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Higher Quantity Syllogisms

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The traditional doctrine of the syllogism (cf. [2]) restricts the number of quantities to just two, universal and particular. Thompson [9] has made an insightful attempt to extend the syllogism to three more quantities (based on [6]). Though his new syllogistic rules are apparently sound, they are not complete. His rules do not generate 12 valid syllogisms in the third figure-those within the dotted circles in (6) below. Carnes (in Section 2 of [7]) devised sound and complete rules for the five quantity syllogism (and also proved them sound and complete in Section 4). Rather than the 93 syllogistic forms that Thompson claimed were valid there are 105 valid forms when the three additional quantities are added. The three new quantities are labeled by Thompson predominant, majority, and common. These quantities can be expressed by "few", "most", and "many", among other English quantifier words and phrases. The squares of opposition that Thompson begins with are as follows (except that I substitute the positive quantifier expressions "almost-all" for Thompson's use of "few" in predominant affirmatives and negatives, avoiding Thompson's peculiarity of stating the predominant affirmative as a kind of double negative in "Few S are not-*P*"):

(1)	affirmative	negative
universal	A: All S are P_{γ}	
	↓ \	/ ↓
predominant	P: Almost-all S are P	f: Almost-all S are not-P
		↓
majority	T: Most S are P	D: Most S are not-P
	↓ · /	↓ ↓
common	K: Many S are P	$\ldots \land G$: Many S are not-P
	↓	↓ ↓
particular	<i>I</i> : Some <i>S</i> are P/\ldots	\dots O : Some S are not-P

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