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 organizations 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 indivdual 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 in which we are concerned 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.

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 this discussion[1] 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 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.

2. 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 inquiry concerning what influence developing opinion on these and many other things should and undoubtedly will have on the individual's conduct of his business, including putting into effect the best technical methods he may have discovered. I believe every day many people are coming to believe, and, what is practically of great importance to you, labor believes (and has the power to make its beliefs receive due consideration), that the worker, individually and in organized groups, has a right to share in the determination whether and under what conditions new technical methods and apparatus shall be put into use. That is what I mean by the relation between efficiency and consent. I bring what help I can to your investigation of this second class of problems.

[1] Stenographer's report of Mr. Valentine's address at the meeting Friday evening, December 10, 1915.

I wish to emphasize that, in investigating this second class of problems, your Society must not fail to study, and to ponder deeply, growing opinion concerning the rights and responsibilities of all persons, individually and in groups, who constitute industrial society. I take the liberty of suggesting the following specific subjects of inquiry.

1. The meaning of democracy; industrial democracy; class representation; ownership; property; efficiency; consent; etc.

2. Labor unions; their ideals and aims, and the positive good they have accomplished.

3. The meaning and significance of consumer's efficiency. The consumption of goods is not a minor thing whose function is to give you the occasion to produce. The fact is just the reverse: your part is secondary. You produce merely to meet the requirements of the important thing, consumption—welfare. The workman is not merely a tool of production, a means to an end. You and the workman together, as producers, are but means to an end, the end being the welfare of the workmen and yourselves as consumers. A producing organization is a consumer's agent. The efficiency of the workmen and yourselves as consumers is the important efficiency, and that efficiency is the basis of producer's efficiency.

Now labor unions think in terms of consumer's efficiency while managers think in terms of producer's efficiency. Their minds do not meet. The labor problem is primarily a problem of consumption, of distribution, rather than of production. Managers too frequently think of it as a problem of production.

4. The great mass of unorganized forces which are present in every industrial institution—forces the existence of which is not recognized by many managers because the forces are unorganized. These forces—the rights, the desires, the opinions, etc., of the workmen—surely exist in every plant, even though they are not organized. The wise manager should recognize and organize them and make them agencies of cooperation in the conduct of his plant. Instead he too frequently struggles, now with one, now with another, without perceiving this existence as a related whole. The struggle with one cannot be permanently terminated without taking all into consideration. In the chart on page 233 I attempted to suggest a machinery of contact between workmen and management which recognizes these forces and organizes and gives expression to them. This machinery is not an artificial inflexible thing. In any plant it would take a form determined by the combination of forces present. It would differ greatly in different industries, in different plants of the same industry and in a given plant at different times.

In studying this chart you should begin with the rectangle representing the factory, to the left of the page, nearly midway between top and bottom. Below you will find represented coordinate departments of the factory. The works, sales and financial departments are found in all business organizations. The personnel department, as a distinct functionalized department, is found in the exceptional plant only; and the Cooperative Association, in the form I have indicated—as a coordinate department made up of the whole personnel of the business—is a still rarer institution. This department gathers together, organizes and gives expression to the mass of unorganized forces to which I have referred—the rights, desires, opinions, etc., of the working forces.

The personnel department alone to my mind hardly gets at the heart of the problem; it does not get very far away from autocracy in industry. The cooperative department introduces a new and fundamental kind of democracy in industry.

In the personnel department on the chart you will find several subsidiary organizations such as the organization committee on which are representatives of the