

Square of Opposition Modern Revised: not validated as tautologous

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The definens are from plato.stanford.edu/entries/square/#ModRevSqu, by Terence Parsons (2012).

The Meth8 symbols are: \sim Negation ; \backslash Nand ; $>$ Imply ; $+$ Or ; $\#$ modal necessity for universal quantifier ; $\%$ modal possibility for existential quantifier ; $?$ unspecified connective.

Sources		Original Fragment		Original Tradition		* Modern Revision		Swanon Defense	
Type	Definientia	Script	Valid as	Script	Valid as	Script	Valid as	Script	Valid as
Corner	A	$\#s>p$		$\#s>p$		$\#s>p$		$\#s>p$	
	E	$\sim s>p$		$\sim s>p$		$\#s>\sim p$		$\#s>\sim p$	
	I	$\%s\&p$		$\%s\&p$		$\%s\&p$		$\%s\&p$	
	O	$\%s\&\sim p$		$\%s\&\sim p$		$\%s\&\sim p$		$\%s\&\sim p$	
Contraries	AE	$(\#s>p) + (\sim s>p)$	A + E	$(\#s>p) + (\sim s>p)$	A + E	$(\#s>p) + (\#s>\sim p)$	A + E	$(\#s>p) + (\#s>\sim p)$	A + E
Subalterns	AI			$(\#s>p) ? (\%s\&p)$		$(\#s>p) ? (\%s\&p)$		$(\#s>p) ? (\%s\&p)$	
Contradictories	AO	$(\#s>p) + (\%s\&\sim p)$	A + O	$(\#s>p) + (\%s\&\sim p)$	A + O	$(\#s>p) + (\%s\&\sim p)$	A + O	$\#s>p) + (\%s\&\sim p)$	A + O
Contradictories	EI	$(\sim s>p) ? (\%s\&p)$		$(\sim s>p) ? (\%s\&p)$		$(\#s>\sim p) + (\%s\&p)$	E + I	$(\#s>\sim p) + (\%s\&p)$	E + I
Subalterns	EO			$(\sim s>p) ? (\%s\&\sim p)$		$(\#s>\sim p) ? (\%s\&\sim p)$		$(\#s>\sim p) ? (\%s\&\sim p)$	
Subcontraries	IO			$(\%s\&p) \backslash (\%s\&\sim p)$	I \ O	$(\%s\&p) \backslash (\%s\&\sim p)$	I \ O	$(\%s\&p) \backslash (\%s\&\sim p)$	I \ O

* The quantifier may refer to the entire term as $\#(p=q)$ or to the antecedent of the term as $(\#p=q)$. In Meth8 there is a difference. We adopt the latter because it returns more validated connectives. For example from the traditional square: $\#(A?E)$, $\#(I?O)$ versus $(A+E)$, $(I\O)$.

The square of opposition is not validated as tautologous by the Meth8 logic checker in five models for all expressions. This leads us to consider that any logic system based on the square of opposition is spurious. What follows then is that a first order predicate logic based on the square of opposition is now suspicious.