

## Preliminary Notes on a New Modal Syllogistic

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This article consists of five parts. In Section 1 we introduce the topic of modal syllogistic by examining the case of the two Barbaras found in *Prior Analytics*. In the second section we briefly review certain aspects of the “new syllogistic” developed in recent years by Fred Sommers. The next two sections examine some of the syntactic and semantic features of modal sentences *de dicto* and *de re* respectively. Our final section presents a preliminary sketch of what a syllogistic admitting both *de dicto* and *de re* modality would look like.

*I* The following dilemma for modal syllogistic was once posed by Martha Kneale:

If modal words modify predicates, there is no need for a special theory of *modal* syllogisms. For these are only ordinary assertoric syllogisms of which the premisses have peculiar predicates. On the other hand, if modal words modify the whole statements to which they are attached, there is no need for a special modal *syllogistic*, since the rules determining the logical relations between modal statements are independent of the character of the propositions governed by the modal words. ([7], p. 91)

Syllogistic's author, Aristotle, was clearly aware of the *de dicto/de re* distinction alluded to here. In *De Interpretatione* he was at some pains to spell out various laws of modal propositional logic, where modal words are purely *de dicto*. But in *Prior Analytics* he attempted a modal syllogistic. The degree of his success in this is still an issue of debate. The question has never been whether or not a modal syllogistic could be formulated. Rather it has been whether one could be formulated which preserves both formal adequacy and what McCall ([9]) called “Aristotelicity”. How important it is to preserve *all* of Aristotle's claims, insights, intuitions, and hunches is itself debatable. There are places in Aristotle's work which are simply muddled. For example, despite the fact that he clearly saw the formal distinction between *de dicto* and *de re* sentences he sometimes takes corresponding pairs of *de dicto/de re* sentences as interchange-

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