

conditions may change the order and importance of the ratings.

These examples will perhaps serve to indicate the utility of our analysis of initiative. They illustrate the fact that this, like so many similar terms, is not a safe word to use for accurate description. Its real meaning varies with different situations. But if we say that it is self-reliance, fighting spirit, energy and constructive imagination in some particular degree and combination we have rather completely defined the requirements in a special case. We have begun to give the executive a more accurate way of analyzing men and jobs; and we have given the psychologist a list of "basic" human qualities whose average level he will be able to appraise or measure with fair accuracy. He is obviously almost helpless before such a non-descript term as initiative.

My friends the executives may here object to exchanging one word for four. They feel that they have too many terms now. Actually, however, they will find that they have fewer words in the end. There are, for example, perhaps a dozen words which denote various manifestations of self-reliance under different circumstances. But given a man's "average level" of the basic quality, the experienced executive fits it into the total situation of the job, seemingly in a moment. He has considered the man's probable general attitude, his working under the direction of the particular boss, his accepting necessary responsibility, his presumable relations with his associates, his superiors and his subordinates, and so on. If there is a misfit, he has picked it up. By having a "key" word he has not had to match the man up with a mass of detailed verbiage describing each situation. He has not confined himself to the effect of self-reliance on a man's initiative, but has applied it to every appropriate situation in the job. That element is finished.

Similarly an appraisal of a man's average levels of energy, of fighting spirit and other basic terms, will give him immediately keys to a dozen or a hundred different situations likely to be found in the position.

In the end, he has not only reduced the number of his terms, but those which he does use are simpler, more widely useful and more clearly defined. None of these are new to him. He uses them now. But he can utilize them more fully and more effectively than he has in the past, especially

when he can get rather definite measurements for them in the individual.

The psychologist, in turn, will avoid a hopeless morass of uncertain meanings and vague aims. With the executives' list of human characteristics and their definitions in hand, he can repair to his laboratory and go to work with considerable satisfaction. He has objectives in research, which are definite, and dictated by practical experience. The results will be immediately and profitably usable. Also much of the work is in the field of the emotions or "affective" qualities in which he has been groping for something solid for some time. He may doubt the wisdom and accuracy of what the executives have handed him; that part of the list may not conform to all his present conceptions of what the emotions are, or how they act. But executives seem to know how they generally operate in industrial practice. Their ideas are worth considering.

Fortunately the psychologists can assuage some of their doubts with the certainty that they will eventually have available fairly objective measurements of the results of their work. When their instruments of appraisal have been in operation for a time in industry, there will be a great number of cases where their validity has been demonstrated by events. On many of them they will doubtless have the opportunity to make further scientific studies. As soon as executives find that some of their human problems are being simplified, their co-operation will be both full and enthusiastic.

A certain foreman is to be chosen. The executive in charge knows that (to take one item) a high level of self-reliance is required on the job. The psychologist appraises the candidate's average level of self-reliance and reports that it is high. Industry has at last gotten the sort of answer it wants from psychology. In the end psychology has become a producer—a producer of human efficiency and satisfaction, and therefore of profits.

In the process of arriving at this mutually agreeable situation, I do not see any other way for business and psychology to get together successfully but in terms of these "basic" human characteristics. They are both effectively usable by the industrialist and fairly appraisable by the psychologist. They furnish the best basis so far apparent for the two to combine in an intelligent approach to the human problems of industry.

Furnishing the original list may at first seem to management like too "theoretical" a problem to undertake. On the contrary, it resolves itself into a catalogue of experience. If executives will once take the trouble to set down in detail what a sufficient number of complex words like initiative really mean, in their own practical experience and observation, the problem is in the way of being solved. They will also find terms like "cautious" and "systematic" which may not have previously appeared in combination, and are themselves indivisible, at least in their own operating vocabulary. In the end there will appear a working list of relatively simple and basic human attributes as they appear clearly in action. These are the common meeting ground.

In summary, it may be said that executives are the ones to take the lead in this approach to the problems of human engineering. They have few or no preconceived psychological theories to wrestle with. They handle men successfully in a multiplicity of situations. They are, from practice born of necessity, among our best judges of human nature and how it actually operates. It therefore appears logical that they should be the ones to dissect human nature for the purposes of a more practically operable industrial psychology.

But when they have dissected it, they have no instrumentalities for measuring each part accurately. They may have a new and illuminating perspective, but they are still obliged to guess at many of the details. Here is where the psychologists can render real and practical service. Measuring human attributes is part of their business. They would already have developed means for measuring more of them if they had been told exactly what was wanted. With the new executives' list of items required, they will shortly be in a position to supply many of the missing instrumentalities of measurement. These they will show management how to use, or will work with management in applying them. A new accuracy in human engineering will begin to appear.

All this will not be completed in a week or a month. Scientific progress is almost inevitably laborious. But each step will be appropriate and in the right direction. Meanwhile a few useful instrumentalities have already been worked out in some detail; and a good many human factors can be approximated fairly well for present operating

purposes. The matter need not be allowed to remain at a standstill.

In the beginning, at least, the applications will seem somewhat technical in both directions. The situation appears to suggest the development of a new profession, half psychological and half industrial engineering. This will function as a link between the psychological laboratory on the one hand, and management on the other. It will utilize the knowledge, experience and methods of both. The busy executive cannot be expected to work out the details of applying the new methods, particularly where large bodies of employees are concerned. He wants the final answer to a human equation, which he can then use as he sees fit. The laboratory psychologist, on the other hand, cannot be expected to analyze the industrial and human situation in each job in each plant. What he can do is to furnish better tools to work with, in appraising the relative strength of various human characteristics. The new staff officer of the particular plant will then take these and apply them as indicated in each individual case. The jobs will have been analyzed in human terms as well as by operations and environmental conditions. The new methods of personnel appraisal, added to the best of the old and applied to the seeker for employment, relocation or promotion, will then enable a new and clearer estimate to be formed of the mutual suitability of the man and the job.

The operating executive, on his part, will find that with his basic list of qualities and the new tools of appraisal, he can cut several ways. Not only will his executive supervision of employment, relocation and promotion be made easier and more effective, but also other benefits will appear. Job analysis will resolve itself more readily into a matter of "human requirements" in addition to the present list of material operations. The training and development of individual employees will be made more effective; for their particular capacities and characteristics will be better understood. A new method will be opened up for analyzing rates of pay; jobs can be rated, for example, on the relative amounts of self-reliance and of creative ability required. The use of rating scales will be simplified and illuminated; rating scales are already expressed mainly in human terms, but too indefinitely. And considerable light may be thrown on incentives and on various factors in industrial