

Economic Club of New York

The New Conception of
Industrial Efficiency

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Hotel Astor
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Introduction

William McCarroll

Ladies and gentlemen of the Economic Club, and guests: You will, I am sure, share my regret, though undoubtedly yours—yours no less than mine—at the absence of our President and Vice President this evening, which accounts for my presence, at the request of the Executive Committee, as presiding officer.

Before proceeding with the discussion of the evening, we shall listen to a report from Mr. George Havens Putnam, Chairman of the committee appointed to prepare a memorial to our late Vice President, Judge Whitney. Mr. Putnam.

Mr. George Havens Putnam: Mr. Chairman and gentlemen the Economic Club. The Committee appointed to draft resolutions expressing the grief of the Club at the loss of their valued member and Vice President, reports as follows, for your consideration:

(Here follows resolution)

(Reading of resolution followed by applause)

MR. MCCARROLL: Gentlemen, you have heard the report of these resolutions. Out of respect to the memory of our late associate, if it is your pleasure, we will adopt the report and the

resolutions by a rising vote. I ask you all to rise.

(All present rise)

MR. MCCARROLL: It is neither my purpose nor my province to make any extended remarks in introducing the subject and the speakers of the evening. The subject, as stated, is “The New Conception of Industrial Efficiency.” These are the days of new conceptions; new ideas, and new ideals; though some people seem to think that they are not so new, all of them, as they are called. And some scorners make light of some of the new conceptions; but those who are optimist, I think, agree that the new are better than the old. They are the expressions of progress. And the ancient proverb still stands true; that where no vision is the people perish. The couplet of Bishop Coxsey is often quoted as well describing the age in which we live:

“We are living; we are dwelling,

“In a grand and awful time;

“In an age, on ages telling;

“To be living is sublime!”

And in my thinking, there often comes to me the thought, that in our age we are not only the inheritors of the past, but there is being gathered up into full fruition the results and experiences of all the past, and we see almost in fruition the accomplishment which are the results of all that

has gone before. And yet we have not attained, but we are pressing on. To change the figure our age is like the explorer who passes by slow and tortuous steps through the foot-hills until he reaches some eminence, when very much to his surprise, there lies before him a broad, expansive view of all that he was in search of; and in the distance—in the distance, but still in sight—the grand summit for which he strives. And so, gentlemen, we in this age are pressing on, with a new conception, and not having attained, but having in sight the full fruition of it.

Now we have new conceptions of a great many of the great questions of the day; most all of the great questions of our time we have a new conception of. Take for illustration—and you will pardon, perhaps, the reference which occurs to me—Take for illustration the question that is always with us, and has been always with us, the tariff question. I am not going to introduce politics, but you will very well remember that years ago one of our great men, if not one of our great statesmen, said that the tariff question was a local question. And while he was laughed to scorn for that, there was a great measure of truth in it. Take the tariff questions as we see it today, with our new conception, and what do we see? We see that it is not only a national question; it is an international question; because we have anew conception of our relations to the nations of the world. And so we have a new conception of it; into the tariff question there is brought the great principle of reciprocity, which is now an engrossing question, and in the progress of which we shall take part. (Applause)

And take a further illustration, that larger questions, the question of armament and of war, which

concerns every nation on the face of the Earth. It has become now a question of national relation, worldwide; and we see, with the new conception, what may be done—we see the progress that has been made—and we see, I believe, the time closer at hand than we have dared to dream, when through the negotiation of such treaties as the Arbitration Treaty, which is proposed between our country and Great Britain, and which is shortly to be acted upon, we hope favorably—through such means war will pass from the Earth, even before we of this time had thought? (Applause)

And so, coming down to the question of the evening; “The New Conception of Industrial Efficiency.” We look back—and it is not so long we have to look back—to the time when the doctrine was accepted that “Competition is the life of trade.” Now we see the limitations of the doctrine that competition is the life of trade. Some people think it is not opposed entirely to the contrary principles underlying, and say that competition to a degree is still the life of trade. But we have passed on to a further conception, a conception of the efficiency of combination and of cooperation. And out of these comes the subject of tonight; the New Conception of Industrial Efficiency, because it is making efficient those great combinations, making efficient their workings to the finest degree, reducing them, as we say, to a science, that will at least bring the full efficiency of which we are to hear further tonight.

Now, gentlemen, without taking up more of your time it gives me great pleasure to introduce as the first speaker of the evening, Mr. Fagan. I need no more than mention his name. He is known doubtless to all of you as a writer of repute, and perhaps known to some of you, as he is known

to me, better by this work under the title of “The Confessions of a Railroad Signal Man.” Mr.

Fagan! (Applause)

First Speaker

James O. Fagan

Mr. Chairman, and gentlemen of the Economic Club: My voice is very small, but I will try to do the best with it.

It is impossible to discuss the status and prospects of scientific management on railroads without a short survey of antecedents and of betterment. And to begin with it, it may truthfully be said that perhaps the most important problem with which American public opinion has to deal at the present day is the simple question: “What is the railroad; Who built them? Who owns them: Who manages them? And above all, who is to own, build and manage them in the future?” But hidden away in these railroad problems there are also national problems of still wider significance. As a matter of fact the American railroad today is the principle arena on which the advocates of socialism, government ownership, the rights of the laboring man, on the one hand, and the principles of individualism and competition, the methods of capitalism and others, are displaying their forces. Experimenting with their doctrines, and in a general way battling for supremacy. In this way, with constantly increasing emphasis, the railroad is becoming the testing ground of the civilization of the future. Surrounded with issues of worldwide importance, and made the butt of

every variety of social, industrial and political reform, and of every mode and form of reform, as it seems to me.

Railroad administration in America now has its back to the wall, and has entered the most acute and significant stage in its history. The American railroad today may be looked upon as the national Sphinx. It has a question of vital importance to put to the whole people. With a significance that is unmistakable it propounds to the nation a riddle of social and industrial progress. Private or public ownership, without consideration of brains of industrial standards of business ideals or individual character. On the one hand, “Well regulated social, industrial and political freedom, and on the other social, industrial and political bondage.

The situation itself on the railroads, where the problem of efficiency, for example is now being found out and fought out. In all these variations there is instruction. It points with great illustration. For example, do you wish to experiment with an invention of any kind? Try it on the railroads. Would you like to test any social or industrial reform movement? Try it on the railroads. Would you like to know anything about efficiency results relating to general business interests? Try it on the railroads; or if you would like to know anything obscure and problematical, then study the problems and situations on the railroads, and at their expense!

(Applause)

Do you wish to know to what extent labor should be permitted to dominate capital, and to

establish its own standards of wages, conditions and efficiency? Just stand on one side, and watch the game. It seems to be all the same to the spectators. Let the contestants fight those problems out, you know, on the railroad. The railroad exchequer, the managing department and the public safety are at stake; but never mind, the picking of a few facts is sufficient to dump anything on to the railroad for experimental purposes. (Laughter and Applause)

The way some politicians go to work in these cases would be amusing if the methods adopted were not questionable. I have in mind a legislative session in Texas some three or four years ago, when the railroads were informed by the politicians that their constituents would require them to show results in the form of anti-railroad legislation. That was all there was to it. What followed was simply a surgical operation performed on the railroads with the politicians as the saw-bones. (Laughter) No specific shortcomings of the railroads were then hinted at. On the part of public opinion it was simply an appetite. On the part of the politicians it was simply a “job”.

Now, continuing our survey of conditions and environment, certainly one of the most astonishing facts of modern civilizations is the influence, both for good and evil, of the word “axiom”, which under our present strenuous conditions is permitted, really too often, to degenerate into a mere catchphrase. An axiom, of course, is a self evident truth, which is taken for granted as the basis of reasoning. Nowadays as soon as one of these high sounding catch phrases has succeeded in arousing attention, and establishing itself in popular favor, it at once proceeds to dominate the situation. In social and industrial matters, nowadays, nearly all problems are submitted to the test

of this popular catchphrase. If the progress in connection with the problems is in line with and recognizes truth of the catchphrase, the situation is supposed to be sound; otherwise it is open to the gravest suspicion, and as a rule it is fixed upon by public opinion and chased off the field.

Now, in the building and administration of American railroads there are a number of those catchphrases, which now seem to dominate the situation, and influence the railroad business and policy from one end to the other. Among these popular catchphrases are: “Equality of opportunity”, “Special operation and public utility”, and last, but not least, “Scientific management”. (Laughter)

Ex-President Roosevelt, in a series of editorials on the general subject of “National improvement and progress”, in the “Outlook”, has placed himself on record as an exponent of this catchphrase hobby-horse, which he and others are now riding to death. (Laughter) He and his followers seem to look upon those axioms, not as propositions which must be sanely and cautiously dealt with, but as great practical facts, by their interpretation of which all movements and all efforts must be directed.

Now, of all the propositions that for a long time have been brought to the attention of the public, these problems of securing the maximum efficiency in general work by the application of scientific methods are the ones which should be the most thoughtfully and cautiously dealt with. Over and over again we have been informed by the scientific engineers, that scientific

management can be applied to railroad operation and maintenance with absolute certainty as to results. In backing this up the efficiency engineer points to his table of statistics, and to financial and other results, and then says, in very plain language to the manager, “here you are; here is the thing itself. We present you with ideas and plans that demonstrate the results, financial and otherwise, in concrete, unmistakable form. All you have to do now is to adopt our methods in order to reap all sorts of industrial, moral and financial harvests.”

