

**Prof. Dr. Alfred Toth**

## Ränder und Grenzen irregulärer semiotischer Dualsysteme

1. Vgl. zur Topologie der semiotischen Ränder, Grenzen und Grenzränder/Randgrenzen Toth (2013a-e). Die 10 Peirce-Benseschen Dualsysteme sind eine Teilmenge der  $3^3 = 27$  möglichen, aus der Menge der Primzeichen  $P = (.1., .2., .3.)$  (vgl. Bense 1981, S. 17 ff.) herstellbaren triadisch-trichotomischen semiotischen Relationen. Nachdem in Toth (2013e) die regulären 10 Dualsysteme untersucht worden waren, beschäftigen wir uns im folgenden mit den 17 irregulären. Diese 17 Dualsysteme sind irregulär, weil sie gegen die inklusive semiotische Ordnung (3.a, 2.b, 1.c) mit  $a \leq b \leq c$  verstoßen. Lediglich ein Dualsystem, das als Hauptdiagonale der semiotischen Matrix fungierende Dualsystem (3.3, 2.2, 1.1)  $\times$  (1.1, 2.2, 3.3), hat in der Benseschen Semiotik eine gewisse Würdigung erhalten (vgl. Bense 1992).

Vollständiges System aller 27 triadisch-trichotomischen Relationen.

(3.1, 2.1, 1.1)	$^*(3.1, 2.2, 1.1)$	$^*(3.1, 2.3, 1.1)$
(3.1, 2.1, 1.2)	(3.1, 2.2, 1.2)	$^*(3.1, 2.3, 1.2)$
(3.1, 2.1, 1.3)	(3.1, 2.2, 1.3)	(3.1, 2.3, 1.3)
$^*(3.2, 2.1, 1.1)$	$^*(3.2, 2.2, 1.1)$	$^*(3.2, 2.3, 1.1)$
$^*(3.2, 2.1, 1.2)$	(3.2, 2.2, 1.2)	$^*(3.2, 2.3, 1.2)$
$^*(3.2, 2.1, 1.3)$	(3.2, 2.2, 1.3)	(3.2, 2.3, 1.3)
$^*(3.3, 2.1, 1.1)$	$^*(3.3, 2.2, 1.1)$	$^*(3.3, 2.3, 1.1)$
$^*(3.3, 2.1, 1.2)$	$^*(3.3, 2.2, 1.2)$	$^*(3.3, 2.3, 1.2)$
$^*(3.3, 2.1, 1.3)$	$^*(3.3, 2.2, 1.3)$	(3.3, 2.3, 1.3)

2. Grenzen, Ränder und Grenzränder/Randgrenzen der irregulären semiotischen Dualsysteme

2.1.  $(3.1, 2.2, 1.1) \times (1.1, 2.2, 1.3)$

$$\mathcal{R}_\lambda(3.1, 2.2, 1.1) = (2.1)$$

$$\mathcal{R}_\rho(3.1, 2.2, 1.1) = (3.2, 3.3, 2.3, 1.2, 1.3)$$

$$\mathcal{R}_\lambda(1.1, 2.2, 1.3) = (1.2)$$

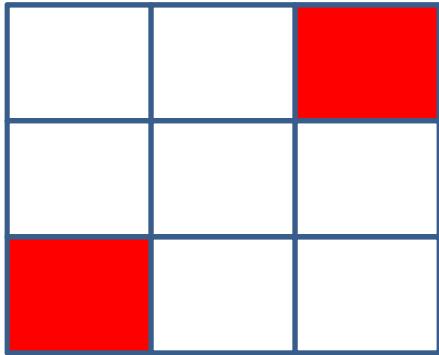
$$\mathcal{R}_\rho(1.1, 2.2, 1.3) = (2.1, 3.1, 3.2, 2.3, 3.3)$$

$$G((3.1, 2.2, 1.1), (1.1, 2.2, 1.3)) \cap \mathcal{R}_\lambda(3.1, 2.2, 1.1) = \emptyset$$

$$G((3.1, 2.2, 1.1), (1.1, 2.2, 1.3)) \cap \mathcal{R}_\rho(3.1, 2.2, 1.1) = (1.3)$$

$$G((3.1, 2.2, 1.1), (1.1, 2.2, 1.3)) \cap \mathcal{R}_\lambda(1.1, 2.2, 1.3) = \emptyset$$

$$G((3.1, 2.2, 1.1), (1.1, 2.2, 1.3)) \cap \mathcal{R}_\rho(1.1, 2.2, 1.3) = (3.1).$$



