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ESSENTIALISM AND THE MODAL SEMANTICS OF J. HINTIKKA

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In this paper I wish to argue that Jaakko Hintikka's quantification theory is objectual, not substitutional, and that his handling of standard Quinean puzzles about the substitutivity of identicals in modal contexts does not avoid the metaphysical position of general essences. I shall understand a general essence to be a non-trivial property (a general monadic predicate would be an example) that is necessarily true of certain objects, fails to be necessarily true of other objects, and may be shared by distinct objects.

Hintikka develops his semantical theory for modal logic in terms of models and model systems. A model is a set of formulas—from an intuitive point of view, a set of formulas which are all true on one and the same interpretation of the nonlogical constants occurring in them. In fact, the conditions which define a model set, say μ, are essentially parts of the usual semantical truth conditions for sentential connectives and quantifiers. Hintikka ([8], pp. 57-59) formulates them as follows. Where μ is a model set,

(C.$\sim$) If p is an atomic formula or an identity, not both $p \in \mu$ and $\sim p \in \mu$.
(C.&) If $(p \,\&\, q) \in \mu$, then $p \in \mu$ and $q \in \mu$.
(C.$\vee$) If $(p \vee q) \in \mu$, then either $p \in \mu$ or $q \in \mu$ (or both).
(C.E) If $(Ex)p \in \mu$, then $p(a/x) \in \mu$ for at least one free individual symbol a.
(C.U) If $(x)p \in \mu$, then $p(b/x) \in \mu$ for every free individual symbol b occurring in the formulas of μ.
(C.=) If p is an atomic formula or an identity, if $p \in \mu$, if $(a = b) \in \mu$, and if $p(a/b) = q(a/b)$, then $q \in \mu$.
(C.self $\neq$) μ contains no formulas of the form $a \neq a$).

It is assumed that all the formulas dealt with have been reduced to a form in which negation-signs occur only where they immediately precede an atomic formula or an identity. The formula referred to by '$p(a/x)$' in (C.E) is the formula obtained from 'p' by replacing free 'x' everywhere by 'a'. Similar notation is used in the other conditions and in that which follows.

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