But as I look at it, the problems has not yet been settled either one way or another, beyond certain experiments; which have not gone far enough to become part of the history of American railroads. It is true that what is known as the Santa Fe case—that in what is known as the Santa Fe case we have an illustration in miniature of the possibilities that are locked up in the so called scientific treatment worked on a railroad. But, nevertheless, the whole business is probably but part of a still greater main problem, which is still awaiting adjustment. It is very well to select your ground, expel your adversaries, remove your obstructions, install your plan, operate it, and then you reckon your profits by the millions. In spite of this, however the problem itself, in all of its wide human aspects, when the time comes, is still with it.

However this may be, it certainly calls for something beyond the world of the scientific and legal acumen which is represented on the affirmative side of this discussion on scientific management. So far as I can make out the meaning, the attempt to secure efficiency in railroad work has received the approval of the great army, of what may be called “social and scientific service”;

and the newspapers and magazines have simplified the matter for the benefit of millions of readers. The facts and figures in the case have been verified a thousand times. The enterprise itself has been surrounded with the hale of popular and academic approval, and a shop of scientific management has been arranged under the most auspicious circumstances. But after a theory has been advanced and carefully tested a man naturally resorts to ways and means. And in regard to these ways and means. I intend to confine myself exclusively to the railroads. The topic is big enough and the field is wide enough. But, lest at times the latter part of my address may seem to forget itself, I shall start with the general statement that generally speaking while I believe in scientific management applied to every sphere of human activity as a future asset, in railroad betterment, where it is present today, I look upon it to a great extent as a dream.

(Applause) For the situation on the railroads today is most peculiar. As I look at it, it is a strong, almost terrible situation. The climbing and struggling to develop the situation, dealing with the main problems of tremendous importance which are being worked out in a specific way by certain forces that have never had the handling of affairs before in the world's history.

Now, connected with betterment work of every description in a democratic country, there are always certain drawbacks to issues, relating to issues and the conduct of individuals and rulers, that wait for consideration and solution at every stage of the game. In this way, and very naturally, the problem relating to the scientific management of railroads calls for careful scrutiny of the conditions and the men to which our scientific operations are to be applied.

As a matter of fact the railroad today the principle factor with which the scientific engineer has to deal is the employee. It is becoming more and more apparent to those who are carefully watching the trend of affairs in the railroad world, that the responsibility for the peaceful or violent readjustment of railroad conditions in the future will, in the main, rest with these wage earners. As a thoughtful writer in a recent issue of the *Railway Age Gazette* has stated the case; “The wage question and those collateral problems stand out by themselves; nor is that question a simple one, expressed in the sum total of the millions of dollars that show the wage increase. It is complicated by the continued and increasing assertiveness of labor; by its successful demand for shorter hours and more limited runs and its restraint of piece work, and diminished efficiency due to that, and with the rulings of the union replacing loyalty to the corporation and responsibility to the operating manager.” Whether we agree with this summing up of the situation or not, the fact remains that this is actually a human, material and industrial prospect with which the modern railroad manager has to deal; and as far as I can make out; these employees do not wish to have anything to do with scientific experiments in regard to their payroll and their conditions. (Applause) It is actually the individual and collective decision of labor on the subject.

The way the two forces, labor and management, line up on the matter as somewhat as follows. Scientific management says to the employee: “look here, I am running this business, and I have worked out and drawn up a scientific schedule, and I propose to standardize conditions, operations and the payroll. By this method better work, better wages, and withal, economic

system can be shared all around. I would like to secure your cooperation in the matter. Your job is now going to pay a wage, in a general way, according to the energy and brains you put into it.” On the other hand the employee retorts: “To begin with,” he says, “I am not so sure about your position. In fact I come pretty near to running a good share of this business myself; so I may as well tell you right off, that this job is going to pay me, not exactly what I put into it, but just as much as by hook or crook I can get out of it. (Laughter) As a matter of fact, at the present day, the legitimate manager and I,” the employee continues, “are going to do the best we can in this matter. Of course it is easy enough for scientific people to suggest all sorts of economies and improvements, but the labor interest is a tremendous force on the railroads today, and at all costs we must get along harmoniously with the management. In butting in and forcing the situation, and in trying to hold the modern manager up to public censure on account of this unscientific measure, you are doing more harm than good. And, by the way, what is all the rest of the world doing all this time along the same lines? Have they all got the scientific bug in their bonnets?” (Laughter)

Not a bit of it. As a matter of fact for a number of years past, the railroad employee, whom you now propose to doctor in your own way, has been systematically pillaged and abused by outside forces, in no ways connected with the railroad. We have no desire to be scientifically treated; thanks!

I am not one of those who believes in unnecessary muckraking, or in the reciting of goes(?), but

the employee must not be deprived of his illustration, especially when evil still exists, perhaps in modified form, so he remarks: “What do you think of an award of nine thousand dollars to the widow of a railroad man, whittled down to three thousand dollars before she even got a penny of it. Is this scientific management?” The railroad man is not satisfied with clothing these arguments in figurative language, and the more he thinks over the existing problems of economy in railroad work the less he cares for the overtures of the scientific engineer. Of course it is too bad, and the advocates of scientific management and efficiency are surprised, almost sorrowful, when, in spite of all their plans and promises, labor remarks, as Hamlet did to Ophelia, “I love you not.” (Laughter) And the response in both cases is “I was the more deceived.”

Be this as it may, the employee on the railroad today has also a solid background of business advantage already secured, which in its present stage the public may not exactly like, but nevertheless the illustrations I am about to give you will at least demonstrate the practical and financial reasons why the railroad man interposes objections to scientific treatment.

For instance, some time ago, I myself was called upon to go to work just one hour and a half before my regular time to appear on the job. I got an extra days pay for this hour and a half. The schedule arranges this as they are now regulated. Would scientific management treat me any better? (Laughter)

Again, I have in mind a certain train crew that works in a locality where there is switching to be

done all day long, between widely separated side tracks. Two or three tides a week on an average, this crew is called upon to drop its work and take a little trip of a mile or two away from their regular stomping ground. When this happens they get an extra days pay for the work, although it comes easily within the time of the stipulated days work. The railroad business is honeycombed with illustrations of this nature, going to show that the railroad man's schedule has scientific management beaten out of sight! (Laughter) that is to say, considered as a financial attraction to the railroad man.

At the same time, it must be remembered, that there are features connected with the railroad man's handling of his own interests which are very unsatisfactory from the viewpoint of the public. For example, I saw not long ago, in one of the large terminals, a coach on a passenger train as derailed by reason of rough handling and miscalculation. It was perfectly possible for the engine that was attached to that train to replace the car upon the track, and the work, so far as the employees were concerned, easy, but there were wider interests at stake, and they thought it was a job for the wrecking crew. This meant a delay to the public of some forty minutes. But regardless of our opinions in these matters this is actually the situation with which the legitimate manager on the railroad today is confronted when he attempts to adapt himself to scientific principles.

Up to a certain point efficiency progress and the railroad man's schedule is somewhat similar in its theory. The efficiency engineer says to the worker in so many words, "each man shall be

gauged to a definite hourly rate, the rate being the current local rate for his trade or kind of work. This rate will be paid for every hour he works, irrespective of his efficiency.” From this point onward, however, the plans are radically different. But there is still more to be said on this subject. In this matter of scientific management and its application to railroad work it is like many other problems in which principles and practice differ. So far as the theory of scientific management is concerned the verdict of thoughtful people, taking a general view of the matter is bound to be favorable. Now, granting the correctness of our principles and the satisfactory results to be expected when our hands are free to apply our methods in our own way; there still remains the question of expediency. Absorbed in the working out of this philosophy and scientific calculations, the efficiency engineer troubles himself but little with this matter of expediency. He takes it for granted that sooner or later expediency must bow to the demonstrated economy of efficiency. If he thinks this is the logic of the situation as it relates to us, he is very much mistaken. He fails to take into account either the opinions, the plans or the strength of the railroad men as a body, or the position and functions of the railroad manager. Whether we enjoy the situation or not, as a matter of fact on the railroads today, for industrial, social and political reasons, the expediency difficulty in regard to the efficiency problem over shadows every other consideration. The efficiency doctor, however, does not propose to be checked with any such argument. As he looks at the matter he is either right or wrong. So he insists on butting into the railroad business, and shouting at the top of his voice that he would like to have this matter settled once for all on its merits, and in his favor, so that his principles and methods may be applied and extended unto every branch of the railroad service? (Laughter)

Gentlemen, the efficiency engineer has an awful job on his hands. (Laughter) Strange as it may seem his principle opponents are the railroad men, railroad managers and the railroad men. The manager's position is easily understood, for the manager on a railroad is an expediency engineer. All problems and issues are in his pigeon holes. Of all things he desires efficiency of service and the application of scientific principles. But as a matter of fact his desires and opinions cut very little figure amidst all the jumble of diverse scientific propaganda, and the no less insistent demands and threats of organized labor. He is called upon to hold the reigns in the interests of the whole people. Out of the cauldron of political and industrial interests and contentions on the railroad, he must pluck, by hook or by crook, in some way, the flower of satisfactory service.

Just a word or two about the manager's side of the problem. It is not necessary to call in an efficiency engineer to apply scientific methods to railroad work. The very first consideration in the mind of the manager of the employee. To tell the truth, the railroad man is a proposition, and the railroad manager is on the job. The views and prospects of the railroad man are voiced very distinctly at a mass meeting of employees held at Boston a few days ago, where the remarks of one of the principle speakers were as follows: "It is the combined labor of thousands, and it is the workers who make it possible to run a railroad. We stand on an industrial battle field, with nothing but our labor to sell, and we must have organization to assure us what pay we shall receive, and what conditions we will work under. It is my contention," the speaker continued "that we must reach the stage some time when everyone employed on a railroad will belong to a

union, and all the unions to one federation or brotherhood of railroad employees. When that day comes we will not need the injunction, nor fear it. We can call out every man on a railroad unless our just demands are granted.” What is the object of scientific management, as arraigned with this state of affairs on the railroad today. It must be remembered that this position of labor is not only sound and logical from the employee's point of view, but public opinion, expressed in all sorts of ways is actually encouraging the employee in the evolution towards safeguarding of his own interests along these lines.