$$2.2. (3.1, 2.3, 1.1) \times (1.1, 3.2, 1.3)$$

$$\mathcal{R}_\lambda(3.1, 2.3, 1.1) = (2.1, 2.2)$$

$$\mathcal{R}_\rho(3.1, 2.3, 1.1) = (3.2, 3.3, 1.2, 1.3)$$

$$\mathcal{R}_\lambda(1.1, 3.2, 1.3) = (1.2, 2.2)$$

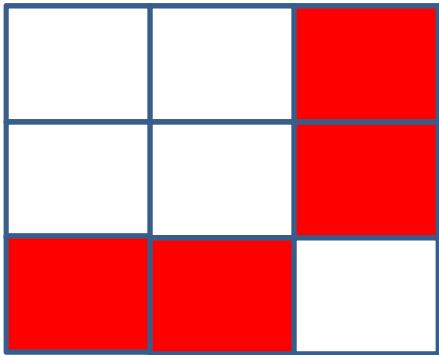
$$\mathcal{R}_\rho(1.1, 3.2, 1.3) = (2.1, 3.1, 2.3, 3.3)$$

$$G((3.1, 2.3, 1.1), (1.1, 3.2, 1.3)) \cap \mathcal{R}_\lambda(3.1, 2.3, 1.1) = \emptyset$$

$$G((3.1, 2.3, 1.1), (1.1, 3.2, 1.3)) \cap \mathcal{R}_\rho(3.1, 2.3, 1.1) = (1.3, 3.2)$$

$$G((3.1, 2.3, 1.1), (1.1, 3.2, 1.3)) \cap \mathcal{R}_\lambda(1.1, 3.2, 1.3) = \emptyset$$

$$G((3.1, 2.3, 1.1), (1.1, 3.2, 1.3)) \cap \mathcal{R}_\rho(1.1, 3.2, 1.3) = (2.3, 3.1).$$



$$2.3. (3.1, 2.3, 1.2) \times (2.1, 3.2, 1.3)$$

$$\mathcal{R}_\lambda(3.1, 2.3, 1.2) = (2.1, 2.2, 1.1)$$

$$\mathcal{R}_\rho(3.1, 2.3, 1.2) = (3.2, 3.3, 1.3)$$

$$\mathcal{R}_\lambda(2.1, 3.2, 1.3) = (1.1, 1.2, 2.2)$$

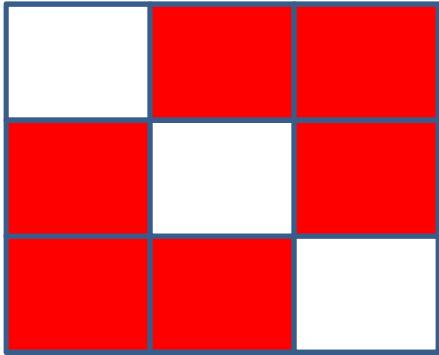
$$\mathcal{R}_\rho(2.1, 3.2, 1.3) = (3.1, 2.3, 3.3)$$

$$G((3.1, 2.3, 1.2), (2.1, 3.2, 1.3)) \cap \mathcal{R}_\lambda(3.1, 2.3, 1.2) = (2.1)$$

$$G((3.1, 2.3, 1.2), (2.1, 3.2, 1.3)) \cap \mathcal{R}_\rho(3.1, 2.3, 1.2) = (1.3, 3.2)$$

$$G((3.1, 2.3, 1.2), (2.1, 3.2, 1.3)) \cap \mathcal{R}_\lambda(2.1, 3.2, 1.3) = (1.2)$$

$$G((3.1, 2.3, 1.2), (2.1, 3.2, 1.3)) \cap \mathcal{R}_\rho(2.1, 3.2, 1.3) = (2.3, 3.1).$$



$$2.4. (3.2, 2.1, 1.1) \times (1.1, 1.2, 2.3)$$

$$\mathcal{R}_\lambda(3.2, 2.1, 1.1) = (3.1)$$

$$\mathcal{R}_\rho(3.2, 2.1, 1.1) = (3.3, 2.2, 2.3, 1.2, 1.3)$$

$$\mathcal{R}_\lambda(1.1, 1.2, 2.3) = (1.3)$$

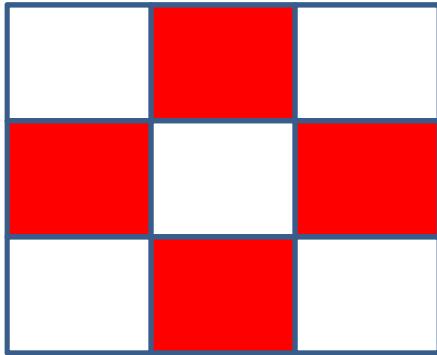
$$\mathcal{R}_\rho(1.1, 1.2, 2.3) = (2.1, 3.1, 2.2, 3.2, 3.3)$$

$$G((3.2, 2.1, 1.1), (1.1, 1.2, 2.3)) \cap \mathcal{R}_\lambda(3.2, 2.1, 1.1) = \emptyset$$

$$G((3.2, 2.1, 1.1), (1.1, 1.2, 2.3)) \cap \mathcal{R}_\rho(3.2, 2.1, 1.1) = (1.2, 2.3)$$

$$G((3.2, 2.1, 1.1), (1.1, 1.2, 2.3)) \cap \mathcal{R}_\lambda(1.1, 1.2, 2.3) = \emptyset$$

