

experience of many other workers who came in contact with scientific management during the period of its naiveté. A few years later, when my outlook had broadened to an interest in the entire field of industrial management, I became aware of the psychological problem that this earlier experience presented. Why had I been fairly contented at the lathe job before it was taken over by a planning office, and why was I dissatisfied afterwards? No answer was presented by a scrutiny of the objects which the study was designed to accomplish, for these seemed wholly desirable. It was perfectly obvious to me that machines should run at an efficient rate of speed, tools be ground to the best shape, workers perform their jobs with a proper economy of time and effort and intelligent output standards be established for different jobs. It gradually dawned on me that the answer lay in the fact that the job formerly had made demands on my intelligence and thus engaged my interest. When the management took over exclusive control both of the conduct and the results of job study, I was deprived at once of the opportunity and the necessity for exercising my own wits and was unable, thereafter, to devote myself wholeheartedly to my work.

There is growing recognition among engineers today of this inadequacy in many of the earlier applications of scientific management. As Samuel Gompers once stated, the new technique "failed to discover all the fundamentals." The inadequacy, however, was not due to any unsoundness inherent in scientific management, but rather to a decided unsoundness in the pioneering use of certain of its principles. And an increasing number of industrial engineers are glad now to make this acknowledgment. Dr. H. S. Person, Managing Director of the Taylor Society, has expressed the new attitude as follows: "It has taken nearly fifteen years of observation, experiment and thinking to discover the real meaning of scientific management—that it is essentially co-operative and that without co-operation it cannot exist."

This new view of job study is supported today by the experience and testimony of progressive managers, labor leaders and engineers, and there is much unanimity as to the general character of the necessary remedy. The latter, it is believed,

¹Bulletin of the Taylor Society, Vol. X, No. 3, June, 1925, pg. 130.

must be found in a new conception of job analysis conducted so that the individuality of the worker and his subjectivity to his job, instead of being sacrificed, will be preserved and in every possible way enhanced. I am convinced that this can be accomplished only by the joint participation of workers with management in the conduct of job study and in the control and application of whatever facts are established by job study. Let us consider in a tentative manner possible ways in which such participation may be assisted.

The first necessary step is one that even now is finding effective application in many progressive plants. It consists of the establishment of a joint job analysis committee thoroughly representative of everyone in a shop concerned with, or affected by, job study. Such a committee should, I think, represent three interested groups. The workers must be fairly represented, management must be fairly represented, and as certain aspects of job study are technical in character, the committee should have at least one technical member representing a central planning office where technical details have been previously worked up into results for the joint committee's consideration. Sydney Webb, in his little book "The Works Manager Today," suggests that half the committee members should be elected by the union local and half by the shop as a whole. It is unwise, however, to lay down set rules regarding the exact constitution of such a committee, as the character of the industry, the form of the labor organization and local shop conditions must all contribute toward developing its ultimate composition. It is sufficient to emphasize that it should be in every sense a joint committee; that it should fairly represent the workers in that particular shop, their union and management; and that it should be served from a central planning department with whatever technical assistance may be necessary.

Assuming the existence of a joint job analysis committee constituted along these general lines, let us glance briefly at the work which it must accomplish. In doing so, it is well to keep before us the general aim of job study, which has been stated as "the development of a body of knowledge as to how, under existing conditions, particular jobs may best be performed; 'best' in this sense implying, on the one hand the idea of greatest safety and general security to the worker, and

on the other hand the idea of greatest economy in the expenditure of time, material, mechanical energy and human effort." The job analysis committee must thus receive and consider suggestions tending toward the more efficient co-ordination and use of raw material, supplies, machines, tools, fixtures, mechanical power and human effort. It must also receive and consider suggestions relative to the proper guarding of mechanical equipment, ventilators or fans to draw off injurious fumes, adequate illumination and shop sanitation generally. It should also approve all piece work rates, the latter based on minimum wage standards previously established by collective bargaining.² The job analysis committee should also, I believe, consider suggestions relative to the amelioration of monotony and fatigue in the performance of work. It is interesting in this connection to note the frequently recurrent proposal that workers on very tedious and uninteresting jobs might master a second somewhat different operation, and engage during alternate periods in each; the morning, say, being spent at one job, and the afternoon at the other.

The joint committee on job analysis thus becomes in the strongest sense a "suggestion" committee, and it is in this character that it amends the shortcoming of job study conducted along the lines described a little earlier in this address. By establishing a job analysis committee representative of all the workers and then making it accessible to suggestions from each worker, the latter is rendered subjective to and, to the limit of his skill and intelligence, the investigator of his own job. The joint committee thus assumes the role of a judicial court convening regularly to pass on the economy, availability and general merit of suggestions from the shop.

I wish to lay particular stress upon one element in the work of a job analysis committee. It is the detail of adequate recognition for meritorious suggestions from workers. It would be difficult to place too much emphasis on the general proposition that good suggestions should be recognized in some systematic and distinctive manner. I have found in the functioning of shop committees that this detail of recognition too often is handled in some perfunctory and unsatisfactory way. It is

²This applies while wage incentives continue in use in industry. See author's discussion of "Financial Incentives," pg. 435.

well to remember in connection with recognition that there is an intangible reward that is precious to nearly every human being. This prize is honor. Whatever else is given—and I think that there should be some material reward—good suggestions from workers invariably should be honored. Special recognition of this character, however, should never be offered as a substitute for legitimate promotions, fair wages or increases in pay but should be separate from, or supplementary to, regular advancement.

Job analysis committees exist today in open shop establishments, functioning as subsidiary committees of company unions. I wish to be fair to company unions. I think that they have some merit in the experience of parliamentary and conference procedure that they are giving to worker members. But as a means of giving the worker an actual voice in determining the conditions under which he will work, and giving him a sense of initiative in the suggestion of improvements, they are inadequate. A number of company unions have come under my observation during the past ten years, and I have found them, without a single exception, anaemic affairs, deficient in general vitality and possessing, from the workers' standpoint, no economic power whatsoever. *The joint job analysis committee in any industrial establishment needs the reinforcing strength of the workers' regular trade union.* Thus reinforced, the workers gain a sense of freedom and strength which is part of the essence of independent and creative thought, and let me remind you that independent thinking on the worker's part is a necessary condition of his effective participation in job study. Thus reinforced also, the word *co-operation* becomes, from the worker's standpoint, something more than a meaningless abstraction, for he is then able to co-operate on something approaching a basis of equality. In the company unions that I have seen the workers, to express it in Irish style, have been engaged largely in assisting the boss to co-operate with himself and in applauding whatever success attended his effort in this direction.

This, however, indicates a new responsibility which is beginning even now to rest on the labor movement, and of which, if this important Conference on Waste Elimination may be taken as evidence, labor is becoming fully aware. *It is the responsibility of requiring, and insisting and demand-*