Practically speaking this survey refers to men in every type of railroad service, and consequently the manager has to take the situation as he finds it, and deal with it as best he can.

But, now lets get a little closer to our subject, and see if we can discover what it is that the efficiency engineer and advocate is now offering to railroad men in the interest of the payroll, and the general well being of the worker. Let us take a concrete illustration. Take for instance the item of locomotives and car repairs. In Claiborne Texas, we are told, prior to the introduction of efficiency conditions there were continually from six hundred to seven hundred freight cars on the repairs tracks, with a force of over 260 men, and an average payroll of \$11,750. Since the introduction of efficiency principles, cars detained for repairs have averaged only 200 per day, the force has been greatly decreased, and the payroll reduced to \$10,300, and that each individual worker earns much more; the bonus plan having replaced the piece rate. Now let us be fair to the railroad men in this matter. It would be very nice, of course to have him pleased with the theories

of other people in such matters. At the same time you have no business to be horrified if he hesitates. So, taking car repairs as a unit, and railroad men as a larger unit, acting for the interest of labor as a whole; what are the attractive features in this illustration that can be depended upon to appeal to the sympathy and honest cooperation of these workers? The proposition, if we clothe the illustration in a different dress, and remove the scene of active trial from the railroad, it will not be necessary to answer this question in detail, but to call your attention to the moral contained in it. Supposing then, we see in some large city, prior to the introduction of scientific methods as to expert operations, there were continually from six hundred to seven hundred law cases of various kinds in various law offices, and in attending to them was a force of two hundred and sixty lawyers to take care of them, and an average monthly payroll of \$11,750; and that since the introduction of scientific and efficiency principles in such matters, the causes retained for adjustment have averaged only two hundred per day, and the force of lawyers has been greatly decreased, and the payroll has been reduced to \$10,300; although each individual lawyer earns very much more, since the scientific plan superseded the scrambling method.

(Laughter) Like the rest of the world, at the present day, an employee can stand scientific treatment in small doses; but when it comes to the other fellow doing all the planning and all the figuring, the railroad man rises and remarks, “how about his plans and specifications and ideas, which he begs to submit to the attention of the public.” Without multiplying showing the all round benefits to be derived from the application of scientific principles to railroad work; only give the efficiency engineer and the scientific manager half a chance and they will simply overwhelm you with facts and figures, the perfection and practical utility of which no man in his

senses will attempt to gainsay. But unfortunately for the application of scientific principles to railroad work, the problem at the present day, as I think I have demonstrated, is surrounded by an industrial situation to which, as I look at it, all other issues are just now subordinate. It is true, too, the manager is not receiving kindly all outside assistance. It is true of all this regulation, that half of it is direct interference; but while the manager is being regulated from every office in which he has anything to do as a free hand, it is true some people have the idea that the government can regulate the transportation problem and the collection of labor in the same way that the manager and capital can be regulated. A greater delusion never existed, as a matter of fact. Under written laws the things of organized labor are not subject to legislation of any kind, and the leveling processes of modern industry towards the leaving out of individual initiative and the elimination of personal responsibility are beyond the reach of human laws.

Yet what becomes of scientific management and industrial efficiency when its ideas and tendencies have full swing? Let me take a concrete illustration. A few years ago, the boy in the signal tower where I worked earned thirteen dollars a week. Today it is different, and he gets within a few cents of nineteen dollars. In those days we used to have duties of a varied character, outside and inside to attend to. Today we confine ourselves to the trains and to the manipulation of the interlocking machines. Our schedule, and the efforts of our union has brought about these satisfactory results. The work in the tower is divided into three shifts, morning, afternoon and night. Formerly those shifts carried different rates of pay, according to the work, responsibility and scientific treatment. All those things have now been banished, and the men in this tower are

paid alike, regardless of their experience and duties. We now have a rule in the schedule which calls on the day man, after thirty years service, in this instance to take his turn with the others working nights. In this way all distinctions between the men, as to conditions, have been obliterated. If the advocates of scientific management and industrial efficiency want something to do, let them take the problem right down here at the root. Every railroad in the country is honeycombed with illustrations, in which there is not only want of scientific management, but no management at all, by the schedule and the government regulator. Take the requirements in regard to house of labor. Time was if I wanted to get off duty for some urgent personal reason, I could, with the permission of the superintendent call upon one of the other men to relieve me. For 25 years I watched this method of handling the men, in a human and scientific manner, and never knew it to be abused. Today, if you want to change shift with another man in order to go to a funeral, you will be referred to the Interstate Commerce Commission. (Laughter and applause) No man can exceed his time limit of nine hours, except in cases of emergency, according to the accepted ruling in such matters, and you can't plead emergency for anything you can foresee. (Laughter) When a man is dead and you can foresee the funeral. (Laughter) Therefore the only funeral a signal man can go to is his own. (Laughter) Of course if there happens to be an extra man around you can get away by losing a days pay. But what becomes of scientific management and economy in such cases from the employees point of view?

The fact of the matter is the manager has been robbed out of his job, and his power and sphere of influence decrease, literally, because of the demand of public opinion that he should exercise

scientific engineering.

Personally I am in sympathy with the men for the application of scientific principles in railroad work, when it is not providing a plan to bind us to an industrial situation with which it is now surrounded. I cannot help being profoundly impressed with the results of the method to which our attention has been called from different quarters on the Santa Fe railroad, and elsewhere; but the fact remains that scientific treatment, today, is as a rule only successful in spots, and before there is any radical extension of scientific management along the lines indicated in the railroads we should have the alternative presented to us, and they should be tested out with unmistakable certainty. J. J. _____ then chairman of the Interstate Commerce Commission speaking to a meeting of the men connected with the supplies and equipment of railroads, held here in New York, a short while ago, described the situation as follows: "You know better than I can tell you if government regulation is voted a failure, behind that will stand government ownership, with all its attendant revolution in our social life, its social dangers and its peril to republication institutions." Added to this comes the statement of the president of one of the largest railroad systems. "That we are much nearer government ownership in this country than railroad men care to admit." For my part I cannot look at the problem as a whole in that light. To tell the truth, I have unlimited faith in the men and the management of the railroads today. If public opinion itself insists upon regulating the whole business into a sort of industrial monstrosity, there is going to be a whole lot of come back to this business. There are now signs that railroad men all over the country are growing more tolerant, reasonable and individualistic in their treatment of

questions that concern the public as well as themselves, and they have been building up a system from which they can now operate and legislate for themselves in safety. From the standpoint of the individual worker this means broader vision applied and a wider recognition of duties and responsibilities.

In a democratic country the strength of labor is its greatest promise of freedom. Any people can afford to be just and tolerant to all manner of rights and individualism. Along these lines I think, I hope, the American railroad man, with his strength and splendid opportunity, is destined to lead the way into a new and better era of industrial relations. (Applause)

MR. MCCARROLL: Mr. Fagan's remark, that the efficiency engineer had a hard job of it; well, there is one with us, who is right on the job. I have great pleasure in introducing Mr. Harrington Emerson, who will discuss efficiency. (Applause)

Second Speaker

Harrington Emerson

Mr. Chairman, ladies and members of the Economic Club: I come before you tonight to uphold two principles. One is that all the experience of the ages shows that larger and larger results are achieved with less and less effort; and the second principle is, that increased efficiency means more opportunity for employment, not less.

To illustrate the fact that increased output does not mean increased effort, and to show the nature of the criticism advanced against scientific management, I shall tell you a personal experience I had a few weeks ago.

I went into the repair shop of a large New England textile mill, and was shown through it by the president and the master mechanic. And after we came back the president asked me what I thought of it. I made the somewhat unwise remark that it wasn't very efficient. That is about as unwise as telling a mother her baby isn't handsome. The master mechanic bridled up at once, and he said: "do you realize, Mr. Emerson, that this is a repair shop; that we have emergency repairs to make; that we can't stop and apply time studies to motion, get out sketches, and all that paraphernalia of scientific management." I could have told them I had been in repair shops for twenty years, and had considered that point." But I was silent. The president said, "let us go out in this shop and see what you mean." So we walked out, and we came up to a shaper. In that shaper was a little piece of steel being worked, about the size of that card. (Illustrates with card) The tool was cutting air about three quarters of its stroke and on the steel only one quarter. The efficiency of the tool was only 30% allowing for clearances. The speed of the tool was very slow. It was an old shaper, made before the days of high speed steel. The efficiency speed was also only thirty-three percent. It was a diamond pointed tool when it should have been a spoon nosed tool, and it was taking off the sixty-fourth of an inch at a time, when it should have taken off a sixteenth. The efficiency of the bite was only twenty-five percent. The man was taking four

cuts instead of two. He should have had one broad cut and another scraping and finishing cut; but he went over it four times. So the efficiency of the cut was only fifty percent. The net efficiency of that operation was only one and one quarter percent. It was taking eighty times as long as it should have taken. I said to the president: "It makes no difference to me whether this is a repair shop, or whether you are manufacturing things and I will admit the proposition this work ought to have been done here, though I very much doubt it, admitting that that was a necessary repair in a shop that was under scientific management, you would not cut air you would not move at slow speed, you would not make four cuts, of a sixty-fourth of an inch, you would not make four cuts when two were enough. It involved no extra work on the part of the workman to do that work in a proper manner"

And as I have gone out through this land, both in industrial shops and in railroad shops, that is the thing I have encountered. But not quite to such an excessive degree. That is the kind of thing we see everywhere, in the industrial shops even more than in the railroad shops.