$$G((3.2, 2.1, 1.1), (1.1, 1.2, 2.3)) \cap \mathcal{R}_\rho(1.1, 1.2, 2.3) = (3.2, 2.1).$$



$$2.5. (3.2, 2.1, 1.2) \times (2.1, 1.2, 2.3)$$

$$\mathcal{R}_\lambda(3.2, 2.1, 1.2) = (3.1, 1.1)$$

$$\mathcal{R}_\rho(3.2, 2.1, 1.2) = (3.3, 2.2, 2.3, 1.3)$$

$$\mathcal{R}_\lambda(2.1, 1.2, 2.3) = (1.1, 1.3)$$

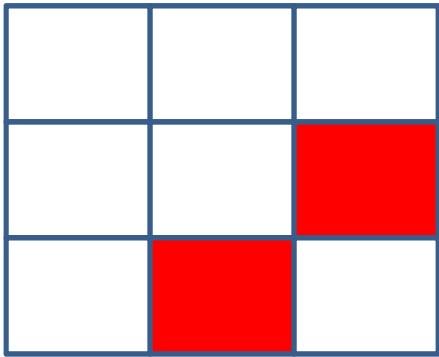
$$\mathcal{R}_\rho(2.1, 1.2, 2.3) = (3.1, 2.2, 3.2, 3.3)$$

$$G((3.2, 2.1, 1.2), (2.1, 1.2, 2.3)) \cap \mathcal{R}_\lambda(3.2, 2.1, 1.2) = \emptyset$$

$$G((3.2, 2.1, 1.2), (2.1, 1.2, 2.3)) \cap \mathcal{R}_\rho(3.2, 2.1, 1.2) = (2.3)$$

$$G((3.2, 2.1, 1.2), (2.1, 1.2, 2.3)) \cap \mathcal{R}_\lambda(2.1, 1.2, 2.3) = \emptyset$$

$$G((3.2, 2.1, 1.2), (2.1, 1.2, 2.3)) \cap \mathcal{R}_\rho(2.1, 1.2, 2.3) = (3.2).$$



$$2.6. (3.2, 2.1, 1.3) \times (3.1, 1.2, 2.3)$$

$$\mathcal{R}_\lambda(3.2, 2.1, 1.3) = (3.1, 1.1, 1.2)$$

$$\mathcal{R}_\rho(3.2, 2.1, 1.3) = (3.3, 2.2, 2.3)$$

$$\mathcal{R}_\lambda(3.1, 1.2, 2.3) = (1.1, 2.1, 1.3)$$

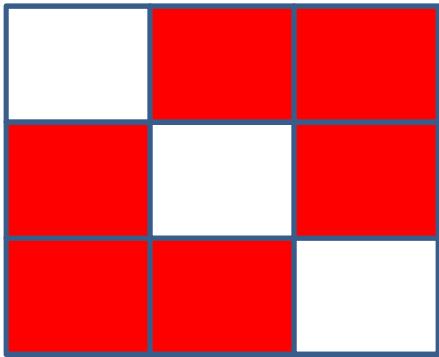
$$\mathcal{R}_\rho(3.1, 1.2, 2.3) = (2.2, 3.2, 3.3)$$

$$G((3.2, 2.1, 1.3), (3.1, 1.2, 2.3)) \cap \mathcal{R}_\lambda(3.2, 2.1, 1.3) = (1.2, 3.1)$$

$$G((3.2, 2.1, 1.3), (3.1, 1.2, 2.3)) \cap \mathcal{R}_\rho(3.2, 2.1, 1.3) = (2.3)$$

$$G((3.2, 2.1, 1.3), (3.1, 1.2, 2.3)) \cap \mathcal{R}_\lambda(3.1, 1.2, 2.3) = (1.3, 2.1)$$

$$G((3.2, 2.1, 1.3), (3.1, 1.2, 2.3)) \cap \mathcal{R}_\rho(3.1, 1.2, 2.3) = (3.2).$$



$$2.7. (3.2, 2.2, 1.1) \times (1.1, 2.2, 2.3)$$

$$\mathcal{R}_\lambda(3.2, 2.2, 1.1) = (3.1, 2.1)$$

$$\mathcal{R}_\rho(3.2, 2.2, 1.1) = (3.3, 2.3, 1.2, 1.3)$$

$$\mathcal{R}_\lambda(1.1, 2.2, 2.3) = (1.2, 1.3)$$

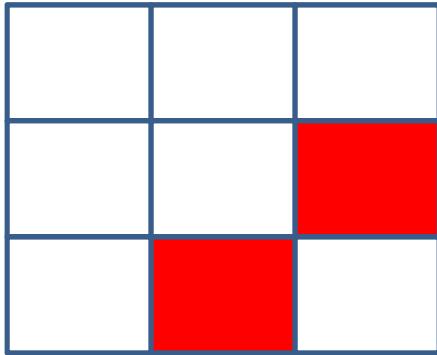
$$\mathcal{R}_\rho(1.1, 2.2, 2.3) = (2.1, 3.1, 3.2, 3.3)$$

