Prof. Dr. Alfred Toth

Dualsysteme und konverse Dualsysteme dyadischer Relationen

1. Aus dem Entwurf einer dyadischen Semiotik (vgl. Toth 2026a) und der Konstruktion von Quadrupelrelationen (vgl. Toth 2026b) bilden wir im folgenden sämtliche Dualrelationen und ihre Konversen für die Zeichenfunktion Z = f(M, O, I).

2. Dualsysteme und konverse Dualsysteme

DS = (1.1, 1.1) × (1.1, 1.1) DS^{-1} = (1.1, 1.1) × (1.1, 1.1)

DS = (1.1, 1.2) × (2.1, 1.1) DS^{-1} = (1.2, 1.1) × (1.1, 2.1)

DS = (1.1, 1.3) × (3.1, 1.1) DS^{-1} = (1.3, 1.1) × (1.1, 3.1)

DS = (1.1, 2.1) × (1.2, 1.1) DS^{-1} = (2.1, 1.1) × (1.1, 1.2)

DS = (1.1, 2.2) × (2.2, 1.1) DS^{-1} = (2.2, 1.1) × (1.1, 2.2)

DS = (1.1, 2.3) × (3.2, 1.1) DS^{-1} = (2.3, 1.1) × (1.1, 3.2)

DS = (1.1, 3.1) × (1.3, 1.1) DS^{-1} = (3.1, 1.1) × (1.1, 1.3)

DS = (1.1, 3.2) × (2.3, 1.1) DS^{-1} = (3.2, 1.1) × (1.1, 2.3)

DS = (1.1, 3.3) × (3.3, 1.1) DS^{-1} = (3.3, 1.1) × (1.1, 3.3)

DS = (1.2, 1.2) × (2.1, 2.1) DS^{-1} = (1.2, 1.2) × (2.1, 2.1)

DS= (1.2, 1.3) × (3.1, 2.1) DS^{-1} = (1.3, 1.2) × (2.1, 3.1)

DS = (1.2, 2.1) × (1.2, 2.1) DS^{-1} = (2.1, 1.2) × (2.1, 1.2)

DS = (1.2, 2.2) × (2.2, 2.1) DS^{-1} = (2.2, 1.2) × (2.1, 2.2)

DS = (1.2, 2.3) × (3.2, 2.1) DS^{-1} = (2.3, 1.2) × (2.1, 3.2)

DS = (1.2, 3.1) × (1.3, 2.1) DS^{-1} = (3.1, 1.2) × (2.1, 1.3)

DS = (1.2, 3.2) × (2.3, 2.1) DS^{-1} = (3.2, 1.2) × (2.1, 2.3)

DS = (1.2, 3.3) × (3.3, 2.1) DS^{-1} = (3.3, 1.2) × (2.1, 3.3)

DS = (1.3, 1.3) × (3.1, 3.1) DS^{-1} = (1.3, 1.3) × (3.1, 3.1)

DS = (1.3, 2.1) × (1.2, 3.1) DS^{-1} = (2.1, 1.3) × (3.1, 1.2)

DS = (1.3, 2.2) × (2.2, 3.1) DS^{-1} = (2.2, 1.3) × (3.1, 2.2)

DS = (1.3, 2.3) × (3.2, 3.1) DS^{-1} = (2.3, 1.3) × (3.1, 3.2)

$DS = (1.3, 3.1) \times (1.3, 3.1)$ $DS^{-1} = (3.1, 1.3) \times (3.1, 1.3)$

$DS = (1.3, 3.2) \times (2.3, 3.1)$ $DS^{-1} = (3.2, 1.3) \times (3.1, 2.3)$

$DS = (1.3, 3.3) \times (3.3, 3.1)$ $DS^{-1} = (3.3, 1.3) \times (3.1, 3.3)$

$DS = (2.1, 2.1) \times (1.2, 1.2)$ $DS^{-1} = (2.1, 2.1) \times (1.2, 1.2)$

$DS = (2.1, 2.2) \times (2.2, 1.2)$ $DS^{-1} = (2.2, 2.1) \times (1.2, 2.2)$

$DS = (2.1, 2.3) \times (3.2, 1.2)$ $DS^{-1} = (2.3, 2.1) \times (1.2, 3.2)$

$DS = (2.1, 3.1) \times (1.3, 1.2)$ $DS^{-1} = (3.1, 2.1) \times (1.2, 1.3)$

$DS = (2.1, 3.2) \times (2.3, 1.2)$ $DS^{-1} = (3.2, 2.1) \times (1.2, 2.3)$

$DS = (2.1, 3.3) \times (3.3, 1.2)$ $DS^{-1} = (3.3, 2.1) \times (1.2, 3.3)$

$DS = (2.2, 2.2) \times (2.2, 2.2)$ $DS^{-1} = (2.2, 2.2) \times (2.2, 2.2)$

$DS = (2.2, 2.3) \times (3.2, 2.2)$ $DS^{-1} = (2.3, 2.2) \times (2.2, 3.2)$

$DS = (2.2, 3.1) \times (1.3, 2.2)$ $DS^{-1} = (3.1, 2.2) \times (2.2, 1.3)$

$DS = (2.2, 3.2) \times (2.3, 2.2)$ $DS^{-1} = (3.2, 2.2) \times (2.2, 2.3)$

$DS = (2.2, 3.3) \times (3.3, 2.2)$ $DS^{-1} = (3.3, 2.2) \times (2.2, 3.3)$

$DS = (2.3, 2.3) \times (3.2, 3.2)$ $DS^{-1} = (2.3, 2.3) \times (3.2, 3.2)$

$DS = (2.3, 3.1) \times (1.3, 3.2)$ $DS^{-1} = (3.1, 2.3) \times (3.2, 1.3)$

$DS = (2.3, 3.2) \times (2.3, 3.2)$ $DS^{-1} = (3.2, 2.3) \times (3.2, 2.3)$

$DS = (2.3, 3.3) \times (3.3, 3.2)$ $DS^{-1} = (3.3, 2.3) \times (3.2, 3.3)$

$DS = (3.1, 3.1) \times (1.3, 1.3)$ $DS^{-1} = (3.1, 3.1) \times (1.3, 1.3)$

$DS = (3.1, 3.2) \times (2.3, 1.3)$ $DS^{-1} = (3.2, 3.1) \times (1.3, 2.3)$

$DS = (3.1, 3.3) \times (3.3, 1.3)$ $DS^{-1} = (3.3, 3.1) \times (1.3, 3.3)$

$DS = (3.2, 3.2) \times (2.3, 2.3)$ $DS^{-1} = (3.2, 3.2) \times (2.3, 2.3)$

$DS = (3.2, 3.3) \times (3.3, 2.3)$ $DS^{-1} = (3.3, 3.2) \times (2.3, 3.3)$

$DS = (3.3, 3.3) \times (3.3, 3.3)$ $DS^{-1} = (3.3, 3.3) \times (3.3, 3.3)$

Literatur

Toth, Alfred, Eine Semiotik aus dyadischen Relationen. In: Electronic Journal for Mathematical Semiotics, 2026a

Toth, Alfred, Quadrupel dyadischer Relationen. In: Electronic Journal for Mathematical Semiotics, 2026b

20.2.2026