I could stop really right here, but I shall elaborate on those two themes that increased result means lessened effort, and that efficiency does not mean less work.

Some truths are so obvious we cannot see. One of Poe's celebrated tales is entitled "The Purloined Letter;" a letter stolen and hidden away so that the most careful search could not find it, though it was in plain sight all the time.

For centuries mankind persisted in believing that the world was flat. Our eyes told us that the sun and moon, at least, were circular. Any child with a cherry could demonstrate that the phases of the moon proved it to be circular. The disappearance of hulls of vessels below the horizon proved the curvature of the earth, and the shadow of the earth on the moon in eclipse verified it. Yet humanity persisted in thinking the world was flat. There are other truths, just as plain, just as obvious in the economic realm, just as much overlooked as was the roundness of our world.

It is a fundamental truth that progress of any kind as well as destruction, is made along lines of lessening resistance. The whole theory of evolution shows that having won the first step more is accomplished with less work with less effort.

It is on this truth that scientific management rests. Some of my friends, the labor leaders, have come before the public, and say that we are efficient. This position of theirs rests upon four fallacies. The first is that the partisan has the right not only to plead but also to decide the cases; that Mr. John Mitchell, Mr. Stone, Mr. Gompers and Mr. Morrissey, have not only the right to set forth the claims of labor, but also to define its rights, and no pleader, no interested party, whether manager or worker, can appeal. The investigator decides what is right and fair and true.

The second fallacy is that the laws of evolution can be staid; laws that began before humanity was, and that will continue to operate after humanity is no more. In the great movement of the

adjustment of the workers to the world's work, the three classes, workers, managers and capitalists, have again and again butted their heads against stone walls, simply because they didn't know what they were about.

The third fallacy is that more result necessarily means more work; that the economies proposed by greater efficiency, by mere commonsense are only attained by adding to the burden of the worker.

The fourth fallacy is that increased efficiency will throw good men out of employment. It is not only workers who disregard fundamental laws. Managers have sinned more in this direction than workers, and have been more responsible.

Labor has today about sixty percent efficiency in this country, and capital is only three percent efficient. Efficiency workers have a right to demand economy in the use of capital, and that capital's waste should be eliminated, at least to the same degree that labor wastes are. If the three wastes of capital were eliminated, and the other four wastes, the capitalist would be so strong he need fear no combination of workers; he would have done for them most of the things they expect.

I do not in the least blame labor leaders and workers for viewing with suspicion any new plan that is presented. Too many lemons have been handed out in the past, though sometimes the

handers-out really thought them oranges. Skepticism, investigation, an experiment also are justified, but not intelligent opposition. One labor leader on a platform made a great point of the fact that when men were guaranteed a days rate and regularly paid, they had no need of a bonus; and he seemed to think this was a defect of the system, not knowing, apparently, that no tow babies, and no tow men or women, are exactly alike, after I had denounced piece rates as objectionable and wrong in practice.

Another well known labor leader, who has my highest respect for the good work he has accomplished, declared efficiency was piece rate in disguise. Recently I spoke at the same meeting on scientific management with two eminent labor leaders. Said one of the speakers: “managers are responsible for many of the evils that exist in plants; conditions are not standardized. If there is to be greater output, and if it is in any way due to the intelligence of the laborer, or workers, that he should receive greater reward, and proper safeguards should be thrown about health and life. I am willing to suspend judgment and investigate this.” This was a labor leader. I did not ask him for his cooperation and advice. I have my own work. Said another speaker, “common sense puts responsibility where it belongs; it excites no interests, encourages no special stunts and rewards no special stunt. Thus I think there are twelve different standards, eleven of them can be given as reasons of scientific management, and it must be for the purpose either individually or collectively of increasing the amount of work per hour and paying more to the workers per hour. There is no possible escape from this conclusion. Under this new efficiency the public may profit by lower prices; sellers may profit by a greater output, and lower

outlays and stockholders may receive larger dividends; but first and foremost the man who supplies the brawn and energy and puts muscle into it, ought to receive increased pay, and if it is withheld efficiency is sure to decline, because it is demanded by both commonsense and justice. In justice and efficiency are incompatible.”

Said a third speaker, “in England three hundred bricks are considered a days work for a bricklayer; and apprentice boys lay this number of bricks without extra effort in one hour, in forty-five minutes. If for any case it is desirable that no man shall lay more than three hundred bricks a day, if the work must be made to reach around; if it is a case or get as much as possible, well and good. Let the man lay his three hundred bricks in forty-five minutes, and go home and be paid for a full day, and make place for another worker. The man will at least have more leisure, and the walls will go up in one tenth the time.

If the proposed economies or scientific management are attained by adding to the burden of the worker, I would denounce scientific management, as I have denounced long hours of days work, as I have denounced piece rates, and other forms of stunt work.

Let us deal with this fairly, first by stating the universal law of efficiency. Every new operation begins with maximum effort and minimum efficiency, and progresses towards pleasurable effort and increased efficiency. It is in time forced to still higher efficiency at the expense of a great deal of effort, and then a new method is substituted. Every one of us has experienced this law in

his own life, and if we have not recognized it, it is because we are perversely blind not to see it. A baby tries to crawl, a new operation for it. It puts forth prodigious effort, and is monstrously inefficient; it improves the effort is lessened, and the result is constantly decreasing effort, and a respectable crawl. It is desirous of attaining higher efficiency, and it puts forth very much greater effort, with very little bettered results; it becomes disgusted; it stands up, rests upon its feet, and walks like a man and runs. For the child running is easier than creeping. And this law of progress is the universal law.

The prophet Elijah, girded up his loins and ran before the chariot of King Ahab to Jericho. It was hard work, harder for the prophet than the king's charioteer. The modern man speeds hour after hour fifteen miles an hour on his bicycle. This isn't a killing pace; it is a pleasurable pace, although three times as fast as the extreme speed of the running man. The rider tries to do better, and so a man on a bicycle speeds up for a special stunt to twenty miles an hour for five hours. It takes him only one-fifth of the time it would have taken to run the distance, but to ride a bicycle twenty miles an hour for five hours, although a good record, is still not enough, so there came about six days contests, where riders covered 1330 miles. This wasn't fast enough. It took too much effort, so he evolved the motor car, which runs 1565 miles in a single day, six times as much as any bicycle rider, and the man in the motor car isn't working as hard as the creeping babe did and he is going 120 times as fast. He can keep it up a hundred times as long; he is a thousand times as efficient as was the creeping child.

Mr. Stone, chief of the Locomotive Brotherhood when speaking from the same platform with me before the Stocker's Federation, boasted he had shoveled enough coal into a locomotive to cover fifty city lots. It is not a performance to be proud of. Had scientific management provided better furnaces, and shaped up the fire better, he would have shoveled only half the coal, and increased his efficiency over one half; our national resources would have gone further, and the days of the oil burner and the automatic stoker would have come sooner. On the trains he talked about the fireman's work is very hard. Mr. Stone rightly surmises I would be unable to perform it. But on the Santa Fe road, running through Arizona, I stood alongside the fireman on a locomotive twice as large as Mr. Stone ever handled in his fireman's days, and the fireman worked three injectors. Mr. Stone's locomotive used coal; this one had fuel oil, flowing into an enormous furnace. The fireman said to me: "As a fireman's job, this is a cinch; no work to it at all." Then he reflected this was perhaps not a prudent remark, so he touched me on the elbow and said, "but think of the added responsibility." (Laughter)

He was right. There was added responsibility, but there was less work, and the pay was greater than the pay Mr. Stone had received. I could have done it all day long; a twelve year old girl could have performed that part of the manual labor. In every department of human labor it is the same.

Science has come in to take the burden from the back, the sweat from the brow. We hurl back into the teeth of cruel Jehovah; "we shall not eat our bread in the sweat of our brow" any longer.

Human will is triumphing over things. Our women no longer wear out their lives grinding corn, bread is furnished at even the cheapest restaurants throughout our scientific management is yet but crawling babe, not yet able to walk, but it is making a beginning, and without the initial step there could be advance nowhere. There is no limit to the powers of an. We have reached out with our eyes, until we meet the distant stars. Mr. James A Loudon, in his great work on “The Powers of Man’ says: as a rule men habitually use only a small part of the powers which they possess, and which they ought to use under proper conditions.” Says Mr. F. W. Taylor in his work on scientific management “That the first class man can do in most cases from two to four times as much as is done on the average,” and the soundness of that view is only realized fully by those who have made a scientific study of the possibilities of man. It must be distinctly understood that in referring to possibilities the writer does not mean what the first class man can do on a spurt, but what he can keep up for a long time without injury to his health, and become better and stronger under.”

The second fallacy is not so cruel, so ignorant as the first. The greatest disaster that can happen to the breadwinner or the family is to be thrown out of work. The worker cannot escape that terror, when discharge in time of panic may mean starvation and the heart even of the strongest man quails when he finds himself without work, and with gaunt woman and crying children at home.