$$G((3.2, 2.2, 1.1), (1.1, 2.2, 2.3)) \cap \mathcal{R}_\lambda(3.2, 2.2, 1.1) = \emptyset$$

$$G((3.2, 2.2, 1.1), (1.1, 2.2, 2.3)) \cap \mathcal{R}_\rho(3.2, 2.2, 1.1) = (2.3)$$

$$G((3.2, 2.2, 1.1), (1.1, 2.2, 2.3)) \cap \mathcal{R}_\lambda(1.1, 2.2, 2.3) = \emptyset$$

$$G((3.2, 2.2, 1.1), (1.1, 2.2, 2.3)) \cap \mathcal{R}_\rho(1.1, 2.2, 2.3) = (3.2).$$



$$2.8. (3.2, 2.3, 1.1) \times (1.1, 3.2, 2.3)$$

$$\mathcal{R}_\lambda(3.2, 2.3, 1.1) = (3.1, 2.1, 2.2)$$

$$\mathcal{R}_\rho(3.2, 2.3, 1.1) = (3.3, 1.2, 1.3)$$

$$\mathcal{R}_\lambda(1.1, 3.2, 2.3) = (1.2, 2.2, 1.3)$$

$$\mathcal{R}_\rho(1.1, 3.2, 2.3) = (2.1, 3.1, 3.3)$$

$$G((3.2, 2.3, 1.1), (1.1, 3.2, 2.3)) \cap \mathcal{R}_\lambda(3.2, 2.3, 1.1) = \emptyset$$

$$G((3.2, 2.3, 1.1), (1.1, 3.2, 2.3)) \cap \mathcal{R}_\rho(3.2, 2.3, 1.1) = \emptyset$$

$$G((3.2, 2.3, 1.1), (1.1, 3.2, 2.3)) \cap \mathcal{R}_\lambda(1.1, 3.2, 2.3) = \emptyset$$

$$G((3.2, 2.3, 1.1), (1.1, 3.2, 2.3)) \cap \mathcal{R}_\rho(1.1, 3.2, 2.3) = \emptyset.$$

$$2.9. (3.2, 2.3, 1.2) \times (2.1, 3.2, 2.3)$$

$$\mathcal{R}_\lambda(3.2, 2.3, 1.2) = (3.1, 2.1, 2.2, 1.1)$$

$$\mathcal{R}_\rho(3.2, 2.3, 1.2) = (3.3, 1.3)$$

$$\mathcal{R}_\lambda(2.1, 3.2, 2.3) = (1.1, 1.2, 2.2, 1.3)$$

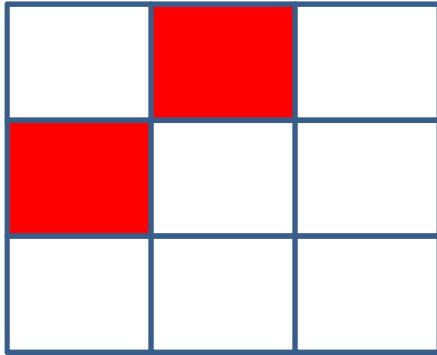
$$\mathcal{R}_\rho(2.1, 3.2, 2.3) = (3.1, 3.3)$$

$$G((3.2, 2.3, 1.2), (2.1, 3.2, 2.3)) \cap \mathcal{R}_\lambda(3.2, 2.3, 1.2) = (2.1)$$

$$G((3.2, 2.3, 1.2), (2.1, 3.2, 2.3)) \cap \mathcal{R}_\rho(3.2, 2.3, 1.2) = \emptyset$$

$$G((3.2, 2.3, 1.2), (2.1, 3.2, 2.3)) \cap \mathcal{R}_\lambda(2.1, 3.2, 2.3) = (1.2)$$

$$G((3.2, 2.3, 1.2), (2.1, 3.2, 2.3)) \cap \mathcal{R}_\rho(2.1, 3.2, 2.3) = \emptyset.$$



$$2.10. (3.3, 2.1, 1.1) \times (1.1, 1.2, 3.3)$$

$$\mathcal{R}_\lambda(3.3, 2.1, 1.1) = (3.1, 3.2)$$

$$\mathcal{R}_\rho(3.3, 2.1, 1.1) = (2.2, 2.3, 1.2, 1.3)$$

$$\mathcal{R}_\lambda(1.1, 1.2, 3.3) = (1.3, 2.3)$$

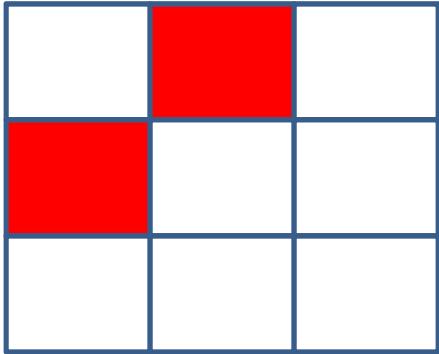
$$\mathcal{R}_\rho(1.1, 1.2, 3.3) = (2.1, 3.1, 2.2, 3.2)$$

