Refutation of the tetralemma and Buddhist logic

Abstract: The Buddhist tetralemma as a rendition of the Greek square of opposition produces four axioms for true, false, true and false (contradiction), and neither true nor false (contradiction). There is no designated proof value in Buddhist logic. Because Greek logic of about -350 was transmitted along with mathematical astronomy to India beginning in -100, Greek logic predates Buddhist logic by more than 200 years. Hence Buddhist logic is a trivial subset and mis-application of the Greek logic.

We assume the method and apparatus of Meth8/VŁ4 with `T`autology as the designated *proof* value, **F** as contradiction, `N` as truthity (non-contingency), and `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; ~ Not; + Or; - Not Or; & And; = Equivalent;
% possibility, for any one or some, ∃; # necessity, for every or all, ∀;
(s=s) T tautology; (s@s) **F** contradiction.

The tetralemma axioms of Buddhist logic are:

Affirmation: (0.1.1)
p=q ; T**FF**T T**FF**T T**FF**T T**FF**T (0.1.2)

Negation: (0.2.1)
p=~q ; **F**TT**F** **F**TT**F** **F**TT**F** **F**TT**F** (0.2.2)

Both:
(p=q)&(p=~q); **FFFF FFFF FFFF FFFF** (0.3.2)

Neither:
(p=q)-(p=~q) ; **FFFF FFFF FFFF FFFF** (0.4.2)

The rules of inference of Buddhist logic use the universal quantifier to mean everywhere (all locations), everything (all things), and always (all times), ie, all things are everywhere at all times.

Remark: The existential quantifier applies to rules only without the universal quantifier, as *only* in Eqs. 1.2 and 2.2.

Whether p is q: (1.1)
%p=%q ; TCCT TCCT TCCT TCCT (1.2)

Whether p is not q: (2.1)
%p=%~q ; CTTC CTTC CTTC CTTC (2.2)

Whether p is q everywhere: (3.1)
#(p=q)=(p=p) ; N**FF**N N**FF**N N**FF**N N**FF**N (3.2)

Whether p is q always: (4.1)

#(p=q)=(p=p) ; N**FF**N N**FF**N N**FF**N N**FF**N (4.2)

Whether p is q in everything: (5.1)

#(p=q)=(p=p) ; N**FF**N N**FF**N N**FF**N N**FF**N (5.2)

Whether p is not q everywhere: (6.1)

#(p=~q)=(p=p) ; **F**NN**F** **F**NN**F** **F**NN**F** **F**NN**F** (6.2)

Whether p is not q always: (7.1)

#(p=~q)=(p=p) ; **F**NN**F** **F**NN**F** **F**NN**F** **F**NN**F** (7.2)

Whether p is not q in everything: (8.1)

#(p=~q)=(p=p) ; **F**NN**F** **F**NN**F** **F**NN**F** **F**NN**F** (8.2)

The axioms and rules of inference above are *not* tautologous. This refutes Buddhist logic.

Remark: It is mis-reported, notably by Graham Priest, that the four axioms of Buddhist logic represent a four-valued logic as, for example: true; false; true and false (contradiction); and neither true nor false (contradiction). Such a three-valued logic has no designated proof value for tautology.

This places Buddhist logic as a subset of Greek logic, for which there are historical reasons. The Greek square of opposition dates to about -350, but the Buddhist rendition dates to -50. This is because Greek philosophical knowledge was exported west to east during that 300 year period as concurrent with the transmission of mathematical astronomy to India.