Yet what happens in our industrial system without scientific management. In 1907 I was with the American Locomotive Company, consulting as to the introduction of modern methods. Suddenly the panic came, and of twenty five thousand men about five thousand we laid off. My job went with the others. The same thing happened at Baldwins. These were the only two large locomotive building plants in the country, and between them they turned adrift nearly ten thousand men. One of the principles that scientific management is striving for is permanency of employment. On that same platform from which I spoke with Mr. Mitchell and Mr. Stone I advocated permanence of employment, even as I denounced peace raters as usually installed, and they told me I had no warrant to speak for the working men and yet Mr. Stone said “in case that principle is proved so perfect as to be unquestionable, the betterment of scientific management would be called blessed by American working men. Great as Mr. Stone and Mr. Mitchell are as leaders of labor, they cannot set aside truths which belong equally to all; and if that stress was removed we could not measure the blessings that would flow from the application of the laws and principles of scientific management and efficiency reward, and the benefits to industries of all kinds.

It remained for Mr. Morrissey to come forward with the fallacy, that as this scientific management leads to greater output, with less effort, and less money outlaid, it meant the discharge of workers. You will note Mr. Morrissey treats it on the assumption that greater efficiency means less labor, and to keep up the profits it would mean the discharge of some of the workers.

The railroad didn't displace the stage coach in a single day. For every man that worked in the old coach lines, more than ten work in the railroads, going in at eight and going home at six. I have asked some manager to give me figures of the men who naturally drop out. In one plan the vice president said we love our workers, we don't want to discharge them. I agreed with him. But I asked him how many went away every year. He answered "at least ten percent." Assuming the efficiency good, the lessened number of his payroll ten percent a year, and in three years it would be thirty percent. We couldn't keep pace with such progress.

In England in one of the large plants, all the small pieces were forged rough and finished by hand. This took an immense amount of time. Hiram Maxim conceived the idea of drop forging these small pieces to size; it was so strenuously opposed, that finally the piece was drop forged to within one eighth of an inch of size, and then the balance filed down by the finishers. It is because of such things as that that Germany and Japan, who are doing things in an expert way, and are looking after efficiency and economy, have taken away so much of her commerce, and they will still further curtail it if she don't adopt efficiency.

The savage mother does not fear to teach her babe all things. The fox father teaches his little ones to hunt. The savage father teaches his boys how to take over his man's work. And that civilization is rotten before it is ripe in which boys are not allowed to learn their father's trade, in which efficiency is dreaded because it lessens human toil. (Applause)

MR. MCCARROLL: Our next speaker is one who will, and has authority to speak for those who are interested in trades union methods; Mr. James Duncan, Secretary Treasurer of the Granite Cutters Association. (Applause)

Third Speaker

James Duncan

Secretary Treasurer, Granite Cutters Association

Mr. Chairman, ladies and members of the Economic Club: Mr. Fagan who preceded me, dealt exclusively, almost with railroad interests. I belong to the building trades, and because that part of the subject has been covered by my friend, I will not touch on the railroad question.

I am a granite cutter by trade. I cut the granite for your public buildings, your residences, and record the pomp of woe upon your monuments when dead. And sometimes, as Byron says

“When all is down upon the tomb, is seen,

“Not what you were, but what you might have been.”

And being a building tradesman you can imagine the fun I had with the statement of the speaker who preceded me about the three hundred bricks a day being a bricklayer's work. I am not acquainted with the audience here tonight sufficiently to know how much of it may be made up

of contractors in the building industry, but if there is a boss bricklayer here, when the gentleman made that remark I can imagine the fun he had, as well as I had about it. The fact of the matter is the statement exists absolutely alone in the brain of my theoretical friend, who certainly has never been on the scaffold when bricks were being laid.

Mr. Emerson: I said in England.

Mr. Duncan: The gentleman reiterates he said in England. You may bear in mind I don't mention any places, but I say what I have said and it applies in England or any other part of the civilized world, as far as three hundred bricks per day are concerned; and that, by the way, because my friends has interrupted me, is somewhat about the measure of the knowledge our theoretical friends have of the practical affairs in the trades. (Laughter)

(Here follows balance of Duncan's speech.)

EFFICIENCY

The word "Efficiency: has been given a new meaning. Webster's International Dictionary in a general way defines it as "characterized by useful activity", and in mechanics as "the ratio of the useful work to energy expended".

The new meaning indicates it is a synonym for seating. Not the perspiration brand, but that of getting something advantageous, as labor, from anyone by exaction as "to sweat laborers".

Organized Labor accepts and practices Webster's efficiency. We make it part of our mechanical efforts. We stamp it so indelibly in our economics that the purpose for which we organize into trade associations or unions, sets it forth among the objects for organizing usually in some such language as this: --

“The objects of this Association are to encourage a higher standard of skill, to secure adequate pay for work performed, to endeavor by legal and proper means to elevate the moral, intellectual and social conditions of members and to improve the trade”.

To paraphrase these excellent morals into one word would spell “efficiency” in its purest, fullest and best application.

Evidently this is not what is meant or intended by the newly applied use of an otherwise very expressive word, for as the new notion is dissected we find that it strikes at the very root of workshop ethics.

It temporarily offers blood money, so called, to the man being coached to exceed the task, also a bonus to the speeder of task-setter, but evidently will result in a reduction of the worker's wages. For a time the former is driven by the latter to exceed his natural ability to produce, and when all that is in him thus urged along has been reached, the result is pointed to as one man's output, and a day's pay, with the employer's representative as judge of the amount, is placed upon it, and the

task-setter who has gone the limit, as we say in the shop, is of no more use to the employer excepting perhaps to go through the same process with another victim. Thus we have in a crude way, an introduction to the two but different kinds of efficiency which affect the part of the modern industry under discussion.

I grant you this is not what is desired by the promoters of the new cult. No man has broader or deeper human sympathies than my friend and neighbor, Mr. Brandies.

If I may borrow a phrase, “He means well” but his environments have not permitted of his mingling in the output of the boiler and locomotive shop, the coal mine, the stone yard, or among iron workers on the twenty-fifth story of a skyscraper, consequently, his highly tensioned and imaginative brain weaves out a theory so pleasing in the conception, so tickling to the fancy and so idealistic in the motive, that the mere matter of it being wholly impracticable is forgotten in the whirl.

We are told that efficiency-management selects men who will find pleasure and delight in their work. Nonsense. Men’s inclinations lead them to look for employment into which they put unrestrained willpower and delight, otherwise the management referred to would never meet them.

It is said that efficiency-management guarantees a basic hourly rate and gives higher pay from

time to time. Possibly it might if those theorists who are evolving this scheme were also captains of industry and did not change their minds in the transition from mental to material things, but in practice that is certainly not the result. Collective bargaining between employers and employees would accomplish more along this line in a decade than so called efficiency-management could ever hope to accomplish and the progress made would be by mutual and voluntary effort, and, therefore, invoking the highest principles of citizenship.

As an inducement, efficiency-management offers pensions to workers at the end of service. The thought is out of joint with the main question, in fact belittles it. If efficiency so called had played its part, as per its new definition, pensions would not be necessary and the idea that they would be granted or available proves the inefficiency of the scheme, for if it contained the inherent qualities claimed for it, when the end of service came the workman whose labor had been so scientifically and energetically enhanced, should be financially beyond the necessity of a pension. The appearance of the need of a pension, however, suggests that the exploitation of the workman's chief asset might be expected rather than his exaltation.

We are not informed where the pension would come from, whether from the industry, the state, the nation or from a fund created by those who had been speeded under the system. Moreover, it is not much of an inducement or incentive to a worker to inveigle him into a doubtful method of productivity to be worked to the utmost limit until he is unfit as a producer, and then to offer him a pension.

It is said that efficiency-management would give workmen many opportunities for promotion. To whom, and over whom? To the most capable you say? Well then, our trade agreement methods are ahead as is generally true, for they provide a minimum wage rate and above which the extra skilled worker receives or should receive increased compensation and which points the way to promotion. The trade agreement also aims to put compensation for labor performed sufficiently high to place the worker, when he is no longer capable of being a wage earner, at ease living on his savings and not dependent on a state or other pension, which although welcome when needed really should not be considered by our boasted civilization as a necessity and certainly would not be so considered if the worker we are discussing were given an equitable share of the market value of that which he helps to produce.

Again, efficiency-management claims it would “graduate efficiency award to every worker from apprentice to president”. We can imagine speeding the apprentice but who is to speed the president that he may qualify for the extra award?

Any method of betterment should increase men’s earning power, but seldom is the reward so generally visible as this new plan avers. Employers are human beings, no more and no less. They will not pay more in compensation to workers than they can help paying and the scramble for jobs among the idle human beings militates against fancy or idealistic methods in industry, and both conditions combined send the wage rate down to where the resistive and collective force of

the trade unions cries stop, and from which position they endeavor to build up in the eternal grind for betterment; and where their uplift is not visible, the wage rate is generally found to be below “a living wage”.

Efficiency, so-called, admits that collective bargaining has done much towards increasing wages, but claims that it cannot offer a final solution of the labor problem and gives as a reason that wages cannot be increased indefinitely. Will “efficiency-management” increase wages indefinitely? Besides, there is much doubt if there ever will be final solution of the labor problem, for contentions of this year affecting our industrial affairs will find accomplishment in a few years and so on. The desire for betterment is a quality of the healthy mind and the eternal source from which the desire for accomplishment springs like to the inherent effort which causes the pursuit of happiness is as near to the idea of perpetual motion as our finite mental status can comprehend.

