

Refutation of drinker's paradox

© Copyright 2018 by Colin James III All rights reserved.

We assume the method and apparatus of Meth8/VL4 with \top as the designated *proof* value, \bot as contradiction, \top as truthity (non-contingency), and \bot as falsity (contingency). The 16-valued truth table fragment) is row-major and horizontal.

LET $p, q, r, s: x, y, P, D; \&$ And; $>$ Imply; $<$ Not Imply, less than, \in ;
 $\%$ possibility, for one or some, \exists ; $\#$ necessity, for all, \forall .

From: en.wikipedia.org/wiki/Drinker_paradoxy, of which please see because we do not reproduce it.

"There is someone in the pub such that, if he is drinking, then everyone in the pub is drinking." (1.0)

$\exists x \in P . [D (x) \rightarrow \forall y \in P . D (y)]$ (1.1)

$((\%p<r)\&(s\&p))>((\%p<r)\&(\#q<r)\&(s\&q))$; quantifier distributed ;
TTTT TTTT TFTN TTTT (1.2)

Eq. 1.2 as rendered is *not* tautologous and also *not* contradictory. Therefore, the drinker's paradox is refuted as a paradox.