

Concrete and Abstract Transport

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In this paper I show that there 9 concrete and 5 abstract binary relations in Path Semantical Logic.

In Path Semantical Logic^[1], there are two kinds of transports:

- Concrete transport using the analogue of (Normal) Implication Theorem^[2]
- Abstract transport using the analogue of Abstract Implication Theorem^[3]

There are 9 binary relations that transports concretely:

false₂, and, fst, snd, or, eq, rimpily, imply, true₂

There are 5 binary relations that transports abstractly:

false₂, eq, rimpily, imply, true₂

Here is a table overview of all 16 functions of type $\mathbb{B}^2 \rightarrow \mathbb{B}$:

Name/Expression	Binary code	Concrete	Abstract
false ₂	0000	yes	yes
and	0001	yes	no
exc	0010	no	no
fst	0011	yes	no
not . rimpily	0100	no	no
snd	0101	yes	no
xor	0110	no	no
or	0111	yes	no
nor	1000	no	no
eq	1001	yes	yes
not . snd	1010	no	no
rimpily	1011	yes	yes
not . fst	1100	no	no
imply	1101	yes	yes
true ₂	1111	yes	yes

References:

- [1] “Path Semantical Logic”
AdvancedResearch, reading sequence on Path Semantical Logic
https://github.com/advancedresearch/path_semantics/blob/master/sequences.md#path-semantical-logic
- [2] “Implication Theorem”
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https://github.com/advancedresearch/path_semantics/blob/master/papers-wip/implication-theorem.pdf
- [3] “Abstract Implication Theorem”
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https://github.com/advancedresearch/path_semantics/blob/master/papers-wip/abstract-implication-theorem.pdf