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TRAINING METHODS AND INDUSTRIAL MOBILIZATION
21 May 1946.

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TRAINING METHODS AND INDUSTRIAL MOBILIZATION.
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CAPTAIN HENNING:

I informed our speaker that he was doubly unfortunate; he not only missed having the General introduce him, but due to the fact that I had to take a turn with Colonel Brown, he also lost the chance to have a distinguished orator introduce him. So he will have to be satisfied with my efforts.

I think we are particularly fortunate in having someone who occupies a position in such a great industrial activity as the Ford Motor Company talk to the students. The Industrial College, before the war, probably to a far greater degree than any other activity of the Armed services, did maintain contact with private industry, but it wasn't enough in the light of our experience in the war. I think, to a far greater degree, private industry must know the people in the service and how they work; and certainly officers who are concerned with procurement planning and industrial mobilization planning must know private industry. Certainly people such as Mr. Folley of the Ford Motor Company can advise us as to just how we are going to proceed along those lines. It is a great pleasure, gentlemen, to introduce Mr. Folley.

MR. FOLLEY:

I did not know that I was going to get into a talking match between the Army and the Navy when I came up here today. (To Captain Henning) I want to thank you for those few kind words.

Being in the Ford Motor Company, I have heard some of the folks say, in regard to speeches, that the only thing is how to suck it. I was talking with a doctor from Gallenger Municipal Hospital last night and I said I would like to get my percentages straight. How many infants have to be taught to suckle? He said, "About 2 percent." "Well," I said, "it resolves itself like this: 2 percent are taught to be suckers and to the other 98 percent it comes naturally."

Coming out with Commander Agnew this morning, he asked me what I wanted to say. I will not tell you exactly what he said because I understand that some notes are being made of my remarks. However, I do want to say this, in speaking of myself personally, that I was in the first World War--went out and got a little mud on my knees; and, getting back to this war, after being told that my physical condition was not fit for a thing, not even Reserve Officer, so they kept me at my desk for a number of years, most of the time at Willow Run turning out B-24's. We had problems there which were extremely interesting and, as your representatives have been at the Ford Motor Company, I have been very much in agreement with the plan which proposes that you gentlemen learn how industry functions.

We talk a peculiar and a particular language which you must understand. You talk a language which I have tried to understand but sometimes found very difficult, even as a Reserve Officer. So I want to ramble a few minutes first on our own training and educational program because it might be helpful to some of you men who might some day be assigned to the Ford Motor Company to find out how we function.

The Training and Education Division of the Ford Motor Company takes its plan from this. We are in the business of making more and better automobiles at a lower cost than competition. To do that we find there are two problems: One - We must get supervision to understand that the problem is two-fold; first, the technical know-how of the job to be done, and, second, the know-how of getting the personnel to do the job.

We were having a conference over at Manufacturing the other day in which we were considering a new building superintendent, and, as most of the old-line manufacturing men do, they started talking about a particular individual's technical know-how. Why, he had gone through apprentice training, tool and die journeyman; he became a general Foreman; he knew everything that was to be known about the technical know-how of running that particular building. I asked one question because I was very much interested in getting their reaction. As I sat there with those men, I asked them this one simple question: How much of your time is spent daily in handling personnel problems? And as they answered around the table--the least amount of time was 50 percent and the greatest 85 percent. Yes, supervision must have technical "know-how" but must also "know-how" to handle personnel.

So we have a very definite job to do in training supervision in handling personnel. Back in the old days that was not considered necessary, as long as you had the physical well-being and sufficient muscle to enforce your orders you could get by because twenty years ago many of our payroll slips were signed with an "X"; today not a single worker in the Ford Motor Company signs with an "X". I wonder if that means anything to you men.

Twenty years ago labor was not vocal; as a matter of fact, it could not speak English; they were unable to read the signs on the bulletin board. The only thing they could tell about what the boss told them was by the expression on his face and the emphasis used physically. The peculiar part was that they bragged about the fact that they had the toughest "sun-of-a-gun" in the whole plant as their boss. When they would go into the tavern at night and sit there drinking their beer, what were they talking about? They were saying that they had the biggest two-fisted man that was anywhere in the plant. That day has changed. Those men could tell by the expression on his face just what the boss meant. But the men who are working there today are the sons of these men of twenty years ago and have attended the same school that the boss's son attended. These boys have gone through school. They understand English. Labor is now vocal, but the pendulum has only swung half way. It is only vocal through its leadership.

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I am not going to say anything about rugged individualism and whether or not the pendulum is going to swing clear to the point where the individual laborer is going to speak his own mind without fear and favor of the bosses in his particular union; but I am saying that there are hopeful signs and we in industry feel that it is hopeful in spite of all that has been going on in the last few months. Because labor is vocal, it knows what it wants and asks for it. We know what we want and we ask for it. If you can sit across from each other at the table and discuss problems and not personalities, you can soon arrive at satisfactory conclusions. That is not too difficult to do, you know, if you sit across the table with a friendly attitude.

