

Refutation of Carroll's tortoise and Achilles as a paradox

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We assume the method and apparatus of Meth8/VL4 where Tautology is the designated *proof* value, F is contradiction, N is truthity (non-contingency), and C is falsity (contingency). The unique 16-valued truth table fragment(s) is row-major and horizontal, but repeating in different order for the 128-tables of 11 potential variables.

From: en.wikipedia.org/wiki/What_the_Tortoise_Said_to_Achilles
 Carroll, L. (1895). "What the tortoise said to Achilles". Mind.

LET p, q, s, u, v: thing_1, thing_2, thing_same, triangle_side_1_thing, triangle_side_2_thing; > Imply.

A: "Things that are equal to the same are equal to each other" (1.1)

$((p=r)\&(q=r))>(p=q)$; TTTTTTTTTTTTTTTTTT (1.2)

B: "The two sides of this triangle are things that are equal to the same" (2.1)

$(u=s)\&(v=s)$; TTTTTTTTTTTTTTTTTT, FFFFFFFTTTTTTTTTT, FFFFFFFTTTTTTTTTT (2.2)

Therefore Z: "The two sides of this triangle are equal to each other" (3.1)

$u=v$; TTTTTTTTTTTTTTTTTT, FFFFFFFTTTTTTTTTT (3.2)

A and B (4.1)

$((p=s)\&(q=s))>(p=q)\&((u=s)\&(v=s))$;

TTTTTTTTTTTTTTTTTT, FFFFFFFTTTTTTTTTT, FFFFFFFTTTTTTTTTT (4.2)

A and B, Therefore Z (5.1)

$((((p=s)\&(q=s))>(p=q))\&((u=s)\&(v=s)))>(u=v)$;

TTTTTTTTTTTTTTTTTT (5.2)

Eq. 5.2 as rendered is tautologous and hence a theorem. Eq. 5.2 is *not* contradictory: this refutes Carroll's tortoise and Achilles as a paradox.