We are told by “efficiency-management” that approaching industrial friction will hamper development and that neither party (employer and employee) considers the interests of the other. This is theoretical misapprehension. Does not the modern trade agreement fully represent both? What else is collective bargaining? Each method recognizes the interests of both parties. Each method consists of definite, concrete, mutual contracts in which real efficiency is paramount, and in which through the piece-work system where it is in use, or in the establishment of a minimum day wage rate with compensation graded upwards according to the earning power of the

workman, efficiency is rewarded on a basis of mutual understanding, instead of the workman being goaded on by a speeding or tasking boss whose only ambition in the melee is to earn a percentage on his cunning in inducing the worker to overwork himself. Does our civilization require such an unnatural system? Are business methods in the workshop so lax as to need new tasking methods to require the worker to measure up to modern needs? Are the captains of industry so ignorant about economy in commerce? Are our workmen who are each producing a third more than similar workmen do in any other country where hand labor or hand and machine labor combined are features, so tardy or so trifling in their vocations? We answer emphatically in the negative.

Then the cult in question is intended as a knock on trade-union efficiency, is noticeable in the efficiency-management statement that it would be better for the community at large if workmen would devote their efforts to the promotion of the speeding system and get their reward, than to trust to their unions to get and keep for them what the unions can get and keep for them.

We are informed that the piece work system should be more in evidence. This is like unto a motorman telling an eminent surgeon how to properly remove gallstones, practical men whose lives have been passed in a business and have abandoned the piece work system because of its lack of real efficiency, especially in the quality of the output, need not to be lectured by a group of even well-intended theorists on the subject. The former know. The latter are not even good guessers on practical affairs.

We are told that efficiency-management “would eliminate the constant necessity for driving men”. This would be great and grand if true. But, imagine if you can, a speeding boss who urges a man along for all there is in him, even restoring to the bribe of a bonus, having eliminated the constant necessity for driving man. Simple in words is it not? But oh my! What a difference there is when you come to do it.

But why practice this new theory on commerce alone? Management seems to be doing very well. It owns speeding autos, yachts, has fine residences and many servants, more or less efficient. It goes to Europe or the mountains in summer and to Florida and California in winter. It is sufficiently effective to form trusts and monopolistic combinations through which fewer officers are required and those who are essential are correspondingly higher paid, so studied along the line of elimination of competition and of increased compensation, may be said to have shown such apt absorption of scientific efficiency as to make the newest crop of efficiency-managers green with envy.

The man behind the hammer does not desire to see a method introduced to more surely overwork him than grim compensation has already forced upon him. He would rather welcome a new system to guarantee more steady employment, at a less rapid gait, with the attendant surety of better health and longer life, and he who can bring this about will be hailed as no one has been hailed since the Carpenter of Nazareth reincarnated the great moral, “As ye would that others

should to unto you, do ye also to them”.

But what about the professions: The new cult is mostly composed of lawyers, a few editors and an unknown quantity called “intellectuals”. Why not practice efficiency-management among those, and if it works well, others will copy it. Why try the experiment “on the dog” all the time? Begin with lawyers for instance. What a field there is among the legal fraternity to practice efficiency-management! To them is attributable much of “the law’s delay”, the continuing of suits, the number of unnecessary or unwarranted indictments and through the practice of cunning sometimes the miscarriage of justice. Let them get task setters on efficiency who will speed them along on thought and action not forgetting the promise of a bonus; and, the saving to business pursuits generally, would I feel sure soon exceed the enormous daily saving through “efficiency,” on the railroads of our great country the announcement of which quite recently took our breath, until we were assured by railroad magnates that the statement was a pipe dream.

The expounders of the new scheme inform us “that the task given to a man is based on a detailed investigation by a trained expert on the best methods of doing work and the task setter acts as instructor”. As a skilled workman I want no task nor task setter to harass me at my work. They would rob me of my individuality and self-reliance and would reduce me to an automaton.

Alongside of this doubtful theory Organized Labor places its efforts at efficiency and invites close comparison between the two systems. Industrial and economic progress depend more upon

education and a clear, well nourished brain than upon any system of speeding that could be devised, and Organized Labor is foremost in support of our public schools. We believe in schoolroom education as well as in workshop education. We favor industrial education and have called for the enactment of State Legislation to permit of the high school preparing men and women for industrial pursuits co-equal with the high school education guaranteed at present to those who propose to enter the professions. We also favor industrial night schools where workers can receive education that will develop their minds while their hands are being trained in the workshop. Our methods, we believe, are superior to the new scheme. They make for welfare and good citizenship.

We are opposed to the speeding system in its application to the workshop and claim to speak with more authority on same than on changes of executive methods in the management of great enterprises. We see nothing in the speeding system, but an effort to turn manual laborers into specialists, each performing a certain tasks month after month as a wheel in a machine performs its part, and the monotony of which especially when men are driven to high speed would drive them on the verge of insanity. If any of you ever passes an hour in a sweat shop (as visitors I mean) in the clothing business where specialization per force is practiced, you will have an idea of our conception of what is being preached us in the way of efficiency-management. We are not mere machines, we are human beings and protest against being discussed and considered as co-equal with machinery. The claim that worker who has become expert in one portion of an industry and who has become do through great mental and physical strain, would more quickly

become an expert in any other employment, is against everything experience has yet indicated. In fact, specialists are usually unfit for anything else than the work on which they become expert, and when anything happens to deprive them of employment they invariably fall into and increase the ranks of the unemployed.

The whole scheme of efficiency-management is a beautiful theory, but is wholly impracticable. It is nerve-racking and wage-reducing, and unless something better can be brought to the relief of the already overworked wage earner in the way of real efficiency, please rather help him along in collective bargaining as practiced under trade agreements and which grades his wages upwards from an acknowledged minimum rate. It stimulates the worker to rational effort and to free will activity born of an inherent desire to do something, unharrassed by a speeding boss, for the welfare of the human family instead of being speeded for a bonus with the assurance of an early death.

Instead of demanding your pound of flesh from us, aye even the last drop of blood in your pound of flesh in the eternal grind for so called efficiency, why not try another kind of speeding — seeing for instance, that workmen are well fed, well clad, well housed. Sufficiency in those particulars would certainly induce natural and earnest effort towards plentiful and a good quality of output.

This new scheme proposes to foist upon us a whirling of motion equal to the rhythmical turn of a

wheel in a machine, but in addition to increase those motions seemingly in mathematical ratio. What does all of this mean? Have workmen in the past been idlers and their employers fools? Some may have been, but they are exceptions, just as we have had bum politicians, shyster lawyers, dishonest office holders and frenzied financiers who fluttered for a time then were forgotten, but the general run of employers and workmen are not the fools and idlers this passive cult would have you believe.

May we not for a moment view our subject from a different angle? What say you my theoretical friends to put your scheme into use where it may do real, and let us hope permanent good? What stable industry mostly needs is more steady unemployment for workmen. To them the fear of losing their jobs is a veritable hell upon Earth. If, therefore, you can speed, instruct, influence or legislate management into efficiency in this direction, our hats will come off to you. Start, for instance, with the hard coal regions of Pennsylvania. There thousands of workmen go deep into mother Earth to clip coal from its fastenings, primarily to supply a commercial as well as a household commodity essential alike to business and to comfort, but really to increase the large incomes of haughty coal barons, who in their lurid outbursts of pathos and alleged responsibilities even claiming partnership with deity, yet who prevent the miners from working beyond two hundred days in a year. Statistics show their working days per annum to be from 188 to 212. Now then, if a change to about three hundred working days were given them two great blessings would be evident — their earning and producing power would be normally enhanced, and the price to the consumer of anthracite coal would be greatly reduced. The former would be

a human and the latter a business virtue, and here again is a chance to boom and experiment on efficiency management.

In the clothing trade, men, women, and children are “sweated” for months, then go idle for months every year. Why not instill your efficiency into better management in that industry? Coming back to the subject proper, we may be told we do not understand the new scheme. Our reply is that we believe we understand it thoroughly and we also believe we know what the net result would be, but our academic and zealous friends neither understand us nor workshop tactics. They want to further exploit labor. We want to further exalt labor, and in pursuance of the latter we will in the future, as in the past, embrace every practical entity to the desired end, but the notion with which we are just now confronted aims at “remaking” workmen in a new mould, trimmed, polished, with bulging muscles, swift of hand and foot, improved eye sight, shop value 75% more acute, accepting and being governed by thought from the speeding boss, and for what? We repeat, for what?

Fourth Speaker

Mr. Gilbreth

Mr. Chairman, Ladies and Gentlemen:

I came here tonight to listen. Therefore, I am not prepared to make a speech. I am prepared to

talk to you about brick, and my knowledge does not come to me with any “absent treatment”. I have personally had charge of the laying of several hundreds of millions of brick, and when my good friend down here says that three hundred brick are not a days work for a bricklayer, I cannot understand it, because he is a practical man. I have heard of it a great many times. In fact to anyone who is interested I will be pleased to give long list of places where three hundred brick are a days work, and it will be a days work on my job anytime if I don’t look out. I am not talking to you tonight with the idea of having our friends on the labor side think that I am opposed to them, because I am not. I see their view point, I think, as clearly as they do, for I have been through the process of learning several different trades, and I have been in charge of perhaps every trade that there is in the building business, and some outside of the building business. I am not at all surprised that the laboring man is against this scheme. He has been flimflammed by every conceivable scheme that human ingenuity can put up to him. He says “I can’t see anything wrong with this, but I know it is wrong, and it is only put up in a more attractive package than before”. He says “As soon as you speed us up you will cut our rate”, and he has good reasons to say so. At the present time I am in the midst of the first strike I have had for twenty-five years, and the matter in dispute is whether or not I shall have the right to cut down the bricklayers’ hours from eight to seven and one-half, and raise their pay from the Union Mechanics rate of 55 cents per hour to 75 cents per hour. There is no other question in dispute. It is in a strange town, where they don’t know us. They don’t know that we have a record of having used our men right for a great many years. They think it is a new scheme, and that after we speed them up we will cut their rate. We have apprentice boys on this job, and being an advocate of the

principles of Mr. Taylor,— and his principles are founded on the square deal and the Golden Rule — we believe in paying our apprentices the same price the mechanics get, provided he gets out the same output, and of the same quality. All the advocates of scientific management believe that women should receive the same wages as men for the same work provided she gets out the same output of the same quality. This is a very very hard thing for labor unions to believe, and I don't blame them. I see their viewpoint perfectly, as their friend with a record of over twenty-five years of uninterrupted friendship. I say to the laboring man, "I don't blame you, but kindly reserve judgment until you know what this man Taylor has done". I have been trying to follow the footsteps of Mr. Taylor as far as it has been possible for me to do so for about four years. The public at large never understood what Mr. Taylor was trying to do until Mr. Brandeis at Washington made his memorable speech, and I advise every man here to get a copy of that address, which is published by the Engineering Magazine".

