

ing intelligence on the part of the managers and a growing intelligence on the part of the employees.

Where these forces are organized they may take the form shown on the chart under the personnel heading at the left end of the factory line and under the co-operative association heading shown at the right end of the factory line. The relation between efficiency and consent is provided for, in the form of organization shown, through the relationship between the research department of the education division and the determining boards and wage boards. The research department is where plans of organization are worked out and where work analysis is done. The determining boards and wage boards, acting on the scientific facts put before them or the nearest approximation to such facts that can be obtained, sanction the findings in the name of the interests of all concerned.

The facts thus put by the research division before the determining boards and wage boards furnish the material for the whole structure of organization and become an inescapable factor at every debatable point. Thus, if appeal be taken from any findings of a determining board, or wage board, to the arbitration board shown on the chart, the case is necessarily considered in the light of the best available facts.

Related to the factory, sometimes by formal agreement and sometimes through the entirely unorganized relationships of its individual members, are the local and district unions, or even the mere incoherent thoughts and feelings of unorganized labor. As organization begins to take any shape at all, it begins to crystallize into some form of a shop-union council wherein the interests of the factory and of the local and district unions are to some extent formally organized. In such forms of organization as the garment trades, the shop union relationship has formally added to it the third relationship of the public.

The questions which come before such a shop-union council divide broadly into questions affecting the conditions of work and questions affecting pay. In the shop-union council's consideration of these questions, the findings of the determining boards and of the wage boards are before it so that here again the best available facts necessarily form the material of the discussion.

As to conditions of work, experience so far tends to show that all questions are arbitrable; namely, they are capable of being decided by an impartial third party on the basis of the facts presented.

Questions of pay, on the other hand, are still so unsupported by scientific basic facts as to be a matter of conciliation rather than of arbitration.

It will be seen in the chart that appeal lies from the shop arbitration board to either the shop union arbitration board or the shop union conciliation board.

At this point, it should be emphasized again that nothing on this chart indicates anything artificial in organization. The attempts that are going on, so far as the chart expresses them, are attempts to strengthen and make saner and sounder the organization of untamed forces which do exist.

This point should equally be borne in mind in the relation of the shop-union council as depicted on the chart to those natural forces which exist in society at large in a more or less unorganized state; namely, consumers' control, whether private or public, the national and international labor unions and manufacturers' associations. These present day forces of social and industrial organization are in their turn more or less crude, expressions of three underlying forces shown to us by social psychology, which will

in all probability work out between them the society of the future. These three basic drifts appear to be:

1. The fundamental soundness of the principle of private property. This element takes into account the fact that it is a basic instinct of human nature for the individual to desire possession.

2. The force of state socialism. This force takes into consideration the fact that it is equally a basic instinct of human nature to desire to work out things in concert with one's fellows. An excellent example of state socialism at present in practice is the public school system.

3. The force of syndicalism. This force takes into consideration that basic instinct of human nature which leads us to desire to share in the control of the methods of production which we are concerned in and in distribution of the product. An excellent example of this instinct in present day practice is supplied by the whole field of professionalism as seen concretely in medical societies and bar associations.

Such a study as we have outlined here of the forces at work in the world and of our duty to attempt to organize them exactly as the student of electricity has organized that force, makes it the job of the industrial statesman to recognize first of all that there are facts of democracy as well as facts of efficiency, and to see to it, so far as it is humanly possible, that each group of facts is related to the other in organized and efficient ways.

Applied scientific management, then, which does not relate its science to the desires and to the thoughts of all connected with a concern in all their relations, either organized or in process of organizing, is not true to the Taylor principles.

THE PROGRESSIVE RELATION BETWEEN EFFICIENCY AND CONSENT

By Robert G. Valentine

Inasmuch as you have read and have with you for reference the advance abstract of my address, I propose to assume your knowledge of that and make my discussion a development of the advance abstract.

I believe a society like the Society to Promote the Science of Management should have a planning department which should provide for adequate investigation of two great classes of problems which confront its individual members, whether proprietors, managers or management engineers. These two classes of problems are:

1. Those relating to the determination of the best form of organization, the best way of performing an operation, etc., under a given set of conditions. These investigations must be conducted by competent persons and by the method of scientific experiment.

24 Those relating to the social, industrial and moral effects of putting into operation the organization or methods which scientific investigation has determined to be technically the best, and relating to the conditions resulting from public opinion concerning industrial relations, under which they shall be put into effect, and the machinery by which they shall be put into effect. Investigation of this class of problems cannot be conducted in the same manner as investigation of the other class of problems. It involves, for instance, a study of growing opinion concerning industrial democracy, the real meaning of property, rights, the rights of labor and the functions of labor unions, whether labor is merely a commodity, and so on. It involves, further, an

An abstract of stenographer's report of the address at the New York meeting, Friday evening, December 10, 1915.