

QUANTIFICATION, DOMAINS OF DISCOURSE, AND EXISTENCE

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This article* is a presentation of our analysis of the problem of existential import. We will first briefly analyze some basic logical concepts as they relate to the problem and which have for the most part been ignored by the participants in the dispute over existential import. A theory of existential import is presented within the context of a logical system, which is either explicitly indicated or tacitly assumed. The logical system employed is usually either the traditional syllogistic logic or the standard predicate logic. An important exception is Timothy Smiley's view on existential import using many-sorted logic, a system which can be extended to contain formulations of both syllogistic and predicate logic. We will refer to Smiley's adaptation of many-sorted logic to the Aristotelian syllogistic [1].

The first concepts that we wish to consider are those of logical syntax and logical semantics. Logical syntax refers to the strictly formal or symbolic system with no interpretation of any kind. The symbols are regarded precisely as symbols without meaning. The names, 'individual variables', 'predicate letters', etc., enable us to talk about the different symbols we have in our syntactical structure. What is meaningful are the relationships among the symbols which are defined by the formation rules, axioms, and rules of inference. If any interpretation is given to any of the symbols of the logical system, either individually or collectively, then we say that the system has a semantic aspect. Corresponding to the syntactical structure of the system we can construct what is called a model, which gives the rules for assigning interpretations to the symbols of the system and also provides rules for assigning truth-values to the interpreted formulas. It is sometimes convenient to construct an interpretation which is only truth-functional. Properties of the formal system such as

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