

analyses and standing orders with bonuses for the routine duties of a large number of the salaried employees and day workers on other than production work, instituted by Mr. Hathaway under Taylor's direction at the Tabor Manufacturing Co. in 1905, sixteen years ago, were masterpieces and far excelled many that have been independently developed by others in recent years. These covered certain phases of attitude and cooperation, as the bonuses were revokable by the superintendent for such causes as inattention to business or improper behavior. In 1903 Taylor told me how essential he felt to be the issuing of such detailed specifications of duties and the providing of incentives for their proper performance. Mr. Hathaway and Mr. Barth confirm my impression that such procedure was at that time generally regarded as being one of the features of the Taylor System, that Taylor very early recognized the possibility of studying most all human effort in the plant and office, and many years before (I am confident between thirty and forty years ago) utilized standard duties with one kind or another of bonus or piece rates for many planning room, clerical and supervising positions that are usually salaried. Many of these tasks called for the given day's work to be done each day even if the party had to stay overtime to get it done. So when you get right down to it, there is really comparatively little that is new "under the sun."

The rating of cooperation, however, and the other qualifications that go to make up a general first-class man outside of the specific requirements of his job, has not previously had as much consideration or attempt at gauging as closely. However, in 1914, after a number of years of less complete measurement, I finally seriously undertook it in addition to the previously used rating of job performance, in order to forestall, meet and eliminate the obstruction, lack of cooperation, resistance to progress and change of method that so often here and there in an organization has been an issue that has to be met and eliminated, frequently through much sweating of blood and resort to strenuous measures.

Within an organization we shall always have differences of opinion—we want them, helpful, open-minded opinions, the results of individual thinking—but when, after considering and weighing these different opinions, certain policies and plans of action are decided upon, then the different divergent views should be subordinated to making the plan a success along the lines of the policy adopted by the business, even

though it may be at considerable variance with an individual's previous stand.

It should be recognized at the outset, however, that for the intelligent acceptance and wholehearted carrying out of any new policy or plan (including this one), it is essential that it be thoroughly *sold* to those who are affected by it. In such selling of new plans as to their fairness, benefits and practical working, lies one of the most essential responsibilities of the executive heads of the business.

This plan of performance ratings as finally carried out is not the development of any pet theory, but the outgrowth of the actual steps necessitated in the enforced meeting of these situations and the search for a better and strictly practical means of stimulating cooperation where it had previously been sadly lacking, and of gradually meeting a long recognized need of knowing what quality and quantity of performance each member of the organization was actually contributing to the business.

2. Rating by Elements

In laying out the plan to be followed, we want, in the first place, a method whereby each salaried employee can be checked up, and can check himself up on the numerous points which constitute a first-class man in his capacity. Knowing what is expected of him and what his standing is each rating period, as well as the qualities and occurrences which go to make it up, he is enabled to profit by them and bring up the efficiency of his work and standing in future by overcoming his deficiencies.

We have endeavored to analyze what qualities go to make up a first-class man—a man who will stand 100 per cent on everything which makes for success as a business individual in general. This list of qualities is not considered conclusive by any means, but an effort has been made so to segregate the various qualities and their elements, that the performance on each one of these can be rated independently of the others. This list is added to from time to time as matters come up which need to enter the rating, and it is understood by all concerned that the rating is therefore not necessarily confined to the qualities covered by the list (which is furnished to each one), but that they are apt to be rated on additional ones as occasion may require, these being added to the list for future ratings.

The degree of value of any mode of measurement, I always feel, lies in the distance we get from general deductions. No one, no matter how clever, can

accurately and justly pass on the value of a man in the general terms of cooperation, reliability, ability, action, leadership, personality, and job requirements, without first breaking down these qualities into their primal elements. Each of these is too big and too general a classification to admit of valuation except by the total of the ratings on the elements going to make up each of these qualities.

In order to be able to set proper standards for machine performance, it is necessary for us to break down the machine operation into its elements, analyze, and by slide rule or otherwise, determine maximum or relative values for each of the twelve variable elements entering into the machine operations. Each one of these elements affects the whole operation so much that the possibilities of the machine cannot be determined until the possibilities of each of these have been separately and relatively established. As Taylor has said:¹ "It will be evident that the mechanic, expert or mathematician does not live who, without the aid of a slide rule or its equivalent, can hold in his head these twelve variables and measure their joint effect upon the problem." How much less possible is it for a person to hold in his head and measure the joint effect of the more than a hundred variable elemental qualities of a first-class man!

In order to set an accurate task for a factory worker, the variable machine possibilities must not only be definitely determined, but in our time studies we break down an operation into its primal elements of motions and then evaluate these elements before we can accurately state the correct time for the whole operation.

Should we, therefore, try to establish a rating of an individual until we have first established ratings on the elements going to make up the qualities which we look for in this individual? If we do, we are reverting to rule-of-thumb measurement, which we have been trying to get away from these many years.

Therefore under Attitude and Cooperation we check up and rate on nineteen elemental qualities; under Reliability, five; under Ability we have fourteen elements; under Action we have twenty-one; under Leadership, fifteen; under Personality, seventeen. Each of these elemental qualities is given a value which will represent the percentage or points which will be deducted from 100 per cent for the total absence or zero marking on this element, with proportional ratings for the varying degrees in which such elements prevail.

¹"On the Art of Cutting Metals," p. 32.

Then the requirements of each person's own duties, functions and responsibilities are analyzed, the elements are listed, and values similarly assigned to each. These job elements of course vary both in number and valuation with each individual.

In submitting the list of elements on which ratings have been based, I want to emphasize that I believe it is far from perfect and conclusive, and is submitted only incidentally to illustrate the point of rating by elements rather than to try to lay before you a complete, fixed or final standard of the particular units and the weighting of these units of measurements; and the groupings are primarily for convenience in listing the specific qualities rather than as necessarily accurate designations of the sum of items listed thereunder. Along with the discussion that may be brought out, it will be remembered that these elements are those that have been called for in meeting the attitudes and tendencies displayed in certain organizations. The original list of elements started with has been added to frequently as needs have come up; others which it was earlier thought were going to be quite important, have been eliminated. Those remaining have stood the test of frequent application and measurement, and though they will doubtless be altered in future, have been instrumental in bringing about a more healthy team-work, loyalty and individual effort in such organizations. In other plants, a somewhat different line-up of points of rating might be desirable, and I dare say, to a certain extent, *would* be desirable. In a similar manner, the method of arriving at the markings of each person is the result of the elimination of several earlier forms of establishing these standings, and may yet be changed if a more effective way is found.

The idea that I want to put across, and as strongly as possibly, however, is that we should adopt *some* means of measurement of salaried employees, that it should be based on the evaluation of *definite elemental* qualities, and determined not from general and vague impressions or opinions but from actual and *specific instances* of which memoranda is made at the time of occurrence, that its operating should be *open and above board*, and that to be successful as an incentive, it should be accompanied by *both moral and financial rewards* for high degree of performance.

The comparative weightings of the elements is a matter which I believe should be given extensive future study in various plants, and there is much to be gained by the joint study of these points by a group or com-