$$G((3.3, 2.1, 1.1), (1.1, 1.2, 3.3)) \cap \mathcal{R}_\lambda(3.3, 2.1, 1.1) = \emptyset$$

$$G((3.3, 2.1, 1.1), (1.1, 1.2, 3.3)) \cap \mathcal{R}_\rho(3.3, 2.1, 1.1) = (1.2)$$

$$G((3.3, 2.1, 1.1), (1.1, 1.2, 3.3)) \cap \mathcal{R}_\lambda(1.1, 1.2, 3.3) = \emptyset$$

$$G((3.3, 2.1, 1.1), (1.1, 1.2, 3.3)) \cap \mathcal{R}_\rho(1.1, 1.2, 3.3) = (2.1).$$



$$2.11. (3.3, 2.1, 1.2) \times (2.1, 1.2, 3.3)$$

$$\mathcal{R}_\lambda(3.3, 2.1, 1.2) = (3.1, 3.2, 1.1)$$

$$\mathcal{R}_\rho(3.3, 2.1, 1.2) = (2.2, 2.3, 1.3)$$

$$\mathcal{R}_\lambda(2.1, 1.2, 3.3) = (1.1, 1.3, 2.3)$$

$$\mathcal{R}_\rho(2.1, 1.2, 3.3) = (3.1, 2.2, 3.2)$$

$$G((3.3, 2.1, 1.2), (2.1, 1.2, 3.3)) \cap \mathcal{R}_\lambda(3.3, 2.1, 1.2) = \emptyset$$

$$G((3.3, 2.1, 1.2), (2.1, 1.2, 3.3)) \cap \mathcal{R}_\rho(3.3, 2.1, 1.2) = \emptyset$$

$$G((3.3, 2.1, 1.2), (2.1, 1.2, 3.3)) \cap \mathcal{R}_\lambda(2.1, 1.2, 3.3) = \emptyset$$

$$G((3.3, 2.1, 1.2), (2.1, 1.2, 3.3)) \cap \mathcal{R}_\rho(2.1, 1.2, 3.3) = \emptyset.$$

$$2.12. (3.3, 2.1, 1.3) \times (3.1, 1.2, 3.3)$$

$$\mathcal{R}_\lambda(3.3, 2.1, 1.3) = (3.1, 3.2, 1.1, 1.2)$$

$$\mathcal{R}_\rho(3.3, 2.1, 1.3) = (2.2, 2.3)$$

$$\mathcal{R}_\lambda(3.1, 1.2, 3.3) = (1.1, 2.1, 1.3, 2.3)$$

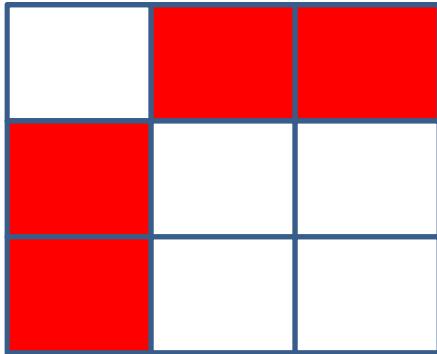
$$\mathcal{R}_\rho(3.1, 1.2, 3.3) = (2.2, 3.2)$$

$$G((3.3, 2.1, 1.3), (3.1, 1.2, 3.3)) \cap \mathcal{R}_\lambda(3.3, 2.1, 1.3) = (1.2, 3.1)$$

$$G((3.3, 2.1, 1.3), (3.1, 1.2, 3.3)) \cap \mathcal{R}_\rho(3.3, 2.1, 1.3) = \emptyset$$

$$G((3.3, 2.1, 1.3), (3.1, 1.2, 3.3)) \cap \mathcal{R}_\lambda(3.1, 1.2, 3.3) = (1.3, 2.1)$$

$$G((3.3, 2.1, 1.3), (3.1, 1.2, 3.3)) \cap \mathcal{R}_\rho(3.1, 1.2, 3.3) = \emptyset.$$



$$2.13. (3.3, 2.2, 1.1) \times (1.1, 2.2, 3.3)$$

$$\mathcal{R}_\lambda(3.3, 2.2, 1.1) = (3.1, 3.2, 2.1)$$

$$\mathcal{R}_\rho(3.3, 2.2, 1.1) = (2.3, 1.2, 1.3)$$

$$\mathcal{R}_\lambda(1.1, 2.2, 3.3) = (1.2, 1.3, 2.3)$$

$$\mathcal{R}_\rho(1.1, 2.2, 3.3) = (2.1, 3.1, 3.2)$$

$$G((3.3, 2.2, 1.1), (1.1, 2.2, 3.3)) \cap \mathcal{R}_\lambda(3.3, 2.2, 1.1) = \emptyset$$

$$G((3.3, 2.2, 1.1), (1.1, 2.2, 3.3)) \cap \mathcal{R}_\rho(3.3, 2.2, 1.1) = \emptyset$$

$$G((3.3, 2.2, 1.1), (1.1, 2.2, 3.3)) \cap \mathcal{R}_\lambda(1.1, 2.2, 3.3) = \emptyset$$

