protected through (1) the elimination of wastes (material, time, energy); (2) improvements in processes and methods of production; and (3) just and scientific distribution of product. According to my understanding of the basic principles of scientific management, Taylor taught that there is a fundamental harmony of interests between employers and workers; that high productivity, high general wages, good working conditions and low labor cost constitute a good working quartet; that militant force and subjective opinion must yield to fact and scientific truth; and

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