How many of you men had to take orders from somebody you have seen but had never talked to? Then when you got to meet him at the luncheon table, you found that he was married; that he liked to go trout fishing; and when he got up from the table, you decided that he was not a half bad sort at all. That is true of labor and management.

I know in our own case between Leonard of the CIO and Bugas of the Ford Motor Company, there were no heated arguments, no recriminations, no cussing out of the Ford Motor Company by Leonard or any blasting of the Union by Bugas; and I think that is why in that recent negotiation--while it ran over a long period of time--a contract was arrived at amicably and everybody felt that they had gained ground --and had made progress toward a better understanding.

One of the terms that has been given out by Henry Ford II, the President of our company is "human engineering." Now in the second phase of our training and educational program we come to that human engineering from the workers' standpoint. Our job in training is to improve personal efficiency and to raise morale. In supervision we have to train them in personnel work and then we must work with the worker and raise his personal efficiency. We must show him what work standards are in time and motion study, so that we receive a fair day's work for a fair day's pay. And then we must show the worker himself that opportunity exists not only for the young college graduate and engineer who is coming into the Ford Motor Company to move into a white collar job, but also for the man who is coming in to operate a machine for the first time. Therefore, at the present, in spite of all the conditions that we have had and the fact that we have never reached peak production or peak employment, we have 15 hundred apprentice students. In training and education, we have a staff of about three hundred teachers, clerks and others handling over 7 thousand students. The courses go all the way from basic training in manufacturing, where we teach men what a machine is to post graduate engineering. In the apprentice courses, which are four-year courses in training for anyone of 19 skilled trades, the student is immediately placed on the payroll as an hourly rate worker (he becomes a member of the Union) and at the completion of his four-year training, he becomes a journeyman.

The whole program is controlled by a Joint Management-Union Committee. And I swear to you men, as I attended those committee meetings,

if I did not know the men personally by name and what job they held, I would have a hard time picking out which man represented management and which represented the workers or the Union. They have worked so closely on the common problem that there has never been any argument as to what should be presented or what courses should be offered or as to what was the standing of the students. I think we are fast approaching better standards through the work of the apprenticeship committee whose men call in a young man who is absent a couple of days, or is getting a little tired of his job, or is not getting good grades in his work in class--calls him before the committee and say, "Listen, if you are going to be a journeyman, these are the things that you must do." And if he refuses to come up to "snuff", out he goes. We say that he is no good to us and the Union says, "We don't want him as a member," and out he goes.

We have organized our training and education division to follow as closely in line with the company organization as possible. Our company is divided into seven functional groups; Manufacturing, Sales, Foreign Operations, Engineering, Purchasing, Finance and Industrial Relations. Our educational departments directed by supervisors covers those fields.

We have a Supervisor of Business Administration. His job is to provide the training in purchasing, in sales, in foreign operations, and in finance. We have a Supervisor of Manufacturing who is responsible for all supervisory and apprentice training in manufacturing. We have also a complete Engineering School which takes boys up to and through post-graduate work.

Our academic section was set up to cover certain subjects which we do not feel are allied with the functional divisions of the company, such as English, History and so on. Economics, of course, come under Business Administration. Incidentally, I would like to bring this to your attention. One of the most difficult subjects that colleges and industry are facing today is Industrial Economics. If you want a picture of the problem, here is an example: a foreman comes into a conference, throws a part down on the table and says, "They tell me that this costs 32 cents; they want me to reduce the cost to 31 cents." If you can give him an answer, you have written an entire four-year college course. What does that price of 32 cents represent? I would like to dwell on this a minute because I think it will give you a clear insight into industrial economics. It represents three things--labor, material, and burden.

Now take any one of them and break them down and let us get at that 32 cents. It is very easy to break the 32 cents down into labor, material and burden. What do you mean by labor? Well, for example, the able-bodied seaman that works on the Ford freighter that brings the iron ore from Iron Mountain down to the Ford Motor Company dock. Burden: I don't want to go into that because the foreman will say to you, "I can't understand why there is a 212 percent burden on my side of the plant and on the other side there is a 193 percent burden." Just imagine what you have got to go into to break that down.

We had a group of college professors sit in with us two weeks ago and we attempted to point out to them the necessity of working out a text

on Industrial Economics, and that is the problem I have given them. I remember one fine fellow from the east saying, "Well, listen, Folley, do you know how old I am?" I said, "No." He said, "I am 51 years of age and I will retire when I am 65, and if you expect to get that in my life time, you're crazy." But many of the problems with which we were confronted during the last five years that were serious negotiations on the part of some of you men were right on that basis, because of the lack of understanding of, for example, "burden". It has a long history and no one has ever worked it out. It is a very interesting subject.

