

Where symbols are used in the writing of instructions there is constant occasion for leaving open the determining of some one letter, in the center of the symbol, as for example, again referring to exhibit H, you wish to designate indirect pay roll in a manufacturing division, the exact division being dependent upon some condition in the instructions, you should write it CUM=J.

In combining symbols use a right slant / to indicate "or" and left slant \ to indicate "and".

Again using exhibit H if you wish to indicate that material is to be apportioned to a job and that it may be either a "direct purchase" or "stores," you would write the symbol CA-D/S instead of CAD or CAS. To indicate the aggregate cost of both "direct purchases" and "stores" on a given job you would write the symbol CA-D\S instead of CAD and CAS.

In compounding symbols use the hyphen - as you would with words to indicate that the meaning of each symbol is modified by the other symbols in combination with which it is used. Compound symbols are essential in the writing of instructions to symbols. If you wish to indicate a certain file, compound the symbol of the contents of the file with that of the file and the desk at which it is located. For example, SYSE-EFUL-GKE would indicate estimate on work which has not yet been contracted for contained in a standard unit letter-size file at the desk of the estimate clerk.

The hyphen is also used where you wish to express a number of symbols having a common root, as, for example using exhibit H again, CU-B/G/M=J, which would cover fifteen symbols and indicate the aggregate of the indirect salary and wages to all divisions of the business.

Use the arithmetical signs for + plus, - minus, x multiply, ÷ divide.

These last four rules are essential to the use of symbols in writing instructions, though for ordinary purposes of designation they are not necessary. There are a number of other modifying signs which add greatly to the utility of symbols in industry and which are not given because their use is more or less special. The tendency to use signs indicates a broader and more comprehensive use of symbols.

It is generally recognized that, throughout the period of recorded history, man's intellect has not been materially augmented, and that the progress of later generations is due largely to accumulated knowledge, and not much to superior intelligence. It follows that progress is dependent upon man's ability to record existing methods, since there can otherwise be no accumulation of knowledge except through word of mouth.

Progress in the arts of painting and music is probably the most conspicuous illustration of this fact. In their primitive form one is as old as the other, but progress in painting, in which the recording of the method is indicated in the painting itself, has been comparatively uniform, whereas there was practically no progress in music until about 1600, when a partially adequate method of writing music was devised.

The first essential in recording anything is an adequate means of designation. Until the advent of Frederick W. Taylor, the functions and the things involved in industry were thought to be innumerable, and for that reason were considered impossible of designation. But just as in architecture the mechanical drawings and plans are completed before any of the physical work begins, and are then followed out to the letter, so, since Mr. Taylor's application of the principles of science to management, and the consequent perfecting of the mnemonic index, it is now increasingly customary to make indexes and instructions for management, and to have them carried out to the letter, as minutely and as literally as architectural and mechanical plans are carried out.

The function of the Index and Instructions in management, the accuracy and facility with which instructions may be written to symbol, and the analogy of these indexes and instructions in management to assembled, detail, and working drawings in construction, are fundamentals, the comprehension of which gives some conception of Mr. Taylor's vision, which, though popularized, is as yet only superficially and inadequately understood.

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## ANNUAL MEETING

The annual meeting will be held in the Engineering Societies' Building, 29 West 39th St., New York City, Friday and Saturday, December 8 and 9. A summary of the program follows:

*Friday, December 8*

8.15 P. M. at Engineering Societies' Building.  
"Application of Scientific Management to Professional Work in Hospitals and Doctors' Offices".  
By Dr. Robert L. Dickinson, Brooklyn, N. Y.

*Saturday, December 9*

10.00 A. M. at Engineering Societies' Building.  
"Planning of Power Plant Work".  
By Walter N. Polakov, New York City.

12.30 P. M. Luncheon, Hofbrau House, 34 West 30th St.

2.15 P. M. at Engineering Societies' Building.  
"Scientific Management and Progress".  
By Horace B. Drury, Ohio State University, Columbus, Ohio.

6.30 P. M. Dinner, Hofbrau House, 34 West 30th St.

8.15 P. M. at Hofbrau House, 34 West 30th St.  
"Discipline on the Border".  
By Paul B. Vallé, New Haven, Conn.

"Who Is Boss in Your Shop?"  
By Morris L. Cooke, Philadelphia, Pa.

Judging from the nature and variety of the topics to be discussed, this meeting will probably prove one of the largest and most successful regular meetings ever held by the Society.

All of the sessions will, as usual, be open to guests including ladies. Members are cordially requested to invite any friends who would be interested and to see that notification of all who expect to attend is in the hands of the chairman of the local committee, Mr. John H. Williams, 772 Park Avenue, New York City, not later than Wednesday, December 6.

## COMMENT AND NEWS

The fall meeting of the Society, held in Philadelphia, October 28th, was the largest such meeting ever held, except of course the special Taylor memorial meeting last year. The paper on "Application of Scientific Management to the Beating of Paper" by Arthur B. Green, S. D. Warren Co., Cumberland Mills, Maine, aroused much interest and discussion.

This paper with discussion is given in full elsewhere in this BULLETIN.

The evening session was devoted to a discussion of the affairs of the Society and its spirit and interest will be long remembered by those present. The following special items of interest should be noted:

The joint invitation of the University of Minne-