

more deduction from psychological precepts when we seek Dubreuil's conclusions on the question, "Do the Ford methods make robots of men?" Throughout, the French regard for philosophical discussion comes to the surface. With a favorable attitude toward the results of efficiency, he argues that men will not permit themselves to become robots. He rebels against the indictments of Ruskin and of ill-informed foreign critics.

In Detroit and at other plants, Dubreuil was impressed by the constant change and improvement taking place. Testing, standardization, heavy investment in machine tools, and economy in time and materials loom large in his account. His admiration is centered more on management methods than on labor efficiency, since he feels our workmen are no more skilled than those in the same class abroad. His advice to the French industrialists is to improve management, on the presumption that labor will take care of itself.

A turn at the White Motor plant in Cleveland afforded Dubreuil experience under a task and bonus wage system. He considered the methods of scientific management which he found there a splendid evolution of the Taylor System. The antagonism of a workman unaccustomed to close measurement of work or suspicions of rate cutting tactics does not appear in his report. He is looking for the best in scientific rate determination and finds this at the White plant. Instruction cards do not lessen mental activity, he found, since most of the men soon know their work without them. He is enthusiastic concerning modern adaptations of the Taylor technique which he feels pervades management methods in efficient American plants.

The broader sweeps of Dubreuil's brush are sometimes most interesting even though precision is necessarily lacking. For example, he finds the attitude of the employe toward his superiors much more friendly in America than in France. "The boss" indicates a more wholesome situation than "the monkey." A man is tested here by the formula, "Let's see what you can do," and when employed, takes orders more stolidly. The French superintendent is more conscious of his position and does not appear in shirt sleeves in the factory or drink from the common fountain. On the other hand, there are some inferences of the inadequacy of shop committees as the sole representatives of the employes even though these friendly relations

exist. The discussion of this latter point is not sharpened by any illustrations drawn from experience in union shops. We get little judgment as to the effectiveness of the American trade union. The Baltimore and Ohio plan of co-operation was seen in operation only on a visit to the Glenwood shop. It was the technical side which impressed the visitor, not the underlying collective bargaining.

In order to work in America, Dubreuil had to live as an American workman. He found our boarding houses homelike and relatively luxurious. He was amazed at the facilities and equipment of the American workingman's home. One of the most telling criticisms in his whole account was that remarking the boredom of the Man among modern fixtures. A Sunday's visit in a well-furnished home was spent in perfunctorily listening to some music from the assorted devices present and then taking a perfunctory ride with no destination except to come back to the same garage behind the house. It was our use of leisure which left Dubreuil unimpressed. Although he found marvelous libraries, museums and orchestras in this land of plenty, one cannot but believe that he missed the sparkling conversation that he might enjoy at the table, in the garden, or in front of the corner cafe back in France. The American workman as well as his employer is a pragmatist. The Gallic temperament finds much of its inspiration in ideas. America has found the source of wealth and comfort. France, we might agree with Dubreuil, has found the best way to enjoy them.

While more an impressionistic and somewhat rambling account than a precise treatise, "Robots or Men?" affords many valuable suggestions to the American employer or manager. As Dr. Person indicates in the very effective and interesting preface to the book, M. Dubreuil's report will command a place in the small but significant list of economic documents forthcoming from workmen and concerned with industry. The translators of the book, Mr. and Mrs. Merrill, are to be commended for their skill in preserving the rapid flow and conversational style of the French version.

New Time Recording Instruments

I. C. Bertrand Thompson's Improved Stop Watch

Mr. C. Bertrand Thompson, who since the war has been engaged in consulting work in Europe,

where he has directed the application of the Taylor System to a wide variety of industries, has made what appears to be an important improvement in time study stop watches.

This consists in providing the usual decimal time study watch as originally developed by Colonel Sanford E. Thompson with a split hand. When the watch is started by pressing the button in the winding stem one half the hand goes ahead while the other half remains stationary. Upon completion of an element or motion in the cycle being observed the button at the side of the stem (used for stopping or starting in the original type of time study watch) is pressed. This causes the stationary hand to jump ahead and stop, indicating the time at which the element was completed. In the meanwhile the moving hand continues to advance. Upon the completion of each successive element the button is pressed advancing the stationary hand from its previous position as from .02 to .06 to .09, etc.

The advantages are that the observer makes his readings from a motionless hand instead of from one in motion and that readings may easily be made in hundredths or quarters thereof. To obtain this advantage it has been necessary to sacrifice the feature of snapping back to zero and starting again with the pressure on the stem as well as being able to stop at any given point and resume therefrom by operating the button or slide at the side of the stem. In the writer's opinion the advantages, in the light of present-day time-study technique in which studies are almost invariably made from a running watch, far outweigh the value of the features sacrificed. This improvement makes far more accurate reading and also facilitates the recording of small elements.

Important and welcome as this improvement will doubtless prove to be there still exists the need to which Taylor called attention for a simplified and inexpensive time-study machine which will make it possible to record successively and accurately a number of elements of .01 minute or less—which it is impossible to do individually with a watch, pencil and paper. The only responses to the hope expressed by Taylor that such a machine might be invented are so far as the writer knows the use of the motion-picture camera as developed by Mr. and Mrs. Gilbreth and the time-study machine which was worked out in an experimental form by Mr. Henry H. Williams. Apart from these

and Mr. Thompson's improvement in the stop watch there has been no development in the implements of time study during the past twenty-five years. This is a matter to which the writer feels methods men should give serious thought.

II. Henry H. Williams' Time Recording Machine

The Williams machine is a very simple one. A strip of paper similar to adding machine tape is moved at a uniform rate of speed—about an inch every two seconds—across the surface of the machine. A pen is so attached as to draw a longitudinal line on the paper as it moves along. The machine is provided with two keys. When one of these is pressed the pen moves about a sixteenth of an inch to the side, at right angles to the original line, and continues to move in a straight line from there. This key is pressed at the end of every element in an operation cycle. The second key causes the pen to return to the starting position and is pressed at the end of the operation cycle.

In this way an accurate record of any number of elements and any number of cycles can be made. The sequence of the elements and the time taken for each is secured. By comparing the lengths of line with a measuring scale times can be read to the thousandth part of a minute and entered on the regular time study observation sheet. Short element times recorded in this way will be found to be much more accurate than those secured with stop watches. Since the time study man does not need to look away from the worker he is studying to press the keys he can record in an unhurried manner the exact instant that an element begins and ends. This degree of accuracy is particularly desirable in view of the number of short-time elements that occur in present-day factory work.

Reviews

Technique of Executive Control, The. By Erwin Haskell Schell, McGraw-Hill Book Company, Inc., New York, 1930, pages xii, 171. (Third Edition.)

This is a third revised and enlarged edition of a very valuable little volume. This third edition has added a series of questions in connection with the problems interspersed throughout the text. The author has done this as an aid to analysis by the reader instead of suggesting specific solutions out of his own experience. We recommend it to all executives.