One of the other things that we are doing is to develop this term called human engineering so that the people of the Ford Motor Company will at least have an understanding of what they are talking about when they talk about human engineering--a great deal like you fellows when you talk about atomic energy. It is a good term but few of us know anything about it. It is the same with engineering but it is a beautiful phrase.

I want to tell you how we approached this subject, because again I think this is rather interesting. Any contact anyone makes is a proposition of salesmanship, and that is the biggest job that confronts me in the Ford Motor Company--selling the Ford Motor Company from top to bottom. Education must play an important part in making more and better cars at lower competition. So we must have the technical know-how; we also have to have human understanding. What can we do to approach the subject of human engineering? Can you imagine me calling up the University of Michigan and saying that we are having a little difficulty with human engineering and we want to give our executives a lesson on that subject? We take the stand that we are a service division of the Company. We don't offer anything; department heads ask for it. If you have sold anything, you know the best salesmanship is getting the customer to buy. That is what we do; we don't sell, but we make sure they buy it from us. So on our problem of human engineering we decided to use the "buying" approach.

We secured a top-notch instructor and we sent out a communication on the strength of a request from two or three men who had hinted that they might need a little practice in public speaking. We sent out a communication saying that we were organizing a class in oral expression; would they be interested? A high percentage of our executives enrolled in that course. The Industrial College could adopt this approach. In order to make an effective speech, you must have human understanding. You must know something about the people to whom you are talking--their position in life, the type of educational background they have had. You want to meet them on a common ground because after all, making a speech is only carrying on a conversation and the response that you receive from a group like yourselves makes you go on and on or shut off in a hurry. It is exactly the same when you are sitting down and talking with another man. Making a speech is not difficult at all if you will approach it from that standpoint. You don't have to be an orator, to get up and make a speech, but you must create human understanding.

What does that mean from the standpoint of making more and better cars at lower competition? Of course, this never occurs in the Army or Navy because you give written instructions, but have you ever heard of verbal instructions given point blank, "Go do so and so." You go back to your desk and say, "I think this is what he meant," and you start interpreting. Then you call in a subordinate and say, "Go do so and so." He goes back to his desk and he sits down and he says, "I think this is what he means." After it is passed down through five hands it finally gets down to the "Buck Private", who does the job. It now comes back up the line and is laid down before the man who gave the original order. He looks at it and says, "What is this?"--with appropriate other words. He is then told, "Well, that is what you asked for." And he says, "No it isn't; I didn't have that in mind at all." Imagine what happens in a factory, when you order a particular part made and it comes in not resembling anything in the world that you had in mind. All that waste of time and expense is due to a lack of human understanding. So you see our approach from the standpoint of oral expression. At the end of eight weeks when we had our last gathering, one of the men representing the group got up and said, "I don't know whether you fellows know or not, but we have been took." "We probably have the finest definition of human engineering that it is possible to obtain. We now know what human understanding is. And on behalf of this group, we would like to continue this session for eight weeks and discuss, 'The Human Element in Industry'."

Gentlemen, I am telling you that that is the Ford Motor Company, the automobile industry today. When you talk about strides being made, you can go back to the five-dollar day; you can go back to labor-saving devices; you can go back to all the historic steps that have been made in industry; but when executive leaders will get together and say, "Let us for eight weeks sit here an hour and a half a week and discuss the human element in industry"--altruistic? Not much.

I went through a plant the other day and watched a man degreasing some parts. He was still using the same formula we used for degreasing some articles for the Army, and it did a beautiful job. Dr. Krieger, head of our staff, was with me and I said, "Does a beautiful job, doesn't it? Why do you want to spend thousands of dollars to set up a different type of degreasing method?" "Well," he said, "You know that formula takes the grease off from those parts, doesn't it? It also takes the grease out of men's hands. Then the skin starts to crack across the knuckle, second degree infection sets in and we take off a finger or a hand or an arm." That is not right, either from the standpoint of the individual or efficient operation on the part of industry, because labor is not cheap. Human life is not cheap. And human engineering is as much our job as is mass production and machine engineering.

We have two courses at Ford that I think you will be interested in because if any men are assigned to the Ford Motor Company, I think it will be part of the program which we hope you will follow. Our Vice President in charge of manufacturing called us one day--and he said, "We need a program of development for our young men. Will you submit such a program?" The last five years have been tough on industry. I think a great many of you men realize that.

The automobile industry is new; it is only since the first World War that the automobile industry has really come into its own; and when it came into its own, it was largely a combination of promoters and mechanics. That is the background of the automotive industry. So the men of 50, 55, and 60, who are in positions of leadership in the industry today, especially in manufacturing, came up the long, hard road. Now these men, just prior to the war, were men who were ready to retire or to take things easy, passing the load on to younger men; but the war hit and we had to have the older men's technical know-how. And then the problems since the war ended have been just about as difficult. We have a lot of men between the ages of 50 and 65 today. We must get busy and get set for the ten-year slump in manpower--executive manpower--that we know is coming. So what do we do?

