

standards. Similarly management representatives perform a like service with all the vigor of untrammelled self-interest. I want to emphasize this. I believe that only that machinery which provides for the best interests of the parties concerned, and gains that whole-souled and unhesitating support which we give to our own interests, is valuable. *The key to social reform is always one that each interested party can turn to his own advantage.*

2. In order to set a job standard, certain definite conditions have to be obtained. Many of them boil down to the "end breakage" per unit, as the one condition which must obtain in order that the standard may remain fair. But there are others: What is to be done with dirty roving when detected? What precautions are expected in order to detect it? Exactly how should piece-ups be made in the interests of uniform and strong yarn? What services are to be performed by the section hand, the fixer and others? How are they to be summoned? In each of these cases we hammer out a standard practice which can scarcely be decided on until it represents an economical and practical answer; and then it is *nailed down*. The conditions are recorded and no serious slip can arise, no uneconomical practice which alters those salient conditions creep in, without some prompt and justified complaint. This is worth a great deal to the management. It is true that any sound research requires this same painstaking settlement of what is economical and practical and the same careful record; but such research does not often have the same punch and the same self-righting capacity that it does under our hook-up.

3. As a direct result of this establishment of standard practices, comes a profound improvement in the position of the overseer and in his relations to his help. If an employe does not see fit to follow the standard practice which he has had a hand in setting (assuming he has had a contribution to offer) then that employe is clearly in the wrong. Discipline cases do not normally arise when the employe sees that he is clearly in the wrong. This establishment of standard practices, therefore, restores a form of operation control which has not always obtained where the co-operation between plant and Union has been less detailed. It creates a "power through" replacing a "power over" that Miss Follett has discussed before this Society. She said that joint discussion seemed somehow to

increase power, rather than to take it from either party. Both parties get *more*. If I understand her point, this is a good illustration of it.

4. Finally, there is the advantage that I suppose a psychologist would call "emotional escapes along constructive channels." The capacity to feel and think which exists in every one of us is largely unused in industry. If it is merely dulled, the plant and the neighborhood are fortunate, but it is far more likely to be perverted. What I mean is that the typical worker, in my own experience says, "You don't get any appreciation." He either broods or shows his ability to his associates by his ingenuity in soldiering, and so forth. The typical employer, on the other hand, has his desk piled high with matters which could have been settled more effectively and more promptly "at the point of the job" and which should never have gone to him. This waste of capacity, this employment of "hands" instead of heads, can be greatly reduced by joint research. It not only militates against strikes, but it tends to change the attitude of all from one of obstruction to one of construction, to prevent complaints and reduce turnover, to retain the most self-reliant instead of gradually pushing them into the plants of rivals.

What Joint Research Offers the Union

1. Joint research offers full representation throughout the processes of setting standard jobs. This is a considerable measure of protection against judgments which may be seriously prejudiced. This may be said very briefly and in chilly technical terms. But it means to the wage-earner an increasing protection against inordinate demands upon his or her health; it means an increase in security against having to leave or being fired, because some assignment, due to error, was actually out of reason. Where the old bluff technique obtains, the operative acts exactly as though he were terribly overworked, and when the management is obliged to resort to meeting bluff with bluff, this risk of error is greatly increased. Joint research should invariably prevent such cases from arising.

The question of quality standards is similarly relevant. It is often very difficult to lay down standards on quality; but the most difficult part is to get it generally understood that a definite practical standard will produce better cloth than a "perfect" standard (which really is no standard at

all). Without standards an operator is always open to criticism, which he does not always deserve but cannot well answer.

2. As I have stated, when the job standards and a record of the conditions which obtain are a part of the understanding a reasonable uniformity of the work is secured. If the conditions recorded as standard begin to fall off—if the work gets perceptibly more difficult or irregular—these facts are soon made obvious. An end breakage test or a short study by one of the research staff should make the matter clear, without the delay of a complaint. There is here a protection against suffering from inadequate management. When arrangement regarding jobs is verbal more or less valid complaints are almost unavoidable and are to be found in every department. So are more or less valid replies. There is considerable difficulty in obtaining improvement without understood and recorded conditions—standard practice.

3. I am assured that our joint research has heightened the interest in the Union movement among its members. The meetings are much better attended and they are more interesting. It is whispered that those who represent the Union in joint research are often "taken for a ride," but I notice that they usually come back from the Union meetings encouraged and feeling that the many evenings they are devoting to this work are worth while.

4. Joint research offers ingenious and ambitious employes a splendid opportunity to show their value as budding inventors, as clear thinkers and as spokesmen: Where specialization is introduced a number of possibilities at once arise for using implements which would not pay when every operative has many incidental operations to perform. But these physical problems are less important than those relating to our work. How can we best measure this effort or that; how *regularize* it; how avoid this objection or that; how can the joint machinery best cope with some persistent problem? I often think that the main job of the industrial engineer is to liberate the ability which has somehow been lost because of our misconception of the nature of organization. I am convinced that the unions through the breadth of this land are fighting this same battle, often unconsciously; and further, that the greatest waste in industry is the waste of this constructive spirit which is just

beginning to be tapped by means of joint research.

Discussion

By FRANCES PERKINS
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EVERYTHING I read today I read from the point of view of how it may be made to affect industry in the State of New York, which, after all, is my prime responsibility. As I understand this Naumkeag experiment, it is an experiment made in a particular locality in a particular industry with a selected personnel. Out of it has been demonstrated a very real truth for that particular situation. If it is true generally as well as specially, it is of tremendous importance to all of us who are engaged primarily in trying to create an industrial civilization.

The Industrial Commissioner of the State of New York would be quite unequal to the task of making a yard of cotton cloth, assembling a machine or even making any simple article which is ordinarily in commercial use. Yet we are all engaged in this industrial enterprise; those of us who have any interest in industry are engaged, it seems to me, in a great philosophical enterprise, an effort to create out of a society which is frankly industrial, a civilized society. Can we have an industrial society which is also a civilized society? This is why we are all interested in such a vital experiment as this, because it seems to bear on the face of it, for that locality, at least the germ of civilized industrial life.

All of us have heard for the last twenty years the wailing of those who regret the passing of the day of the hand artisan, the wailing of those who say, "How beautiful it was in the day when the potter took the clay and formed it, and had an artistic as well as a materialistic expression when he made the bowl." That was, I think, an industrial civilization that we all realize: it was a civilized society as well as an industrial society where the artisan and the craftsman controlled life and had a social and political life which arose out of his activity. I have always believed that the time would come in our modern industrial state when we also would have a period in which the activities of the people and the life of the people would reflect their relationship to their work. It is possible that in this Naumkeag experiment we have the beginnings of a civilization in which people's activities, people's