

Refutation of another conjecture to coerce Bell's inequality to be true

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We assume the method and apparatus of Meth8/VL4 with \mathbb{T} tautology as the designated *proof* value, \mathbb{F} as contradiction, \mathbb{N} as truthity (non-contingency), and \mathbb{C} as falsity (contingency). Results are a 16-valued truth table in row-major and horizontal, or repeating fragments of 128-tables for more variables.

LET $p, q, r, s: \mathbb{P}, \mathbb{A}, \mathbb{B}, \mathbb{C};$
 \sim Not; $+$ Or; $\&$ And; $>$ Imply, greater than; $<$ Not Imply, less than;
 $=$ Equivalent; $@$ Not Equivalent;
 $(p=p)$ \mathbb{T} autology; $(p@p)$ \mathbb{F} as contradiction, ordinal zero; $\sim(p<q)$ $(p\geq q)$.

We ask if another conjecture for Bell's inequality as *assumed* is provably true:

$$P(A\wedge\sim B)+P(B\wedge\sim C)\geq P(A\wedge\sim C). \tag{1.1}$$

$$\sim(((p\&(q\&\sim r))+(p\&(r\&\sim s)))<(p\&(q@\sim s)))=(p=p); \mathbb{T}\mathbb{T}\mathbb{T}\mathbb{F} \mathbb{T}\mathbb{T}\mathbb{T}\mathbb{F} \mathbb{T}\mathbb{T}\mathbb{T}\mathbb{T} \mathbb{T}\mathbb{T}\mathbb{T}\mathbb{T} \tag{1.2}$$

Remark: Another mapping of Eq. 1.1 by substituting " \wedge " with "Xor" ($@$) produces
 $\sim(((p\&(q@r))+(p\&(r@s)))<(p\&(q@s)))=(p=p); \mathbb{T}\mathbb{T}\mathbb{T}\mathbb{T} \mathbb{T}\mathbb{F}\mathbb{T}\mathbb{T} \mathbb{T}\mathbb{T}\mathbb{T}\mathbb{F} \mathbb{T}\mathbb{T}\mathbb{T}\mathbb{T} \tag{no.go}$

Eq. 1.2 as rendered is *not* tautologous.

This means another conjecture to prove Bell's inequality is refuted.