We have outlined a five-year course for executives in the manufacturing end of our business. We picked men that have graduated from apprentice training and have been out in the plant, have been in supervisory positions for five years; they must be between the ages of 27 and 35; or they must have an equivalent background. We train those men for five solid years. They are switched from one department to another for one, two, or three months as assistant to a general foreman or they are given special problems to work out. Three afternoons a week, two hours a day, they are assigned to the class room in which, for example, Industrial Economics is now being taught. Those are the things that we are teaching them in the class room.

Ten years ago if you had said to an industrial leader of the automotive industry, "Twenty years from now this place will be run by college graduates," he would have thrown up his hands in "holy horror." What happens now? All right, when these fellows finish this course, what do they get? They can have a college degree, a B.A. in Production Management. The courses that we are offering are accredited; the teachers that we have are accredited; we are giving them in cooperation with two universities, also accredited, of course. And there is a free interchange there; and it seems odd that these men who five or six or eight years ago were working down there on a lathe are today sitting in a class listening to a Professor from Cornell or MIT or Wayne University or the University of Michigan, or my own staff.

We need executives, business men, engineers and so on. So we are taking young men as students. We did not have to make this known because they were pouring in from the services. We are taking men who are preferably college graduates, who preferably, again, have not had any experience, who came out of college, went into the Army or Navy, came out of the service and do not know what they want to do. They come to us; and let me tell you about the routine we put them through. We put them through a very carefully controlled interview and four hours of selective testing. We take all accumulative information we can get on those men; we add it all up and say, "All right, can he stand the gaff? Twenty years from now is he the type of man that we want to run the Ford Motor Company--to be in a top position?" If he is that kind of a young man, we put him in an orientation program for 62 weeks of intensive training, eight hours a day, five days a week.

During the first six weeks, they sit in the class room; we do everything possible to wash them out. I will be very frank with you. We are looking for three things: One: Insatiable curiosity. Two: Determination to get an answer to those questions the curiosity has aroused, and, Third: Native ability which will enable them to get ahead. That is what we are looking for.

Now these men, in the first six weeks, get the history, organization and functions of the Ford Motor Company and are immediately put into each one of the seven divisions in succession. We start them out with Industrial Relations. Industrial Relations of the Ford Motor Company have all the problems of taking care of every worker in the Ford Motor Company in regard to health, welfare, increased morale, labor relations, and so on, and, of course, training and education. But we start them out there, and in the last four weeks we send them out to one of our branches in one of the states, to travel with our sales and service road men.

Now what does that give them? It gives them a picture which would take them five years to obtain, if they went right to work for the Ford Motor Company; and in those five years they would be in one department. They would probably get a pretty good picture of that particular department, but they would not know how it functions with the rest of the divisions of the Ford Motor Company. Industry figures that it takes five years to transfer an engineering graduate from technical and theoretical know-how to practical engineering in the automotive industry. We have set up a course for engineers coming into the Ford Motor Company which reduces that period to one year, so that at the end of that year they are where they would have been, if they had come in ten years ago, at the end of five years. Now that is what we are doing in an attempt to make our operation so efficient that men can be advanced at a younger age in the Ford Motor Company.

If any of you men should come into the Ford Motor Company and study our purchasing department, sit in there as a clerk, fill out the bills of material, send out the letters for bids, get the bids back, and check the vendors carefully--we have about 7,000 of them--you would learn what the Ford Motor Company demands from a vendor. What must his operation be? What is our responsibility to the vendor? One of the reasons that we had so little difficulty in our Willow Run setup was because we could go to the vendors that we had done business with for years and say, "You are better equipped to handle this job than anybody else, but you don't have the know-how, therefore, we will send our men out and train your men. We will give them the know-how." "We will supervise your activities until you are able to handle them and handle them right." And I think that one of the Air Forces' surprises was, that after we had been running for a period of time, and they started checking, they found that those vendors were voluntarily returning excessive profits. They have done it for years with the Ford Motor Company. We know what their operation is; we know they must operate at a profit; and we are not, just because we placed a year's contract, going to have a vendor finally getting his operation down to where he is making 25 percent profit; we are not going along with that at all, because if he expects to keep our business, he must know that he must operate efficiently and make a decent profit but certainly not exorbitant.

I remember the first letters that went out to some of our vendors: "A careful check on your business for the last six months shows that you have not been making a legitimate profit, therefore, we are sending two men into your plant to show you how to operate your plant efficiently;" or, "During the past few months you have made 18 percent profit. The government calls this exorbitant. May we point out to you that your total take was so much; may we suggest that in keeping with war times it may be well to send a check;" and they came in. We, of course, didn't have to go out and browbeat any vendor making an excessive profit. That was the way they did business before. You men would learn that if you came into the Purchasing Department. You would learn how carefully we follow every vendor's operations.

