Skolem Fragments

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W. V. Quine splits the fundamental question of ontology—What is there?—into two questions: What does a theory say that there is? and What theories ought we adopt? Of these, only the former seems amenable to philosophical treatment. Quine thus attempts to formulate an adequate criterion of ontological commitment. Syntactically, the initially existentially quantified sentences of a theory appear to constitute the locus of its ontological commitments (cf. [5], [2], [3], and [1]). Semantically, however, Quine offers at least three criteria of commitment: a theory is committed to (1) the objects in the domain of its intended model (cf. [4]); (2) the objects in the domain of its intended model that cannot be eliminated by means of proxy functions (cf. [6]); or (3) the objects in the domain of every model of it (or to objects of kinds such that some objects of those kinds are in each of its models) (cf. [7]). In this paper I shall show that Quine's syntactic criterion corresponds to and, indeed, follows from the third semantic criterion.

Any philosopher using a syntactic criterion of ontological commitment such as Quine's that determines commitments according to sentences of the form

$$\exists x_1 \ldots \exists x_n B$$

must hold that the commitments of a theory are exactly those of its fragment consisting of initially existentially quantified sentences. I shall call this portion of a theory its *Skolem fragment*.

What is the semantic relation between a theory and its Skolem fragment? In standard logic, they are equivalent. If our logic allows vacuous quantification, then any formula A is equivalent to $\exists x A$, where 'x' does not occur free in A. Furthermore, any exclusive logic counts $\exists x(x = x)$ valid, thus ruling out a null domain. For any formula A in a theory T, therefore, the equivalent