

A Guide to Implementing the Theory of Constraints (TOC)

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Extract

From Ackoff, R. L., (1999) Ackoff's Best, pg 308-309. Originally published 1962 in Scientific Method: Optimizing Applied Research Decisions, in collaboration with J.S. Minas and S. K. Gupta.

Before about a century ago most of what we today call science was called natural philosophy. Philosophic inquiry and scientific inquiry were not differentiated from each other, at least popularly, until the middle of the nineteenth century. In the days when all scientists were philosophers and most philosophers were scientists a great deal of attention was given to the way in which knowledge was acquired. Inquiry into this procedure - which was more philosophical than scientifically oriented - was alternately called epistemology and the theory of knowledge.

With the separation of science from philosophy there came an increased awareness of the superiority of the methods and techniques of science for acquiring knowledge. Consequently, those who were concerned with the theory of knowledge turned more and more to the analysis of scientific method. Since this inquiry was itself largely speculative in character, it remained philosophic and came to be known as the philosophy of science. Scientists as well as philosophers engage in the philosophy of science, which is one of the few remaining grounds on which they meet. But even this ground has been shrinking as the study of scientific method itself has become less and less speculative and more and more scientific. Today the breach between the philosophy of science and the science of methodology is wide enough to make it difficult for all but a few to straddle.

This breach is unfortunate. Although most contemporary professional philosophers have little knowledge of present-day science, they do know the history of epistemology and the theory of knowledge and are interested in methodological problems. Scientists, on the other hand, generally know little of this history and are inclined to take for granted their own methods of acquiring knowledge. As a consequence, methodology has developed slowly, and the practice of scientists often fail to incorporate the results that earlier methodological inquiries have produced.