One thing you men should know of the automobile business is this, there is keen sales competition, but lawsuits and patent suits are practically unknown. That is the reason why the entire industry was able to serve the government so efficiently and cooperatively during the war.

So, in the automotive industry your problem in purchasing, your problem in procurement, your problem in manufacturing--if you study one company you will get the general picture for the other companies. However, there is one thing I would like to say. The shortcoming in the last war, as far as I personally am concerned, was just this. The design engineer, the mass producer and the employer had no common language and they had never gotten together before Pearl Harbor. The idea of the government telling the Ford Motor Company, "We want you to build B-24's and you will be able to get all the blueprints and the whole know-how from Consolidated," didn't work out very well. What had Consolidated been doing? This is no discredit to Consolidated; do not get that idea. Consolidated, when they get an order for 20 airplanes, has a big order in ordinary times.

So we went to Consolidated, secured our bills of materials and sent out our purchase orders and started piling up materials. When we made our first ship--and I can well remember--we found that the skin on one side was short. What should we do? The answer was to pull it into place. That, gentlemen, is not mass production. You can't do that. So what did we have to do? Do the job all over again and catch "hail columbia" from all the aluminum men in the country while we were doing that engineering job. It wasn't Consolidated's fault. Neither was it the Army's fault. They had never been in mass production. One of the things you should thoroughly keep in mind is that most of the materials in war are never produced in mass until wartime. You are going to have to do something about it, and so are we!

We are willing to go our part of the way, but I do think that when a design engineer sits down and you say to him, "Yes, that is what we want," then those blueprints should be turned over to the mass producer who says, "Wait a minute, you don't have to cast this one and this one and this one; we can cast all three of those together and just them--nothing to it." Just as the Air Corps told us, "Why, you can't stamp aluminum, with hard

dies, that is crazy." We said, "We will never hit the production you want unless we do. You can play around with your rubber dies if you want to, that is fine; but, they can be stamped out by hard dies and they are going to be stamped out by steel dies and we are going to be able to turn them out on production basis."

Now, of course, where we were wrong in our overall mass production concept was explained by General Arnold when he said, "The only thing wrong with mass production is that the enemy won't cooperate. Just about when we think we have the hottest thing that flies, along comes the enemy with something hotter." So we have parts stacked up, running out 20 planes a day, and suddenly overnight we find out that we must put a blister on the B 24; or we must change the nose; we must put a gun down in the nose; the enemy is coming up under the belly of the ship and raising "hobs" with us; then somebody said we should have armor plate which loaded the plane with metal until it weighed 5600; well, there are a lot of things we learned and you learned, but why don't we learn it before the thing happens? Why can't the design engineer and mass producer get together with the user.

Let me say this of the mass producer-he doesn't care whether its safety pins or airplanes, a blueprint is a blueprint, and if it is right that is all there is to it. I think it was the funniest thing in the world the first six months when we had old time automobile men talking about "dashboard" on the B 24. Now we are having a time converting some of those fellows into talking automobile language again. We had to learn a new language, but as far as the plane is concerned, we don't care what you call it so long as you make it according to the blueprint. However, if the design engineer and producer will get together, you can whip that problem.

The next question to be answered is, does it meet the need of the user? Why can't we set up laboratories in every large plant in the country where design engineers and mass producers and your Armed Services could work constantly on development and improvement, not just to make a mockup; let us turn out something that really does the job and get a complete bill of materials, a list of vendors, and type it up to date and find out from that bill of materials what can replace what, in case there is another "Singapore".

And every time we would make a suggestion, from our knowledge of measurement, the airplane industry would say, "How can a manufacturer of automobiles who isn't used to fine measurement, do anything about this very careful precision work?" They had forgotten that they had been using Johansson gages for years, made by us. We made more precision stuff for the old Lincoln motor than was made in an airplane. We know precision measurements, but whether they are useful in the article after it is built, you must decide. So let us build one and then let us find out. When you go into materials and you say that you must have aluminum, why not use magnesium and/or other metals and still do the job without calling General Arnold and having him issue an Executive Order that it can be changed? Those red tape matters can be done away with. You do not have time to do that under the stress of conflict. You are developing too many men in war time. How are you going to get them to get a job done when you hand

them a book and the book has rules and they are supposed to follow the rules? There is no use losing your head or ripen just because you won't go by the rules. Industry is very much interested in this one thing. Why not use our experience.

Yes, the war is over.

