

Figure 1

than he can think up, or use, appropriate verbiage in every case.

The analysis of compound qualities into their unit components is a different matter. Here, as in the case of initiative, previously referred to, we have to work out from experience and common sense the principal factors which are usually present in a manifestation of the compound quality. And in any particular job situation there may be more or fewer major elements than the number generally assumed. There are hundreds of these compound terms, but most of them can be rather readily reduced to their unit elements. Some tentative examples are shown in Figure 1. The pervasive unit or basic characteristics in courtesy, for instance, seem in general to be kindness, agreeableness and respect, with social esteem as a further motivating influence. but each job has its own desirable proportion of these units.

If we accept the list of units in Figure 1 as a starting point, we can pursue our problem as a true one in human engineering. The next question is the practical one of measuring the strength of each of these qualities in a given individual, for comparison with the requirements of the job in question.

For this purpose a personal history questionnaire is organized. It embodies the usual information but is longer than the usual experience sheet and contains the following additional feature. For each basic characteristic on which a rating is desirable, several simple questions are asked involving appropriate situations. Five alternate degrees of re-

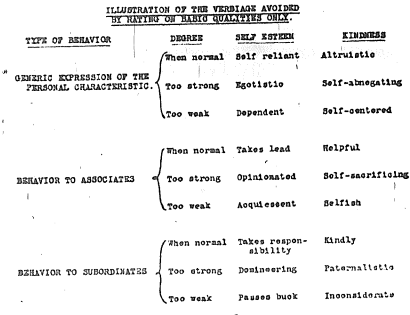


Figure 2

sponse to each question are indicated for checking. If the question is good and the answer is honest and intelligent, we have, by combining the results numerically, some measure of the normal strength of the individual's response in that particular category; and so on for each one. This approximates the measurement we are seeking.

The next problem is to get people actually to answer the questionnaire, and to answer it honestly and intelligently.

It now begins to be clear why the present application of this technique for purposes of original employment is best adapted to the class which we may call subexecutive. The laborer probably cannot answer the questions, and the candidate for president will not. It makes no difference that it would probably be one of the most illuminating experiences of his life; he is too "big" for that sort of thing. Meanwhile we have to apply it where we can. Even in the middle register, circumstances are more favorable for it in some places and conditions than in others. The most impartial answers are usually obtained where the man can be made to see that employment is a mutual experiment with failure disastrous to both sides, or where the man is himself at sea, as in many cases of prospective reassignment.

In framing these questions and alternative responses for your own purposes, there are several things to be considered. The question must set up a situation which is within the range of the individual's ordinary experience. It must be simple and disarming in character. Factors involving

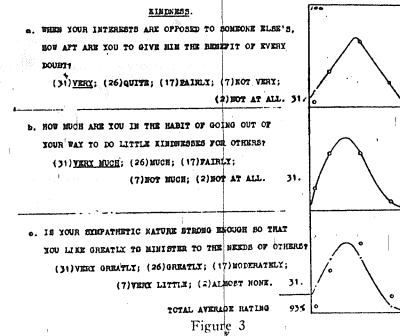


Figure 3

characteristics other than the basic one in question must be excluded as far as possible and enough questions must be asked on the same category to insure a presumably fair "average" response. The questions must be adapted to the group to which they are administered. The words used to indicate the alternative degrees of response must be chosen and rated with reference to the circumstances of the group and the total situation. The questions must, as far as possible, be objective or at least factual. They must call for no explanation or interpretation of behavior, but only a statement of degree of present or past reaction to the circumstances presented. The phraseology must be clear and the description of the situation must be so impartial and well chosen that there is no tendency to stampede to one end of the scale or the other.

The first test of the actual validity of the questions themselves is the combined judgment of a number of competent people as to their appropriateness to the category in question. The second test is in the deviations found in the answers. If one question in a group of three bearing on the same quality is usually marked low by the people who mark the other two high, there is something the matter with it.

The third test is in the distribution of the answers of a large number of people to each question. These should follow the normal distribution curve when platted, or give a slight skew which may be expected under the circumstances.

The fourth test is whether the curves in the same category have all approximately the same

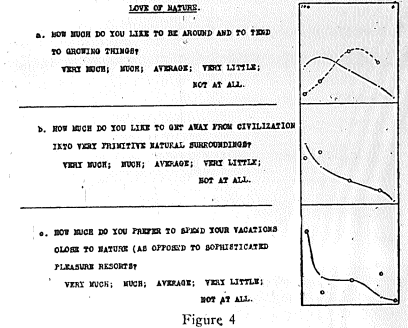


Figure 4

character. If one is decidedly dissimilar to the rest — for example, if it has an opposite skew — the question should usually be changed.

The reliability of the questions, or the consistency of their performance in measuring whatever they do measure, was tested in two ways. First, they were tried on the same people on successive occasions to see whether they consistently rate the same question in the same degree. Self-rating on personal qualities by name is notoriously erratic. By making the questions more factual and objective much better results are obtained. Second, the reliability was tested by the method of sectioning. Two sections of the group were platted as separate sets of curves. When the correspondence between these was close—in most instances—high reliability was indicated.

Several illustrative examples of questions and their resulting curves are shown in Figures 3 to 7. The full curves in this particular case represent a miscellaneous group of 140 students distributed in twelve colleges. The circles show approximately the corresponding points for forty-one engineering students. These groups, furnishing about 40,000 items of quite homogeneous data, present several advantages from the standpoint of a statistical check on the correctness of the principles of the technique. The context of individual questions may, however, vary with different employment situations.

Figure 3 shows three questions on kindness which may be classed as generally good. The first curve shows fairly normal distribution of the an-