LOGICAL DETERMINISM

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The question as to whether we are really free, have a genuine or only an apparent freedom of choice, has haunted and bewildered the philosophers of ancient and modern times. According to Friedrich Waismann, this question becomes a disturbing philosophical puzzle because it is emotionally charged with an obsessional anxiety whose source is the doctrine of logical determinism or logical predestination. Logical determinism is the view which states that the "entire future is somehow fixed, logically preordained."[1]   To put it differently, logical determinism asserts that strict determinism, known and discussed in ancient Greece and reformulated in modern times by Laplace in his *Essai philosophique sur les probabilités*, inevitably follows from the principle of logical bivalence. Although Waismann referred to the law of the excluded middle, he actually had in mind either the metalogical (semantic) formulation of this law:

$$\mathsf{V}'p' \, . \, \mathsf{v} \, . \, \mathsf{F}'p' \, ,$$

or the principle of bivalence:

$$[p] : p \, . \, \mathsf{v} \, . \sim (p) \, ,$$

every proposition is either true or false: it has one and only one of two possible truth-values—truth and falsity.[2] Logical determinism claims that if the principle of logical bivalence is accepted, as it must be, the Laplacean conclusion can be inferred from it: the dynamic state of the world at the instant t_n, which is the effect of or is strictly determined by its state at every instant earlier than t_n, is the cause of, or strictly determines, the state of the world at every instant later than t_n.[3]

There are two additional assumptions which seem to underlie the argument for logical determinism. The first of them is the Aristotelian or so-called classical conception of truth. According to this conception, a proposition is true if it is in agreement with reality or if there is a fact to which it corresponds, or if it designates an existing state of affairs. The second assumption has to do with the timelessness or absolute character of truth. As the schoolmen put it, *veritas significata per aliquam complexionem est*