I am thinking of Mr. Bricker, as we were talking the other day about his experiences in the first World War, when he was asked by the British Government to come over and set up a tractor plant in order that England could produce more foodstuffs. He said, "World War II was in many respects, World War I, history repeating itself." He said that day after day he found that we were repeating the same pattern, the same difficulties, encountering the same troubles; untrained men not only were in industry but also were in the Armed Services. We must have a program of development within industry. We are attempting to do that now so that when the next conflict comes and you want to put your fingers on trained men you will have those trained men. You also ought to be thinking-- I can't speak of orders, you see, I am not wearing a uniform--but why hasn't there been a selling job done to the civilians or the men who have gone out of uniform to get into the reserve and really contribute to the national program.

I might touch momentarily on labor. Labor has every right in the world to express itself. I think that the one thing that labor has done in recent months is lose its sense of timing. It is very difficult to pay increased wages on a basis of what might happen in the future. And when all industry is tied up, there is no income; it is all outgo, and then labor asks an increase of the outgo on a gamble! I think that the national economic picture is apt to suffer some radical changes unless something very definite is done.

Industry is perfectly willing to take the gamble; my own company has taken the gamble. We agreed to raise the wage of the workers and, beside the hourly rate, we immediately gave a 15 percent increase to everybody on the salary roll, because we felt that the cost of living had increased, and that a salary raise was due.

The one thing about labor that is very difficult to understand is its lack of timing. But don't get the idea that labor isn't smart. As a matter of fact, frequently I think it is smarter than industry. Industry sits back in its little marble palace and says, "We are not going to descend to the tactics used by labor." Unquestionably labor has some men within its ranks who think that the level of labor and the approach of the Union must be raised and you can see those advances.

The educational head of the CIO for our State comes in very frequently, sits in our classes. He was the man who went to the plantwide committee and saw Mr. Leonard. He said, "These young men in training who may be future executives of the Ford Motor Company--we have been asked by Mr. Folley to allow those men to go out to the plant and actually operate a machine. They are not production men, therefore, we recommend that the CIO say it is O.K." And it was done.

I have talked long enough. Do you have any questions?

CAPTAIN HENNING:

I am sure we have had a speaker who has gotten down to the grass roots and that is what makes industry tick. So start your questions now, please.

QUESTION:

Mr. Folley, I still do not feel that classification of work should be so rigid in any union.

MR. FOLLEY:

I do not know whether you men are familiar enough with industry to know that when a man is hired by Ford on a job included within the union contract he immediately and automatically becomes a member of the union. Dues are deducted from the pay envelopes. It is a little difficult for some of the boys coming back from the service to find out, when they get their pay envelopes, that they are short the amount of their dues, but that is the fact; that includes the apprentices in training.

As to the classification of workers. If you are a lathe operator, you are assigned and classified as such and, incidentally, you do not clean your own machine, because if you clean your own machine, you are brought up before the union for doing another man's job. That is a maintenance man's job.

Remember the union's position is that it must protect each worker's job and you can't have somebody else doing his work.

QUESTION:

Would you care to comment on the excess cost in production due to labor?

MR. FOLLEY:

I could give you a very simple illustration at Willow Run. After the contract for B 24's was terminated, the maintenance workers were to do Air Corps work. A contract was written between the DPC and Bryant and Detwiler, which is an AFL union group, and they were expected to tear the machines out of the floor and move them out to the dock. The day they came out-- now understand that the maintenance workers cannot do that work, that is another classification--so the CIO maintenance workers met the AFL machine workers and told them that as long as they were in the plant the AFL men could not come in. And it is a matter of record that for months no machines were moved out of Willow Run, due to the fact that the AFL workers could not come in there with the CIO workers. Little plants all over the country had to shut their doors because they could not get the machines moved. I can name you concern after concern that went into these plants after the contracts were ended. They made their bids. They paid their money to the government. The government

said, "They are your machines; you can go ahead and take them;" but they are unable to move them out of the plants because there wasn't the union classification there that could move the equipment.

I am not saying whether or not it is right, but that is the fact. But as far as getting equipment is concerned, that is a problem that is worrying the union too, not only us, because you have to realize this; there are some very smart boys in the union and they know how foolish it is for a man to stand by doing nothing and they know that it hurts his morale.

As evidence of that, when we started training our salaried men on various jobs, which had been agreed to by both management and the union, after the course had gone on for about two weeks, the union approached me and asked if it could be given to the committee men, and they were given it. They were very happy about the whole thing. But you must always remember that the man who sweeps the floor can't brush off a machine at the same time because he would then be doing another man's work.

QUESTION:

Don't you think that it is actually to industry's advantage to have him do that? You may be a machine man working at 60 cents and maybe another would be working for 80 cents an hour; you have a 20-cent differential there.

