THE SCIENTIFIC PROCESS

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by

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INTRODUCTION

Some preliminary observations must be made concerning the nature and purpose of this study. What I have attempted here is an essay in the metaphysics of science, and not the "philosophy of science." Rather than concentrating on the details of theory-construction and the formal structure of scientific systems, I have treated science as an *enterprise*, a developing process within human experience. I have used such an approach in order to analyze science in its relationship to other human enterprises, such as art and philosophy, and to clarify its unique goals and characteristics. Often the concepts employed in descriptions of scientific methods are conceived too narrowly; by broadening the focus of attention I have attempted to characterize in a fairly general fashion the goals and methods of science. This has led to formulations which may seem at first glance to depart radically from some "well-established" distinctions of the *philosophy of science*. I hope that it will be clear, however, that such formulations arise at a different level of analysis and concern very different problems from those of the logic of science. In particular, I am concerned with the general goals of science. These must not be confused with the narrower principles of method employed in science at any given time.

The main purpose of this essay, then, is not so much to add to the details of our understanding of science when isolated in its subject matters, goals, and methods from the rest of human experience, as to place the concepts, methods, and aims of science in their relationship to other human activities. Above all, I hope that this essay contributes to an understanding of the sense in which we speak of science as knowledge, and hesitate to do the same for art and philosophy. In this light, it is more an essay in epistemology with special emphasis on science than an examination of the *philosophy of science*. Our culture has become so imbued with science and its fruits that it is essential to take a larger look at the meaning of science, instead of concentrating on its internal and unique characteristics.