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## SOME PROBLEMS IN LOGICAL EMPIRICISM

BY

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The Vienna Circle began as a small group of men interested in the problems of philosophy and science. From 1922 until the third international congress for the unity of science in 1938, the circle grew in clarity of expression and rigor of purpose. While seeking to appreciate the historical philosophical systems of the past, its members had one end in view: they sought to reach the same universal validity and lasting results in philosophy as had been achieved in the exact "sciences". Many differences arose on matters of detail but all agreed that philosophy ought to be scientific, committing itself to the same unambiguous clarity and logical rigor hitherto found only in the other sciences<sup>1</sup>).

The purpose of this article is to make the reader aware of certain developments and problems inherent in Logical Empiricism. The movement is especially strong in the United States and since it is still in a dynamic state of flux, no treatment of it can pretend to be exhaustive or definitive. Any generalization that we may make is weak and tentative. Many of the difficulties which we shall encounter have been anticipated by members of the school and by its critics.

At the close of the 19th century, science abandoned the belief that all phenomena in nature can be reduced to laws of mechanics and the belief that science will eventually reveal the "truth" about the universe. ERNEST MACH identified description and explanation in science, but he did not treat, to the satisfaction of the members of the Vienna Circle, the role of mathematics and logic in the structure of science. The gap between the description of facts and general principles of science was not adequately bridged by MACH. From POINCARÉ the Vienna Circle learned that our experience is a system, a relation of relations. The laws of science are not statements about facts which experiments can check, nor are they apriori statements which necessarily emanate from the organization of the mind. They are arbitrary conventions about how to use some words or expressions.

According to MACH the general principles of sciences are abbreviated economical descriptions of observed facts; according to POINCARÉ they are free creations of the human mind which do not tell anything about observed facts. The attempt to integrate the two concepts into one coherent system was the origin of Logical Empiricism<sup>2</sup>).

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1) Cf. Victor Kraft, *The Vienna Circle* trans. Arthur Pap, Philosophical Library, N. Y. 1951.

2) Cf. Philipp Frank, *Modern science and its philosophy*, Harvard University Press, Cambridge, Mass. 1950, p. 17 ff.

The aim of logical empiricism or logical positivism is to form a unified science which includes all knowledge of reality accessible to man. Our knowledge is no longer to be divided into separated unconnected special disciplines. To speak of special modalities of the cosmos, each with its own lawful structure, is to misinterpret the conventional character of all science and law. Science is to be unified by employing the logical method of analysis as worked out by PEANO, FREGE, WHITEHEAD and RUSSELL. Metaphysical problems and assertions are meaningless and ought to be eliminated. By the application of logical analysis, a completeness and precision is obtained which hitherto had not been reached, even by older forms of positivism and empiricism. Negatively science can be unified by an expurgation of metaphysical speculative statements as meaningless; positively, the cause of unified science is advanced by the clarification of the meaning of concepts and sentences of empirical science by showing their immediately observable content; the meaning of scientifically tenable statements must be defined more precisely and fully<sup>3)</sup>.

The body of knowledge is to be unified in the first place by eliminating metaphysical statements. At the basis of logical positivism is an empirical-meaning requirement.

This requirement has undergone frequent changes, some of which it will be necessary for us to consider.

When we are confronted by a group of words and raise the question, "What does it mean?" what we expect is to be told what circumstances and conditions would make this sentence into a true proposition and what will make it false. To state the meaning of a sentence is to state the rules according to which the sentence is to be used, and this is the same as to state the manner in which it can be verified or falsified<sup>4)</sup>.

The meaning of a proposition is the method of its verification. We cannot understand any meaning without ultimate reference to ostensive definitions, reference to experience or possibility of verification. When the question "what do you mean?" is asked, an answer must be given in terms of experience. A proposition must not only be intelligible verbally and logically, but it must have a definite denotation. One must be able to specify those empirical items which would determine the applicability of the concept or constitute the verification of the proposition. If a proposition cannot satisfy this demand it is meaningless<sup>5)</sup>.

Alle problems of traditional metaphysics are repudiated by the positivists. If the statement is made, "There is a God", the Vienna positivist will not answer that what you say is false, but will ask "What do you mean by this statement"?

"It then appears that there is a sharp division between types of statements. One of the types includes statements as they are made in empirical science; their meaning can be determined by logical analysis, or,

3) Joergen Joergensen, *The Development of Logical Empiricism*, *International Encyclopedia of Unified Science*, Vol. II, Number 9, University of Chicago Press, Chicago, Ill. 1951, p. 3 ff.

4) (Morris Schlick: *Meaning and Verification: The Philosophical Review*, 45, 1936). Reprinted in Feigl and Sellars: *Reading in Philosophical Analysis*. Appleton-Century-Crofts, Inc. N. Y. 1949.

5) Cf. C. I. Lewis, *Experience and Meaning*, Reprinted in Feigl and Sellars, *Reading in Philosophical Analysis*, p. 128 ff.