MR. FOLLEY:

There is a question as to that. It may take the man who turns the current off 20 minutes to get over to the machine and during that time the operator stands by and you are paying him. After the equipment is turned off, they have to send for the other man to make the repair. There is no use for him to be there until the current is turned off, and it takes him 20 minutes to get there. It takes about an hour and thirty minutes to replace an electric motor. Of course, the man can't carry it; it has to be brought over, and of course that has to be done by another classification!

QUESTION:

Production, consumption, supply and distribution, I would guess, will be 15 percent more. The Ford I have now cost me 30 percent more than the Ford I had before that. Are we not driving for an economic fall in productivity per unit, not decreasing to the strength of our actual economic wealth, to reach the point where Congress figured out; and from the standpoint of profit, I noticed return on the investment in actual productivity of wealth is a productivity so great per unit of cost, material, and labor; are there any figures on that in relation to production per year?

MR. FOLLEY:

You would have difficulty with your figures there. Your figures that would have any bearing at all would be secured before the war. As far as the Ford Motor Company is concerned, that would be before the union and they are not good comparison. We had not reached 50 percent production before closing down and, of course, we are not operating at the present time.

Incidentally, there is an interesting sideline observation. I don't know whether you meant that we were living in a fool's paradise because you hoped to get a car one of these days; but I think one of the things that should be drawn to our attention is the fact that each year we become a little closer to actual hand-to-mouth buying. There was a time when stores and manufacturers laid in a six months' supply or a year's supply. You found that out in the coal situation. All you had to do was shut off coal for 39 days and we just barely had enough coal on hand for maintenance. That has all resulted from hand-to-mouth buying. I have questioned scores of companies and they say they never carry more than a 30-day stock. Men's clothing stores and others just prior to the war, were cutting down closer and closer to actual hand-to-mouth buying. That again is a factor in your cost that is tremendous and that is another one of our, shall we say, evils of mass production, where your flow is so great that you can't stock far ahead; you haven't the warehouse space for the stocks.

If we have to produce 400 thousand--I am not saying we do--but if we have to produce 400 thousand Fords before we reach the break-even point, and if we produce only 200 thousand of the 1946 models, plus the tremendous cost of preparing for the new 1947 car, what effect will this have on our economics? That is just one company. What is going to happen to our world economic picture?

That is the same type of problem of which I was talking regarding the design engineer and the mass producer; they should get together with the user. We had better get together and do some planning; that is what is wrong, I think, in the United States today. We are not doing any planning. We have a lot of theory that sounds excellent, but no practical workable plan. The government says that industry must increase its payroll on its future market possibilities. Industry does it but its a terrific gamble.

QUESTION:

Mr. Folley, all earnings of labor should be based on forecast rather than dividends calculated; why aren't they based on past earnings?

MR. FOLLEY:

Well, labor isn't interested in what you earn; they are interested in what they earn.

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QUESTION:

They have got to be interested in what you can afford to pay.

MR. FOLLEY:

That is true. Of course, the great difficulty is that you have the same problem arising in large industry as you have arising in large cities. You go into a small community and if you have a poor family, you can take care of that family. You go into a large city and you have a slum section and you have a terrific problem to meet. You get involved in politics, real estate and what have you. The same thing happens in large industry.

I was visiting one plant with about 300 men and you never saw a happier group in your life. Now the peculiar part is that the average wage of that particular group is 91 cents. The average wage of our group is \$1.38. They live in approximately the same vicinity, yet this small group is happier, and satisfied. What is the reason that this group is content? They say, "Sure we want more pay but we know that you don't have the money in the bank and if we ask for more wages, you may have to close your doors."

But, unfortunately, with big business, do you think the Ford Motor Company could afford to close its doors? Do you think the government would let General Motors, Ford, or Chrysler close its doors? Of course, the stockholders wouldn't let the other two close, but with our outfit, I imagine, the family could still get along.

QUESTION:

Mr. Folley, it was my experience to be in Detroit in early 1941, 1942 and 1943, as an Inspection Officer. It is my observation that the automotive industry generally--and I am not stating any one--the automotive industry generally treated inspectors as a necessary evil to be considered only if something went wrong. Is your company figuring quality control on a different basis or are you going into a real training program for inspectors, and are you doing a bang-up job on inspection?

MR. FOLLEY:

I am glad you brought that up because I have seen things on both sides of the fence. If you don't take inspection out of Civil Service in the next war, you are going to have plenty of difficulty because of all the bench warming outfits I have ever seen in my life, they were the worst.

Understand, I am not condemning Civil Service as such but its use in inspection which I observed. Probably the weakest link in industry is inspection. I know that. We thought the government might improve the situation but it didn't. We must be careful in both the selection and training of inspection, and that we are doing. Quality control is very definitely the hot thing right now. Two things, work standard and quality control, are taking up more and more of our time in training. I would

say they are taking 50 percent of our time in training, right now, quality control and work standards, that is, time and motion study.

