I agree with Mr. Feiss that the situation does not exist to anything like the extent that the average outsider thinks it exists on the job. In the second place, in so far as it does exist, it can be lessened a great deal if we will try to approach the problem as if we ourselves were going to be on that job. In our own experience we know that nobody gets anywhere with us by coming to us and saying, "Bill, you have an awful job, I know you abhor your job, and therefore you will of course wish to lessen your hours on it and then have more fun in your leisure."

Nobody is going to get anywhere with you and me by that sort of talk, because you and I are having the time of our lives on our jobs. For the most part, we are thinking the day not long enough for us to do our work; that is because we see into it and find in it such large possibilities for service, such large values of all sorts extending out of it. I believe it will be immensely easier for us to approach the problem of monotony for the workers in that manner than we have any idea of, just because I am perfectly certain of this: that the working man on any job, whether it is shoveling coal, tending a machine or running a locomotive, is lying awake nights trying to see more of the spiritual value in that job than he has as yet seen—trying to get more of its fine points. His great complaint against you and me is that we are so blind that we cannot see the values, the fine points, the satisfactions that he sees so plainly in his job.

I have been telling about the locomotive fireman. One night when I got up there by him on his seat, the first thing he said to me was: "The engineer over there is a blamed important looking fellow. He thinks he is running the whole show with his hand on the throttle. But, take it from me, he would not get very far if he didn't get his power *from me!*"

I said to myself, "He of course simply imagines those fine points of his job. There cannot be any in the art of throwing coal into a fire." Then he asked me to take a chance at it. So he showed me how. I tried to keep the fire-door closed up until the last minute, while getting my shovel full. Then I would open it and close it quickly after delivering the coal—with one foot on the engine and the other on the tender, the train going seventy miles an hour and the engineer calling "Mind you keep yourself loose-like above the waist up, so you don't fall out!" Just as I thought to myself, "I have got this thing down pretty well—this trick of putting coal in the fire," he said, "That's very well, but take a look up here at the steam gauge. Buddy, I'm awfully sorry but we had 180 pounds of steam to start with and have only 150 now! If you keep on putting in coal in *that* way, we'll soon come to a dead stop. Here, let me show you!"

He got down and with the shovel for a visor looked into the fire: "Oh yes, over there is a black hole that needs more coal—over here another. Very well!" Then he gave the shovel a twist of the wrist and shot the coal over into the right place. Then he shot the coal over into the other place with "reverse English" on his wrist. Then he hit the shovel at the edge on the lip of the fire opening, so that it sprayed the coal over the top of the fire. Then the black smoke came out above the cab as if to say, "Thank you, that's enough," and the steam gauge showed its appreciation.

Then he said: "You see an engine is all fired temperamental; it has got to have coal *when* it wants it and *where* it wants it exact. Now these people who are dealing with human beings are awfully stuck on themselves. Huh! you can put anything over on human beings, but believe me, you have got to go some to put anything over on a fire."

Now I could talk until six in the morning, telling stories of that kind, showing how working men are just praying that the rest of us shall see the fine points of their wonderful jobs. We think the shoveller has no respect for himself because he is just working with a shovel, but one of the best engineers in the country tells how he says, "Mike, bring me a shovel, I want you to do a job." If Mike goes and picks up a shovel like this—taking the first one he sees—he says, "Mike you won't do!" But if Mike picks up a shovel like this—lifts it, and puts it down and then takes up another, finds it is all right, and says, "Yes sir, what can I do for you?" Then he knows that Mike has the shovel that is just right and is a real shovel artist. The only fight I ever saw among common laborers was over a shovel. The shovel belonged to the company. Men like to feel that they can make themselves effective and show that the world would not run well except as a result of the mastery of some tool.

When we say, "Look at that fellow, he has got nothing to do but mind that tool," he wants us to say instead, "If you had been working without this tool as an old style craftsman you would have gotten in touch with—and served—perhaps a dozen people. Now the thing you are doing with that tool will get you in touch with—help you to serve—a *thousand* people!"