$$G((3.3, 2.2, 1.1), (1.1, 2.2, 3.3)) \cap \mathcal{R}_\rho(1.1, 2.2, 3.3) = \emptyset.$$

$$2.14. (3.3, 2.2, 1.2) \times (2.1, 2.2, 3.3)$$

$$\mathcal{R}_\lambda(3.3, 2.2, 1.2) = (3.1, 3.2, 2.1, 1.1)$$

$$\mathcal{R}_\rho(3.3, 2.2, 1.2) = (2.3, 1.3)$$

$$\mathcal{R}_\lambda(2.1, 2.2, 3.3) = (1.1, 1.2, 1.3, 2.3)$$

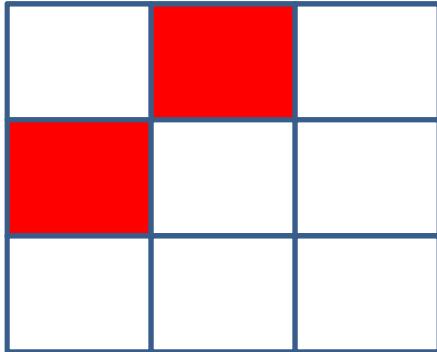
$$\mathcal{R}_\rho(2.1, 2.2, 3.3) = (3.1, 3.2)$$

$$G((3.3, 2.2, 1.2), (2.1, 2.2, 3.3)) \cap \mathcal{R}_\lambda(3.3, 2.2, 1.2) = (2.1)$$

$$G((3.3, 2.2, 1.2), (2.1, 2.2, 3.3)) \cap \mathcal{R}_\rho(3.3, 2.2, 1.2) = \emptyset$$

$$G((3.3, 2.2, 1.2), (2.1, 2.2, 3.3)) \cap \mathcal{R}_\lambda(2.1, 2.2, 3.3) = (1.2)$$

$$G((3.3, 2.2, 1.2), (2.1, 2.2, 3.3)) \cap \mathcal{R}_\rho(2.1, 2.2, 3.3) = \emptyset.$$



$$2.15. (3.3, 2.2, 1.3) \times (3.1, 2.2, 3.3)$$

$$\mathcal{R}_\lambda(3.3, 2.2, 1.3) = (3.1, 3.2, 2.1, 1.1, 1.2)$$

$$\mathcal{R}_\rho(3.3, 2.2, 1.3) = (2.3)$$

$$\mathcal{R}_\lambda(3.1, 2.2, 3.3) = (1.1, 2.1, 1.2, 1.3, 2.3)$$

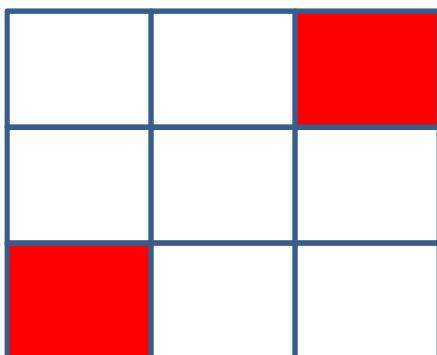
$$\mathcal{R}_\rho(3.1, 2.2, 3.3) = (3.2)$$

$$G((3.3, 2.2, 1.3), (3.1, 2.2, 3.3)) \cap \mathcal{R}_\lambda(3.3, 2.2, 1.3) = (3.1)$$

$$G((3.3, 2.2, 1.3), (3.1, 2.2, 3.3)) \cap \mathcal{R}_\rho(3.3, 2.2, 1.3) = \emptyset$$

$$G((3.3, 2.2, 1.3), (3.1, 2.2, 3.3)) \cap \mathcal{R}_\lambda(3.1, 2.2, 3.3) = (1.3)$$

$$G((3.3, 2.2, 1.3), (3.1, 2.2, 3.3)) \cap \mathcal{R}_\rho(3.1, 2.2, 3.3) = \emptyset.$$



$$2.16. (3.3, 2.3, 1.1) \times (1.1, 3.2, 3.3)$$

$$\mathcal{R}_\lambda(3.3, 2.3, 1.1) = (3.1, 3.2, 2.1, 2.2)$$

$$\mathcal{R}_\rho(3.3, 2.3, 1.1) = (1.2, 1.3)$$

$$\mathcal{R}_\lambda(1.1, 3.2, 3.3) = (1.2, 2.2, 1.3, 2.3)$$

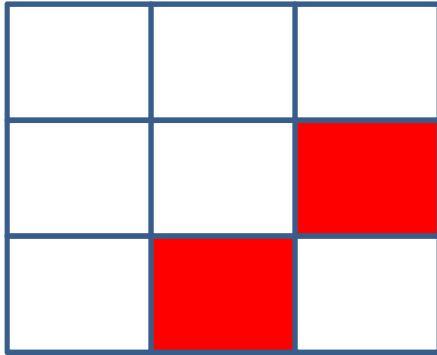
$$\mathcal{R}_\rho(1.1, 3.2, 3.3) = (2.1, 3.1)$$