QUESTION:

I would like to follow your remarks up and agree with you completely in regard to Civil Service inspectors. However, I would like to qualify that by saying this, that people in the automotive industry and aircraft industry didn't help them.

MR. FOLLEY:

I agree with you entirely. But I think that the one thing that industry has paid too little attention to in the past is inspection. We set out on our program three months ago and we are getting much better results. However, we were very proud--must get in a plug once in a while, you know--that the Air Corps was very willing to accept our inspection on B-24's.

QUESTION:

Mr. Folley, to get back to this utopian situation which we would like to reach in getting management and the user and the designer together, assuming that the Ford Motor Company is getting ahead with their own picture, but to spread the thing out, on what level would you suggest the program would have to be hit and what do you think is the logical agency to do that so it would have the necessary fortitude to carry through.

MR. FOLLEY:

I can't answer that last, the necessary fortitude. That is a very difficult question to answer for this reason; manufacturers, like your leaders of the CIO or any other union group, don't always agree. But there is one group within manufacturing that does agree and that is your training and educational group. I don't know whether or not that is the right place to approach it, but we are the fellows who have to do the training job, and I am sure that if this particular group would appear before the national organization responsible for industrial training and did a job of salesmanship and were abetted by some others within the organization, they at least could lay the ground work. This group always works with management and they can assist in the selling job with management.

I think there is a two-fold thing to be considered. I think that not only should members of this group be selected to work in industry, but I think that this group should also select those in industry to work with this group. We need that training just as much as you do to catch the picture. And I don't see why it couldn't be worked out.

I do think that that is probably the best place for the opening wedge. There is one other group that may be very very helpful, and that is your national engineering group. I think engineers in industry as a whole are probably more aware of what is necessary than any other group. In the

automotive industry--If you should happen to come to Detroit and wanted to get the engineers together and paint them a picture of what you thought was necessary and what you wanted to do--I don't know of a single top engineer who wouldn't assist you.

That is quite a hot question incidentally, that you shot there. I will have to do more thinking on it. But it is possible.

COLONEL JAEGER:

Mr. Folley, we have discussed the need for planning which is recognized by all; who do you think should do this planning?

MR. FOLLEY:

Again I get back to the picture during the war when the Armed Services had no difficulty at all in gaining entree by a telephone call or walking in to the heads of any large company in the United States. It would be a very improper question to ask how many of the heads of the companies have been visited in the last six months. It is all a selling job as far as I can see.

I don't think you will find American industry very difficult to get at if a sales job has been done.

But I think all the leaders in industry would welcome very much having the Armed Services keep in close contact, and close liaison with them as to what is going on. As one of the men, an engineer, said to me the other day, "I wonder whom the Armed Services think they are kidding about all this secret work that has been going on the last six or eight or ten months. They have to come to us for advice. We give it; we are interested. But," he said, "they walk in just like sonny walks up to papa, 'Give me a penny,' with no reason at all; give it to me; I will take it; it is none of your business what happens to it." After all, business has a great stake in our future. They are just as much interested, if not more so, in what the plans are and in the planning; and I think that even if some are unwilling, it should be demanded that industry and business present that service to their country. It may sound idealistic, but I think it is factual. I think the planning should be done by those who have to do the job when the emergency arises. They ought to start doing that job now.

QUESTION:

Mr. Folley, you have covered the point of planning for the production phases of the job, but suppose we wanted to plan--and I suppose we do--a picture of labor relations, should we go to the union leaders and ask them, and to the industrial leaders that are dealing with labor relations and ask them, and work this thing out as a joint proposition, or should we sit in the room some place and work it out?

MR. FOLLEY:

Well, we did a lot of sitting in rooms before Pearl Harbor, didn't we?

QUESTION:

Yes.

MR. FOLLEY:

All we did was to wear the varnish off chairs. I think this. I can only speak from my experience in my own company on this, but I am very sure that Mr. Leonard of the CIO and Mr. Bugas of the Ford Motor Company and representatives of the Armed Forces could sit down around a table and get down to the business of planning without any difficulty whatsoever. In my opinion we are going to have mobilization of the worker the next time. We are going to have to mobilize the entire country and not just have a draft to call certain men into the service, because that was one of our shortcomings in this war. For instance, our engineering department was stripped right down to the bone. It was a terrific handicap, in trying to get a job done for the government, certainly there should be a balance somewhere. Surely the Armed Services needed them; production needed them. So I say that it would be, as far as planning is concerned, a job that must be planned all the way through, in labor, in industry and in business; and I don't know why the Armed Services shouldn't approach the groups and say, "We must have this service from your organization; whom do you appoint?" I don't know whether or not that answers your question, but I have that very definite feeling regarding it.

Thank you very much.

CAPTAIN HENNING:

Thank you, Mr. Folley. We will dismiss the class.

(12 July 1946 - 200)P.