Instead of that we say, "Oh, that's too bad, we will help you out on your off hours." People who try to put themselves so superficially in the place of the other fellow will be as bad as the minister who said, "We realize, O Lord, that on six days we are working at our jobs, earning our living, and of course getting dirty, doing things we do not like and getting our souls soiled; but we thank Thee, O Lord, that we can come here to church on Sunday, and so be purified for another week of unpleasant living and working." Now we try to say much the same thing, when we believe that of course everybody hates his job, but we will give him enjoyable leisure time. Of course we want him to have leisure time, but we have not scratched the surface of taking men as they stand at their work doing these repetitive processes, and filling the minds that want to be filled, and helping them to think better of themselves by understanding what their work is all about. There are too many thousands of men who have never seen the completed machine of which they have been making parts for years. If we can help them to realize what that part is, what it has contributed and the service it has performed all over the world, then we have found the best place and the most normal and wholesome place in the world at which to meet them. That place is there on the job, not in their leisure hours. There on the job is where they live and move and have their being and there is where we should organize ourselves to live and move with them.

ANNA BEZANSON:[1] Mr. Williams said what I wanted to say, and said it very much better; he laid stress upon the amount of skill that is required on minor operations. People who go to the shop with the clerical point of view never really get the spirit of the workman, who knows that skill does not consist of ability to operate a machine, and who never, for a minute, thinks that the operation of a machine is the fundamental thing in connection with skill. He knows perfectly well that a knowledge of the materials of his trade is the fundamental thing. Formerly, in the machine work, when the mechanic got through his apprenticeship, he travelled. What he travelled for was to gather up a knowledge of the trade—a knowledge of chemistry, if he were in the iron industry, and a knowledge also of chemicals if he were in the pottery industry. This knowledge of chemistry and science is open to every apprentice in every one of our shops today, so that what we have forgotten is the very great adjustments formerly necessary to secure information. The man knew something of his materials by reason of his actual knowledge of the machine and the trade. When we say skill is transferred from the man to the machine, it seems to me that we are forgetting the technique of constructing machines. An inventor studies operations and builds a machine to take over the operations requiring the least discretion and the least amount of attention. Obviously what is left must be that part of the operation which is not varied and which requires the greatest amount of adjustment. The operation done by the machine has always been monotonous; if it is monotonous now, it has always been so, and has not been made monotonous by being machined. There has been added the knowledge of operation, promptitude in attending, and the adjustment to meet new situations. Those who know far more of industry than I do, know how difficult it is to get any product so standardized that there are no new problems to face, no weather conditions to be met, and nothing that the worker himself cannot take care of in looking after his machine. It is difficult to make any work foolproof. Only a person who knows the shop can appreciate how many new situations arise even on simple work. We have never done full justice to the actual amount of skill which the tending of machines and the performing of minor operations requires. It is often said that such jobs can be learned in a short time, yet everyone knows that a department of people of such short experience would be impossible to supervise. The silk man goes to the shop with a realization of the knowledge of the materials in his trade, acquired by working in many plants. The same is true in cotton and metal work. I submit that the subtle ability to control materials is the important thing gained in the shop in anticipating working problems, and that in so-called automatic work, more is involved than the mere tending of machines.

YOICHI UYENO:[1] The problem of monotony is an important topic in industrial psychology. Even from the humanistic point of view, the dulling effect of industry on the workers, if there is any, must be studied thoroughly. But I believe there is another point of view than that of Mr. Pound.

When I was in Cincinnati, I had the chance to visit the plant of Proctor & Gamble, and was speaking about the problem of monotony with Mr. Zoeller who is in charge of employment management. He said that he could not stand such monotonous work as putting the top on every Crisco can which is brought by the conveyor incessantly year in and year out. So I asked him

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