

Review Articles

Human Engineering

Work and Effort: The Psychology of Production. By Thomas Arthur Ryan. New York, Ronald Press Company, 1947. xii, 323p.

Measuring and Rating Employee Value. By John B. Probst. New York, Ronald Press Company, 1947. xi, 166p.

Personnel Manual for Executives. By Ross Young. New York, McGraw-Hill Book Company, 1947. xi, 207p.

Human engineering has come of age. Professor Thomas A. Ryan's *Work and Effort* is a systematic survey and evaluation of psychological investigations in the field of human productivity. It is the most important book on this subject since Roethlisberger and Dickson's *Management and the Worker*, and should find a permanent place in every library which has any interest at all in the field of management. Professor Ryan evaluates all of the basic studies which have been made on various aspects of motivation, effort, efficiency, and muscular fatigue in active as well as sedentary occupations, and reports the application of scientific method to these psychological and human-mechanical problems.

The volume might well bear as a subtitle "What We Don't Know About the Psychology of Production," because evaluation of scientific method for most of the research projects analyzed indicates that they fall somewhat short of the highest level of scientific methodology, and that the generalizations drawn from them are not justified by the data presented. However, it is not in any sense a "debunking" book. Where objective data adequate to justify a generalization are found to occur, they are reported and justified.

Work and Effort is must reading for all managers and administrators. The approach to a large number of management factors is best illustrated for librarians on pages 138-144 in which the author treats the investigations on "Lighting and Other Factors in Ocular Work." After evaluating the various approaches to measurement of the effect of lighting in terms of visual acuity, speed and

fatigue, the author reports the critical levels of illumination beyond which there is little change in output. Most librarians will be amazed to find that there appears to be no benefit in speed of reading or in reading performance above ten foot candles.

While the method is systematic and the book was designed as a textbook, with good summaries at the end of most chapters, it is very readable. One of the most important contributions it makes is in the field of definitions. The author's differentiation between efficiency and output, for example, is fundamental to any sound approach to effective use of human energy. Under the conventional Taylor approach, it is assumed that a change in methods which results in increase in output is an index to greater efficiency. That assumption is questioned very cogently in this book. While recent trends in human engineering have been toward improvement of motivation so as to obtain greater effort on the part of the worker, Ryan points out that in many cases greater effort may result in apparent efficiency over a short period, but may, in the long run, result in reduced efficiency. Studies of such cumulative fatigues will be a fruitful field for psychological research in the future. This approach should give pause to the pragmatists in the field of management who have relied almost wholly on production data as indexes to efficiency, a group which includes most of us.

The footnote references to basic literature, in this section as in all others in the book, comprise one of the best bibliographies of the whole field of human engineering that has been collected. This book should serve as the foundation for research in industrial psychology for many years.

Probst's rating forms are so well-known as to vouch for the authority of the author of *Measuring and Rating Employee Value*. It is a sound manual of efficiency ratings covering purpose of ratings, types of rating plans, and critical analysis of rating plans. The development of the Probst system is described

and its development and application in practice occupies the bulk of the book.

This is not a book for the average reader, and even the specialist in personnel management and efficiency ratings will have some difficulties following the statistical theory involved. Nevertheless, it is an important contribution. Its chief weakness lies in the generalizations of personal experience and limited experiments. Hence the basis for comparison in this, as in most employee rating schemes, is the judgment of the supervisors. The experimentation used to develop the rating scheme can hardly be said to meet all the requirements of Professor Ryan's scientific method. Nevertheless, the Probst scheme is one of the better rating schemes and the book should be of interest to specialists in the field of efficiency ratings.

Mr. Young's contribution is a peppy exposé of what he calls "the newest profession." Its style, choice of language, and presentation is intended to appeal to the busy businessman and will. The "newest profession," as the author terms human engineering, covers the relationship of human engineering to the quality of supervision and profits, instructions, human relations, motivation, improved methods and similar problems. Chapters such as "A Magic Formula," "Some Soul Searching," and "Happier and Healthier," indicate that the general function of the book is the promotional side rather than the psychological re-

search side. Nevertheless, the book should stimulate average business and supervisory personnel to a more active approach to the principles enunciated by people like Roethlisberger, Dickson, Whitehead, and now Ryan. While the intellectual content is probably considerably less than that of either of the other two books reviewed, the book is much more easily readable and will probably be read by many more people.

Incidentally, the magic formula is "He who would be a leader of men must first master himself and serve others." The chart for self-examination on pages 94-95 indicates a rather subjective approach. This doesn't prove that either Ryan's objectivity or Young's subject approaches is wholly right or wrong. Rather it does indicate the fundamental difference between this book and the one by Ryan.

The philosophy of J.M.T. and J.R.T., and J.I.T. is covered in the chapter on improving methods. Chapter 13 explains human nature in 24 pages.

The book has a very good bibliography on pages 191-195, and what is more unusual, an excellent list of visual aids on pages 197-202. Though of the Dale Carnegie school rather than the Ryan school, this book should be stimulating reading for the nonspecialist in human relations or psychology.—*Ralph R. Shaw, librarian, U.S. Department of Agriculture.*

Buildings for Service

Library Buildings for Library Service.

Edited, with an introduction, by Herman H. Fussler. Chicago, American Library Association, 1947. xiv, 216p.

Library Buildings for Library Service is a product of the institute devoted to the planning and construction of library buildings at the University of Chicago in August 1946. It deals systematically and topically with the issues met by librarians, governing bodies, and architects as they grapple with the task of providing new quarters for libraries. It seeks to treat its subject in the light of currently available knowledge and in ways helpful to libraries of various types.

The volume embraces twelve papers, which collectively undertake to set forth the historic evolution of library buildings, the functions

and contents they must accommodate, the processes entailed in a building project, the roles of the parties concerned in such an enterprise, the technical matters which relate to lighting and the treatment of air, and the possibilities opened by new building materials and changed methods of fabrication. Seven of them come from the pens of librarians who have enjoyed generous experience or observation in matters relating to the administration and/or the housing of libraries. The others were written by architects and engineers, and contribute expert information of kinds which librarians ordinarily do not possess.

The notes which are dominant in *Library Buildings for Library Service* are by no means new, but they deserve the emphases they receive in the book because they so seldom gain