$$G((3.3, 2.3, 1.1), (1.1, 3.2, 3.3)) \cap \mathcal{R}_\lambda(3.3, 2.3, 1.1) = (3.2)$$

$$G((3.3, 2.3, 1.1), (1.1, 3.2, 3.3)) \cap \mathcal{R}_\rho(3.3, 2.3, 1.1) = \emptyset$$

$$G((3.3, 2.3, 1.1), (1.1, 3.2, 3.3)) \cap \mathcal{R}_\lambda(1.1, 3.2, 3.3) = (2.3)$$

$$G((3.3, 2.3, 1.1), (1.1, 3.2, 3.3)) \cap \mathcal{R}_\rho(1.1, 3.2, 3.3) = \emptyset.$$



$$2.17. (3.3, 2.3, 1.2) \times (2.1, 3.2, 3.3)$$

$$\mathcal{R}_\lambda(3.3, 2.3, 1.2) = (3.1, 3.2, 2.1, 2.2, 1.1)$$

$$\mathcal{R}_\rho(3.3, 2.3, 1.2) = (1.3)$$

$$\mathcal{R}_\lambda(2.1, 3.2, 3.3) = (1.1, 1.2, 2.2, 1.3, 2.3)$$

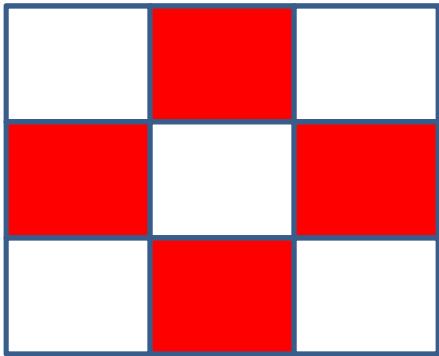
$$\mathcal{R}_\rho(2.1, 3.2, 3.3) = (3.1)$$

$$G((3.3, 2.3, 1.2), (2.1, 3.2, 3.3)) \cap \mathcal{R}_\lambda(3.3, 2.3, 1.2) = (2.1, 3.2)$$

$$G((3.3, 2.3, 1.2), (2.1, 3.2, 3.3)) \cap \mathcal{R}_\rho(3.3, 2.3, 1.2) = \emptyset$$

$$G((3.3, 2.3, 1.2), (2.1, 3.2, 3.3)) \cap \mathcal{R}_\lambda(2.1, 3.2, 3.3) = (1.2, 2.3)$$

$$G((3.3, 2.3, 1.2), (2.1, 3.2, 3.3)) \cap \mathcal{R}_\varnothing(2.1, 3.2, 3.3) = \emptyset.$$



### 3. Feststellungen

3.1.  $G = \emptyset$ : (2.8., 2.11., 2.13.).

3.2. 2./4. statt 1./3. G-Position =  $\emptyset$ : (2.9., 2.12., 2.14. bis 2.17.). Nur in 2.17 mit Dyaden statt Monaden in 1. und 3. G-Position.

3.3. Gleiche Grenzränder/Randgrenzen haben

(2.1., 2.15.), (2.4, 2.17.),

(2.5., 2.7., 2.16.), (2.9., 2.10., 2.14.).

Singulär sind: (2.2), (2.12.)

3.4. Strukturell auffällig sind (2.3.) und (2.6.), da hier nur die Nebendiagonale unbesetzt ist (Leerstellen = Platzhalter der Subrelationen der Eigenrealität!).

3.5. Korrespondenzen von Randgrenzen/Grenzrändern regulärer Dualsysteme mit irregulären.

$$[(3.1, 2.1, 1.1) \times (1.1, 1.2, 1.3)] \cong_G [(3.3, 2.1, 1.3) \times (3.1, 1.2, 3.3)].$$

$$[(3.1, 2.1, 1.2) \times (2.1, 1.2, 1.3)] \cong_G [(3.1, 2.2, 1.1) \times (1.1, 2.2, 1.3)] \cong_G [(3.3, 2.2, 1.3) \times (3.1, 2.2, 3.3)].$$

$$[(3.1, 2.1, 1.3) \times (3.1, 1.2, 1.3)] \text{ keine Korrespondenz.}$$

$$[(3.1, 2.2, 1.2) \times (2.1, 2.2, 1.3)] \cong_G [(3.3, 2.1, 1.3) \times (3.1, 1.2, 3.3)].$$

$$[(3.1, 2.3, 1.3) \times (3.1, 3.2, 1.3)] \cong_G [(3.2, 2.1, 1.2) \times (2.1, 1.2, 2.3)] \cong_G [(3.2, 2.2, 1.1) \times (1.1, 2.2, 2.3)] \cong_G [(3.3, 2.3, 1.1) \times (1.1, 3.2, 3.3)].$$

$$[(3.2, 2.2, 1.2) \times (2.1, 2.2, 2.3)] \cong_G [(3.2, 2.1, 1.1) \times (1.1, 1.2, 2.3)] \cong_G [(3.3, 2.3, 1.2) \times (2.1, 3.2, 3.3)]$$

$$[(3.2, 2.2, 1.3) \times (3.1, 2.2, 2.3)] \cong_G [(3.1, 2.3, 1.1) \times (1.1, 3.2, 1.3)]$$

$$[(3.2, 2.3, 1.3) \times (3.1, 3.2, 2.3)] \cong_G [(3.1, 2.2, 1.1) \times (1.1, 2.2, 1.3)] \cong_G [(3.3, 2.2, 1.3) \times (3.1, 2.2, 3.3)]$$

$$[(3.3, 2.3, 1.3) \times (3.1, 3.2, 3.3)] \cong_G [(3.1, 2.3, 1.1) \times (1.1, 3.2, 1.3)].$$