If any man will visit the works of Yale and Towne, or the Link Belt Company at Philadelphia, the Canadian Pacific Shops, and have a talk with the men, don't talk with the managers, they are prejudiced, have a talk with the men. I have talked with literally hundreds of them, because I wanted to make sure I was right, before I put this over my employees. I remember distinctly the first man I ever talked to in the Link Belt Company. I said, "Here son, I have heard a great deal of this scientific management, and I am particularly anxious to see if I can apply the same scheme in the building trade, and I want you to tell me about it. Well, he said, you can search me; all I know about it is I never was treated so well in my life; I have \$5.00 a week more in this

shop than I ever made anywhere else, and they shouldn't drive me out of it with a club". Now that is the view I have heard a great many times since. I have seen scientific management applied to a great many industries, and it doesn't cause speeding up the workman. That is the smallest part of it. There is no objection of a man speeding up if he desires to earn more money, but the scheme is not in any way based on the idea of speeding up the workman. The "Speed Boss" under scientific management is in no way a man who drives the workman. A "Speed Boss" is a man given that title who sees that the machine runs at the speed called for by the instruction card. That has nothing to do with the speed at which the workman works. It is a very unfortunate name, because it suggests that he stands over them with a big stick.

I have just one more thing to say. My apprentice has laid over four hundred brick in one hour. He is getting 75 cents per hour instead of the 55 cent union rate. The scheme is not speeding him up. It is furnishing him with conditions which the management is responsible for, and the union, for the first time in my life said, "You must remove those conditions, which consists in bringing the bricks to the man who lays them, placing them before him, on a wooden pack, right side up, and free from chips, so he can use every brick.

I ask you gentlemen to consider the advisability of establishing a bureau at Washington wherein the facts of this thing can be collated, and catalogued, and disseminated, so they cannot be handed out in a "wrong colored package". So that nobody can be fooled by it. I thank you.

(Applause)

Fifth Speaker

Louis D. Brandeis

Mr. Chairman, Ladies, and Gentlemen:

As I look at the watch I feel a greater regret at the brevity of life than ever before, because there has been said by some of the speakers who preceded me so much that was not true, and so much that shows a failure to understand the scientific management, that I should like to enter upon such a statement of that science that would make it possible for every one you, or such of you as are not already familiar with it, to know that it means, and what it offers to this country; what it offers in the great world of human industry the introduction of knowledge as opposed to ignorance. It means to offer in a much neglected field advances in production which would give to our people the means of satisfying those just demands of labor, the satisfaction of which is essential to the development of American civilization.

I am amazed to find representatives of organized labor as able and as enlightened as Mr. Duncan is, amazed to find them taking in ignorance of the principle of scientific management the position which he has. It is a position which must necessarily rest, if it is to be taken literally upon the proposition which belies everything upon which American prosperity rests, and which is necessary, and has been necessary for that prosperity which we enjoy.

It is as if we could not make progress. Isn't it a fact, ladies and gentlemen, what we have in America today is not so much because of American resources, not so much because of illimitable, or so called illimitable resources of America, but because we in America have advanced, – or had until recently advanced – beyond all other people, in eliminating the waste of human labor (Applause) that is what we stand for. The prosperity of the South, which began with the cotton gin, the prosperity of the West which lay not so much in the fertile fields as in the agricultural machinery, and in her transportation system, which enabled us to eliminate that waste, to create a field for profit out of which we, and all of us, were able to get a living, better than was obtained in foreign countries.

In our New England, and in parts of the East, where manufacturing prevails, it has been our necessities, and not our resources that have been the sources of prosperity. It has been the necessities, the poor soil, which drove us to manufacturing, and high wages, fortunately, which made us the Mother of invention. Now, unfortunately, that movement, that movement to invent, to save labor, was arrested. Why? Because of the illimitable resources of foreign labor. It was easier to tap the foreign labor supply than to think, and to persistently work upon the lines of saving labor.

Mr. Duncan speaks with joy of his knowledge of the Building Trade. I was reading the other day a poem which I dare say many of you are familiar with, a very recent poem by Rudyard Kipling, on the bricklayer. It seems to me extremely apt in this connection.

I tell this tale which is strictly true
Just by way of convincing you
How very little since things were made
Things have altered in the Building Trade

A year ago, come the middle of March,
I was building flats near the marble arch,
When a thoughtful young man with coal black hair,
Came up to watch us working there.

Now there was not a trick in brick or stone
That this young man hadn't seen or known,
Nor there wasn't a tool from trowel to maul,
But this young man could use them all.

Then up and spoke the plumber bold,
Who was laying the pipes for the hot and cold,
'Since you with us have made so free,
'Will you kindly say what your name might be?

The young man kindly answered then,
It might be Lot, or Methuselah,
It might be Moses, a man I hate,
Whereas it is Pharaoh, supreme, the Great.

Your mortar is new, and your plumbing is strange,
But otherwise, I perceive no change,
And in less than a month, if you do as I bid,
I'd learn you to build the pyramid”.

Now, Gentlemen, is that something to be proud of? Is it something to be proud of that bricks were laid, and in most countries are being laid, precisely as they were laid in the days of Pharaoh? No! Mr. Gilbreth after he had studied Mr. Taylor, come to think as to whether the principle which Taylor had applied to the machine shop and other things could not be applied to bricklaying. What did he do? He did just what Taylor had done. He put the mind of the scientists on to the operation. The great fundamental work of the scientists is to observe. Observe and take nothing for granted. So Mr. Gilbreth, who is a bricklayer by trade, who fitted himself to that as he did to other branches of the building trade, began to see, or dissect this operation of laying brick. What did he do? Well, he began at the beginning, and he said “What is the first thing I do”? Well, the first thing was to reach right down on the floor or the scaffolding and pick up a brick, and it occurred to him, for the first time, although he had been in the building trade for

near on to twenty-five years, that it was a fool thing for a man to do, for a man to bend down to the floor to pick up a brick. It was a good deal of effort. It took a good deal of time. He said to himself as he thought it out, “The thing for me to do is not for me to go down and pick up the brick, but to have that brick up where I am, and to have it at that height where I can just reach out my hand and get that brick, and he said it will save me a good deal of labor, and it will save me a good deal of time, so he invented a scaffolding,—it was a very slight invention, — he arranged that it could be screwed up from time to time by a boy who passed around, so that the brick would always be up at the hand of the man who had to lay it. He would simply have to stretch his hand out, instead of going through the athletic performance of picking it up off the ground. Well, then, he said what is the next thing I do. I take that brick in my hand, and I take my trowel and test it two or three times. If it is not a good brick I take it and throw it down on the floor. I am up on the fifth or sixth story. Those bricks which have been painfully and expensively brought up to where I am are painfully carried down again. Wouldn't it be better to have only those bricks come up that are selected instead of being pitched on the hod, or the derrick, and sent up without being tested. He concluded that would be economic. Then the next thing he said was “What do I do”. Well, he said, “I look that brick all over to get the face of that brick and to get it just right.” Well, he said wouldn't it be better when that man down below, when he is selecting the good brick, before it comes up to me that that man should put those bricks in a packet right side up, so that when they came up they would be delivered right side up, right on this shelf, right at hand, and all I would have to do, I, the bricklayer, would be to take each brick, knowing that all bricks were sound, and knowing all were right side up, all I had to do was to lay it. Then when the time

come, when he was ready to lay it, he came to pout it down on the wall, then he tapped it with the trowel again; that had always been done since the days of Pharaoh. It occurred to him that perhaps that was not necessary, and if the mortar was just of the right texture, that the weight, the known weight of the brick, would be sufficient to press the mortar down to where it belonged, and in that way, with some other changes, he found that the eighteen motions which were involved in laying a brick ordinarily could be reduced to six.

Now I want to ask you gentlemen whether that method of laying brick is not more in accord with the ideas of America, and the 20th Century, than to follow the methods of Pharaoh.

Now, what Mr. Gilbreth did with brick has been done in many other departments. It is to be done in thousands and tens of thousands, and hundreds of thousands of operations, before we reach what? Before we reach a right way, of doing a thing. And the right way of doing it is to do just what the scientists have always done, in all recent advances. To observe! To study! To test, and to look it over. To look at every operation, and everything that exists with the eye of a skeptic, or the eye of a Missourian who wants to be shown. That is what he does. That is what Taylor did. That was the method which Taylor pursued. One of the first things he did, which everyone doubtless at this time is familiar with. He found out how to do the simple operation of loading pig iron from the yard into a railroad car. He increased the performance of the individual man from 12 ½ tons up to about 47 tons. Did he do it by speeding up? Not at all! He did it by precisely the same methods which are pursued in the careful training of a man to do any work.

