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Implication and Presupposition

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Since introduced by Strawson [5], the notion of presupposition has been widely discussed as an interpretation of categorical statements. There have been problems, however, with explicating the notion in a clean-cut formal way.[1] If this could be accomplished and if the difficulties associated with certain statements, such as those denying existence, could be overcome, we might be well on the way to resolving the incompatibility between classical and contemporary interpretations of quantification. This resolution is of no small importance, especially for the teaching of logic to talented undergraduates who are majoring in disciplines other than philosophy and mathematics. For the conflict between logics tends to disquiet the minds of these ordinary consumers of our craft, who are not much interested in symbolic gamesmanship, and cause them to be suspicious that formal logic is not very applicable to their concerns.

The theory of presupposition is interpreted in this paper to mean that categorical propositions are material conditionals: they are prefixed by a stipulation that the classes occurring in them are genuine (i.e., have existing members). That is: "All Martians are blond" is understood not as a conjunction: "If anyone is a Martian he is blond *and* there is at least one Martian" but rather as: "If there is at least one Martian *then* if anyone is a Martian he is blond". This interpretation, meant to reconcile the old logic and the new, instantly collides with the problem of conditionals with false antecedents. For suppose we understand "All John's children are asleep" as:

$$(\exists u)Cuj \supset (x)(Cxj \supset Ax) \ .$$

If John is not a parent, then the statement is true. Moreover, by traditional subalternation we also have:

$$(\exists x)(Cxj \ \& \ Ax)$$

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