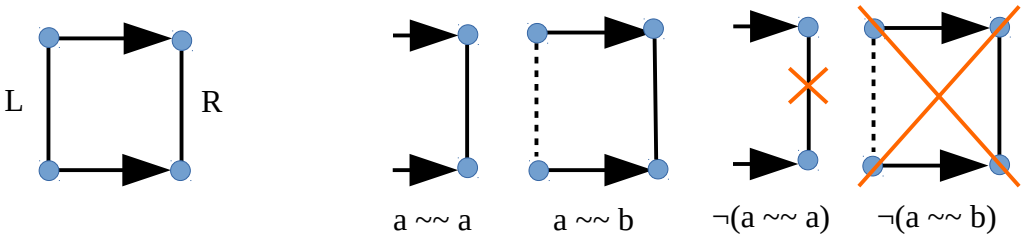
Path Semantical Quality Truth Table

by Daniel Fischer, Sven Nilsen, 2021

In this paper we represent a truth table for Path Semantical Quality.

The truth table for Path Semantical Quality[1] is based on the following diagrams:



L (left edge) – symbolic indistinction
R (right edge) – propositional equality

Here is the truth table:

LR	**a ~~ a**	**a ~~ b**	**¬(a ~~ a)**	**¬(a ~~ b)**
00	0	0	1	1
01	1	1	0	0
10	0	0	1	1
11	1	0	0	1

Notice that the 3rd row is “impossible” in the sense that two indistinct symbols can not become propositional unequal. This row is uniquely determined by each individual column. In the case of the first column and second column, `a ~~ b` implies `a == b`, so since the propositions are unequal it can not be the case that `a ~~ b`. In the case of the 3rd and 4th column, they are simplify involutions of the 1st and 2nd column, respectively.

References:

[1] “Path Semantical Quality”
Sven Nilsen, 2021
https://github.com/advancedresearch/path_semantics/blob/master/papers-wip2/path-semantical-quality.pdf