Nun finden sich aber weitere Isomorphien unter den regulären Dualsystemen

$$[(3.1, 2.1, 1.1) \times (1.1, 1.2, 1.3)] \cong_G [(3.1, 2.2, 1.2) \times (2.1, 2.2, 1.3)]$$

$$[(3.1, 2.1, 1.2) \times (2.1, 1.2, 1.3)] \cong_G [(3.2, 2.3, 1.3) \times (3.1, 3.2, 2.3)]$$

$$[(3.2, 2.2, 1.3) \times (3.1, 2.2, 2.3)] \cong_G [(3.3, 2.3, 1.3) \times (3.1, 3.2, 3.3)]$$

D.h. wir können die obigen Korrespondenzen wie folgt vereinfachen

$$[(3.1, 2.1, 1.1) \times (1.1, 1.2, 1.3)] \cong_G [(3.1, 2.2, 1.2) \times (2.1, 2.2, 1.3)] \cong_G [(3.3, 2.1, 1.3) \times (3.1, 1.2, 3.3)].$$

$$[(3.1, 2.1, 1.2) \times (2.1, 1.2, 1.3)] \cong_G [(3.2, 2.3, 1.3) \times (3.1, 3.2, 2.3)] \cong_G [(3.1, 2.2, 1.1) \times (1.1, 2.2, 1.3)] \cong_G [(3.3, 2.2, 1.3) \times (3.1, 2.2, 3.3)].$$

$$[(3.1, 2.1, 1.3) \times (3.1, 1.2, 1.3)] \text{ keine Korrespondenz .}$$

$$[(3.1, 2.3, 1.3) \times (3.1, 3.2, 1.3)] \cong_G [(3.2, 2.1, 1.2) \times (2.1, 1.2, 2.3)] \cong_G [(3.2, 2.2, 1.1) \times (1.1, 2.2, 2.3)] \cong_G [(3.3, 2.3, 1.1) \times (1.1, 3.2, 3.3)].$$

$$[(3.2, 2.2, 1.2) \times (2.1, 2.2, 2.3)] \cong_G [(3.2, 2.1, 1.1) \times (1.1, 1.2, 2.3)] \cong_G [(3.3, 2.3, 1.2) \times (2.1, 3.2, 3.3)]$$

$$[(3.2, 2.2, 1.3) \times (3.1, 2.2, 2.3)] \cong_G [(3.3, 2.3, 1.3) \times (3.1, 3.2, 3.3)] \cong_G [(3.1, 2.3, 1.1) \times (1.1, 3.2, 1.3)]$$

Auffällig ist also in Sonderheit, daß der Mittel-thematisierte Interpretant überhaupt keine Grenzrand/Randgrenzen-Korrespondenz besitzt. Generell besitzen somit sämtliche 17 irregulären semiotischen Relationen isomorphe Grenzränder/Randgrenzen mit sämtlichen 10 regulären semiotischen Relationen. Damit besteht also strukturell-semiotisch eine Form von Homöostasis zwischen den beiden Partitionen der totalen Menge von 27 semiotischen Relationen in Ergänzung zu derjenigen, die Walther (1982) für die Teilmenge der 10 regulären semiotischen Relationen qua Eigenrealität nachgewiesen hatte.

## Literatur

Bense, Max, Axiomatik und Semiotik. Baden-Baden 1981

Bense, Max, Die Eigenrealität der Zeichen. Baden-Baden 1992

Toth, Alfred, Semiotische Grenzen und Ränder. In: Electronic Journal for Mathematical Semiotics, 2013a

Toth, Alfred, Zur Topologie semiotischer Grenzen und Ränder I-II. In: Electronic Journal for Mathematical Semiotics, 2013b

Toth, Alfred, Isomorphe und homomorphe semiotische Grenzen und Ränder. In: Electronic Journal for Mathematical Semiotics, 2013c

Toth, Alfred, Grenzen und Ränder von Zeichenklassen und ihren dualen Realitätsthematiken. In: Electronic Journal for Mathematical Semiotics, 2013d

Toth, Alfred, Ränder und Grenzen symmetrischer semiotischer Dualsysteme. In: Electronic Journal for Mathematical Semiotics, 2013e

Walther, Elisabeth, Nachtrag zu Trichotomischen Triaden. In: Semiosis 27, 1982, S. 15-20

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