Refutation of Smarandache multi-space theory

Abstract: The Smarandache multi-space theory (SMT) as based on a Latin square is a vector space (probabilistic) and not bivalent (exact). Therefore SMT is refuted in classical logic.

From: Mao, L.F. (2006). "Smaranache multi-space theory". fs.unm.edu/S-Multi-Space.pdf

We assert a Latin square L_1 Table 1.3.1 is not bivalent (exact) but rather a vector space (probabilistic).

With row-major (r) and column-minor (c) we reproduce this artifact:

		c1:	c2:	c3:
		1	2	3
r2:	2	2	3	1

We convert the decimal ordinals to bivalent 2-tuples, with the left-most bit as most significant:

		c1:	c2:	c3:
		01	10	11
r2:	10	10	11	01

We perform binary operations, with r2 as antecedent and c1, c2, and c3 as respective consequents, and sequent outcome (q). We also designate bits in Latin as *s*inister (left) and *d*exter (right).

	sd		*sd*		*sd*
r2:	10	r2:	10	r2:	10
c1:	01	c2:	10	c3:	11
q1:	10	q2:	11	q3:	01

To be bivalent, i.e. compatible with classical logic, any like-sided equations produce identical results.

LET operator "?" serve as the connective in this horizontal presentation to save space

Example 1:

r2d ? c1d (1.1.1)
0 ? 1 = 0 (1.1.2)

r2d ? c3d (1.2.1)
0 ? 1 = 1 (1.2.2)

Eqs. 1.1.2 and 1.2.2 should be equivalent to be bivalent, but that is not the case.

Example 2:

r2s ? c2s (2.1.1)
1 ? 1 = 1 (2.1.2)

r2s ? c3s (2.2.1)

1 ? 1 = 0 (2.2.2)

Eqs. 2.1.2 and 2.2.2 should be equivalent to be bivalent, but that is not the case.

Because Examples 1 and 2 as rendered are *not* tautologous, the Smarandache multi-space theory (SMT) is refuted.