

inhospitable to speculation, theory and abstraction. The civilization which nourishes us today is the creation of the Agassiz, Gibbs, and Taylors far more than of the Fords, and the hope of the future lies at this moment in the obscure incubations of such genius. May they not be hampered in their work, wherever they may be.

When President Harding sent me on a mission of investigation to Russia in 1922, I happened to arrive at the time Lenin was urging the introduction of the Taylor system, in his search for something to relieve the misery that was upon that unhappy country; at the very moment that the American Federation of Labor was fighting what it called the stop watch, speeding up system of the efficiency engineer. Any intelligent American working man could have told the Russians what was wrong with their industrial experiment; could have predicted, in fact, what would happen when the normal incentives to production were disregarded, discipline made a debating exercise, management a mob result, and pride of possession taboo. Lenin alone, among the Moscow people, in the early days, had the wisdom to see that when he and his associates started out to abolish history, they scrapped at the same time the laws of arithmetic. Karl Marx never warned about that, and as his disciples were as fatally uncritical of his gospel and theories, they clashed with the grim untaught peasant who had never heard of Marx and only knew that two and two make four under any system under the sun. And this dreamer-realist, this peasant, who works hard when he can work, and goes into long periods of meditation, has forced year by year recessions from the most extreme doctrinaire position ever taken by any government in history.

THE executive who follows an impulse usually relies upon some emotional stimulus, and in the majority of cases this reaction points to exactly the wrong thing to do. The leader who lets his impulses guide is a good leader only for a mob, and we have no place for mobs in industry. Good leadership requires careful penetrative thinking and it requires absolute self-control. It is through the mind with its power to guide emotional pressures

Balance Between Theory and Technique

Neither theory nor technique can go it alone; the method of the backward look for the purpose of the forward step cannot be safely put aside in practical life. Specialize to the limit, theorize to the limit. Somewhere we want to see the tying force at work, the balance struck; if not by the specialist and theorist respectively, then by the responsible intermediary. That person, largely, is the teacher, or the person charged with teaching functions, and the privilege in his task is that of furnishing the connecting link, the historical as well as the pioneering sense, to those within the range of his influence. This link helps to save what is worth saving of the past, illumines present effort, and paves a road for the needed next steps.

A Course in Appreciation

A portion of every technical curriculum might well include a course in "Appreciation." It would deal with founders and pioneers, dreamers who awakened doers, and doers with visions often beyond and behind their triumphs. This would be a training in a sense of kinships and obligations, in respect for the many kinds of ideas and sacrifices that make us what we are and give us what we have. It would make for humility as well as for invigoration. It would help make the practical man a man as well as practical. And that would give him a place among the men of faith and deeds; for he would courageously own to a point of view, a philosophy, if you will, and as we have seen, I hope, the men we do homage to and pattern ourselves by exemplified that union of faith and power. The kind of practical man that we most want to see made is the man who knows both the good job when he sees it and the good man who is doing it.

into constructive behavior, that man has progressed. If he had depended solely upon his habits and feelings, he would still be living in caves. An organization must be marshaled forward by reason. The executive must think his way along and his desires and actions must conform to the decisions of his mind, rather than to the unguided surges of his emotional nature. (Erwin Haskell Schell, "The Technique of Executive Control," p. 2.)

Management's Concern in Research¹

As an Aid in Establishing Operating Procedures, in Making Managerial Decisions, and in Developing a Science of Management

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AT DISCREET intervals I take the liberty of injecting myself into the program of a meeting of this society for the purpose of fulfilling what I conceive to be an official duty; namely, to give the report of a scouting expedition into territory with which management is vitally concerned and into which most of our members are unable to make personal excursions because of the exacting demands of their executive responsibilities. The territory on which I desire to report today is that of research insofar as it concerns management; its importance to management and its methods. The research and the methods to which I shall refer especially are those of the social sciences. The methods of the physical sciences with which management is concerned are well established and well understood, but the methods of the social sciences with which management is now more critically concerned, are not so well established and well understood. And insofar as management is concerned with human beings individually or in groups as consumers and as producers of goods and services, it is a social science.

I. Research as an Aid to Practical Management

We may feel confident that no one who has had extensive experience in management, or has made serious study of it, will question the value of research

¹Paper presented at a meeting of the Taylor Society, New York, December 10, 1926.

The following current discussions of method in economics are pertinent:

Lawrence K. Frank, "The Emancipation of Economics," *American Economic Review*, March, 1924.

Wesley C. Mitchell, "Quantitative Analysis and Economic Theory," *American Economic Review*, March, 1925.

Frank H. Knight, "Fact and Metaphysics in Economic Psychology," *American Economic Review*, June, 1925.

Warren M. Persons, "Statistics and Economic Theory," *Review of Economic Statistics*, July, 1925.

John Candler Cobb, "Quantitative Analysis and the Evolution of Economic Science," *American Economic Review*, September, 1926.

Matthew T. McClure, "How to Think in Business," McGraw-Hill, New York, 1923. An elementary exposition of the point of view of John Dewey.

to the responsible executive of these days. Therefore our attention to that phase of this report should be primarily for completeness of the record and may be in the form of propositions.

1. Management involves problems relative to purposes, policies, programs, projects, plans and procedures; decisions are made by rational consideration of pertinent facts; the validity of a decision depends not only upon the soundness of the rational considerations, but also upon the completeness and accuracy of the facts.

2. The development of a complicated industrial organization has generated problems of management which are critical, perplexing and exacting in their demands for rational determination on the basis of facts which are numerous, and difficult of ascertainment and valuation.

3. The range of facts required by management in making its decisions is indicated by the following classifications: Facts relating to—

- a. Materials; their fabrication and consumer uses.
- b. Progress of the arts employed in industry.
- c. Organization for and direction of transformative and distributive processes.
- d. Human individual and group reactions to organization and direction procedures and relationships.
- e. Consumer demand, and the general and particular markets.
- f. Industrial tendencies pertinent to long-run planning of policies and programs.
- g. Environmental influences such as social customs, government regulation and international relations.

4. It is a large undertaking to procure facts of such a range, and after they are procured the processes of analyzing and evaluating them are complicated. They cannot adequately be procured and evaluated in a casual way, or even in an organized way, by those engaged in executive activities. To meet this situation research organizations to serve executives have come