He found out how to do it. He found out the laws that govern it. He gave careful thought to the individual. He said this man who picks up the pig iron, and carries it into that car, that man, if he doesn't know how to do it best, will be just like the college student who wears himself out when he gets into the boat. There is some speed which is the best speed for that man to go. So fast, and not faster. There is a certain period, as to how often that man ought to rest in order that he can work the full eight hours or nine hours in the day. There is a certain angle which is the best angle for that man to walk up the inclined plane from the yard into the car, and by studying those things he finds out, just as there is science in all the operations which we readily admit there is science in, there is science also in much that has heretofore been regarded as unskilled and unscientific. The great salvation in scientific management is there is to be nothing unskilled. Nothing that is not to be worked out. As scientists are working out for us day after day, as with the problems in other departments of human activity, — every eye is on them.

If Mr. Duncan, and his friends, would come to understand he would see how important it is to them, to me, and to us, because we and they are altogether. There was this evening a talk in regard to railroads representing on Mr. Fagan's part an opposition of the railroads to this idea of efficiency. That I believe Mr. Willard's letter shows you not to represent the fact. What say you to this as a proposition, let things be cheap, and men and women and children more valuable. (Applause) Let there be more abundance for the many. In this principle of efficiency is bound up the welfare of our race. That, Gentlemen, is a quotation. Those words were spoken within a fortnight, in this city, by Frank Trumball, Chairman of the Board of Directors of the Chesapeake

& Ohio Railroad, three weeks after the decision of the Interstate Commerce Commission denying the advances in freight rates which the railroads of the country had sought. Isn't that a platform upon which every man and woman here can stand? Isn't that the only platform upon which we should stand? Isn't waste sinful, however it may come? Whatever quarrel, whatever controversy there may be between organized labor and employers, — and I think Mr. Duncan well knows that in those controversies I have stood, and stand, strongly for organized labor, isn't that so Mr. Duncan?

MR. DUNCAN: That is true. (Applause)

MR. BRANDIES: Those controversies exist, and should exist, because both sides of every problem, of every kind should be represented, but in those controversies, the controversies should be how shall profit be shared between employer and employee, and community, not whether there shall be gain. Every economy is gain, and the only question that very properly can arise whether it be with organized or unorganized labor, is whether the advance which is being made is an advance which is properly divided among all who are interested in it. (Applause)

Now, I say, therefore, when we come, when these engineers point out methods of saving, then they have pointed out extraordinary and signal successes. The possibility ought not to be carped at. We have not made the successes we have in America through the pessimist. We have not made the successes by men showing us what we could not do. It is by men showing us what we can do (Applause) all deeds that were dreamed of have been done, and deeds that were never

dreamed of will yet be done.

We cannot satisfy the demands of American Democracy until we have eliminated a large part of the waste which now exists. The talk this evening has been as if that waste wholly lay in what is here spoken of as efficiency or inefficiency of labor. That tells a very small part of the story. And there is a very large part of this possible saving, as to the waste organized labor or any possible tenet of organized labor cannot be presented as in opposition to it. Take this illustration from the railroad world. Last year, less than a year ago, the superintendent of motive power of the Erie Railroad, Mr. Hays, pointed out at a meeting of his associates what might be done in the saving of fuel. He showed from tests which he had made upon his own railroad the operation of a particular engine, and on a particular division, by the same fireman and engineer in two successive hours. In the first hour that fireman and engineer were operating that engine without any special care as to the consumption of fuel. In the second hour a trained man got upon that engine with them and saw to it that they operated the engine, and stoked the fire as it should be stoked. The result was, as Mr. Hays pointed out, that although the work actually done in the second hour was no greater than in the first hour, the consumption of coal was only one-third of what it was in the first hour. All that was involved in that difference of extraordinary saving was knowledge and care.

Does Mr. Duncan, or does any man believe that it is better to go on in the old way allowing the men to waste that fuel instead of seeing to it that the men who fire that engine and who run it

should have some regard for the laws of combustion, and the laws of economy.

Fuel in this country costs the railroads two hundred millions of dollars per year. Probably from one-fourth to one-half of that fuel could be saved simply by securing from the men, — in the first place giving the men knowledge, and in the next place inducing them through some incentive, whatever may be proper, some proper incentive, to save instead of two waste that fuel. I refer to this in one of my arguments. Mr. Hay's testimony in regard to what he found to be possible. That is one of my arguments before the Interstate Commerce commission. A few days afterward I received a letter from a man who had formerly been a fireman, and who had formerly been an engineer, who told this story. He said when I went into an engine as fireman, I was a weak boy, but I needed that money, and I wanted it, and I went there; but it was an awful job for me to do all that shoveling. He said I began to think whether or not it was necessary. I began to think too that that engineer was putting a good deal of work on me that he oughtn't to do. I thought I found out a few things about firing an engine, and I made up my mind that when I became an engineer I should not work my fireman as I had been worked. When that man became an engineer it was discovered three years after he had been in that position that on his engine he saved forty tons of fuel a month as against those around him. He says that in all the years that he was there as a fireman and as an engineer, and until this discovery was made, at that late day, he had never heard one man suggest to him that coal was something to be saved, and but for that experience, and for that study, which he individually made, with a view to saving himself labor he never would have known how. It has been said by the scientific or efficient engineers that scientific

management, that the study of these problems would give joy to work, and Mr. Duncan here scoffs at the idea that a man can get joy from his work in any such proceeding. I want to read you a few lines from a letter which that fireman and engineer wrote to me. He says this “Through my four years and one-half of firing experience, and my first three years as locomotive engineer, I remained in ignorance of the principle underlying the generation of heat by combustion of coal, and the formation of steam, and its economical use. Then came an awakening of intelligence through study of the cycle of operations involved in the process of turning heat into work through a steam engine. I found the awakening of myself the most delightful experience in my life, and I have always believed that it must be more or less delightful to every normal man properly interested in his work, to learn, not only the best methods of doing, but the science, which makes clear the reason why such methods are the best. No man can be made perfect in his work until he has had this full knowledge, imbued with the sincere desire to improve his methods to perfection. So I am glad that your argument included an appeal for the proper education of the man in railroad service, for their own good, for their own happiness, and thus contribute to the welfare of the country. (Applause)

Now, I ask you, Ladies and Gentlemen, whether that engineer and fireman is not a truer American, and does not hold up a higher ideal for his fellow workmen than the man who comes and tells you “We know it all”. We will not listen to advice. What we do not know is not worth knowing. I ask you, gentlemen in business, and in manufacturing, whether the thing you do not know is not just the thing that is worth knowing? (Applause)

Now, I sympathize absolutely with the apprehension of Mr. Duncan, and his associates. I believe that we have in this country a situation, that we can be proud of, much that we must be ashamed of. The richest country of the world, the country of great opportunity, has in it horrible conditions, in very many places, and in very many trades; excessive hours, insufficient wages, conditions dangerous to life and health, and conditions which would be infinitely worse if it were not for labors steady and progressive effect on the labor unions. (Applause) But while they have done and are doing a great work, they stand not only in their own light, but in our light, and in the light of the democracy and the advance of the world if they undertake to stand out against the introduction of science in business.

Mr. Duncan closes with the suggestion “What more, what better could be done than to undertake to make work regular, instead of sporadic”. I agree with him. Of all disadvantages under which labor suffers, of all the chaos in industry today there is nothing which in its results is as deplorable and as disgraceful as irregularity of work, and the first work, the great effort of all scientific management must be to make work regular.

In one business, one business with which I became very familiar, where the principles of scientific management were introduced, that was the great aim which they directed themselves to, and it led to all the rest, and it produced from an irregularity comparable to that which Mr. Duncan spoke of; of 200 working days in the year, a regularity where the actual working days

ran up to the three hundred working days which Mr. Duncan spoke of. That was by virtue of planning; by virtue of introducing into every department of that business careful thought, the best effort that could be had, to devise what everybody must see is desirable, that there should be no waste, and what waste is comparable to the waste that brings such pain and demoralization of men dismissed and thrown into the street to “kill time” as best they may until again in the chaotic condition of that business there is a demand for a great number, and they run over time.

But this attitude which Mr. Duncan shows, and in which organized labor approaches this plan, saying you shant do that, you shall proceed as you have proceeded, is the opposite to what we should do. We should pick out every defect, whether it be irregularity, or waste, or whether it be over time, or a thousand other defects, and let the mind of man dwell on it, not in the sense of despair, like Mr. Fagan, but in the same view in which everything has been accomplished with a sense of hope and certainty that the future has in it things better than the present, that same hope which created, or that has given us these great railroads which cross the continent to the Pacific. What we need is that. We need the open mind, as well as courage. We need patience. It will take a great deal of patience to deal with the individual. It will take a great deal of time to bring about these changes, and the work will never be done. As the work of inventing machinery is not done, and we hope never will be done. But for us, the thing for us to do now is to enter upon it. The thing for organized labor to do is not to stand in the way of employer, the railroad manager, or the manager of the factory, but to join with him, saying we will economize we will aid you in every conceivable way, but we will use that force, that power which organized labor has, to see

to it that we get a fair share as the community shall get a fair share, and as the employer shall get a fair share, by each of us striving, putting before each of the others, the right view, or what seems to us right, what seems to us fair, and there we will attain as near to justice as it is possible to attain in this imperfect world.

I thank you for your attention. (Applause)