Prof. Dr. Alfred Toth

Grenzen und Ränder von Zeichenklassen und ihren dualen Realitätsthematiken

1. Vgl. zu den Voraussetzungen Toth (2013a-c).

2.1. (3.1, 2.1, 1.1) × (1.1, 1.2, 1.3)

G((3.1, 2.1, 1.1), (1.1, 1.2, 1.3)) = (1.2, 1.3, 2.1, 3.1)

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

$\mathcal{R}_\rho$(3.1, 2.1, 1.1) = (3.2, 3.3, 2.2, 2.3, 1.2, 1.3)

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

$\mathcal{R}_\rho$(1.1, 1.2, 1.3) = (2.1, 3.1, 2.2, 3.2, 2.3, 3.3)

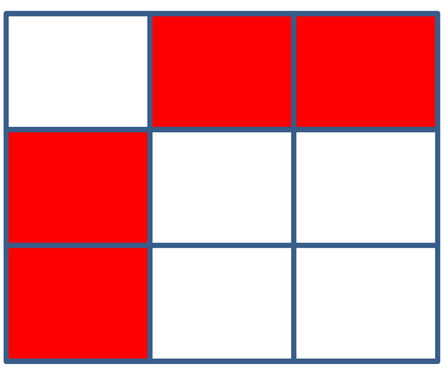
Grenzränder:

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

G((3.1, 2.1, 1.1), (1.1, 1.2, 1.3)) ∩ $\mathcal{R}_\rho$(3.1, 2.1, 1.1) = (1.2, 1.3)

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

G((3.1, 2.1, 1.1), (1.1, 1.2, 1.3)) ∩ $\mathcal{R}_\rho$(1.1, 1.2, 1.3) = (2.1, 3.1).



2.2. (3.1, 2.1, 1.2) × (2.1, 1.2, 1.3)

G((3.1, 2.1, 1.2), (2.1, 1.2, 1.3)) = (1.3, 2.1, 3.1)

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

$\mathcal{R}_{\rho}$(3.1, 2.1, 1.2) = (3.2, 3.3, 2.2, 2.3, 1.3)

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

$\mathcal{R}_{\rho}$(2.1, 1.2, 1.3) = (3.1, 2.2, 3.2, 2.3, 3.3)

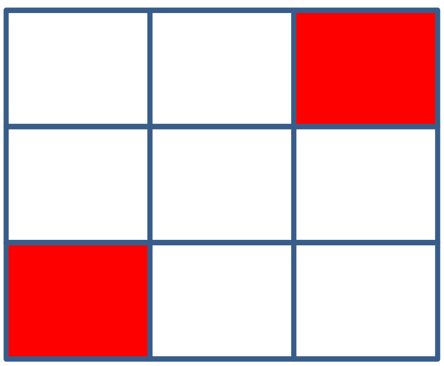
Grenzränder:

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

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

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

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



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

G((3.1, 2.1, 1.3), (3.1, 1.2, 1.3)) = (1.2, 2.1)

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

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

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

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

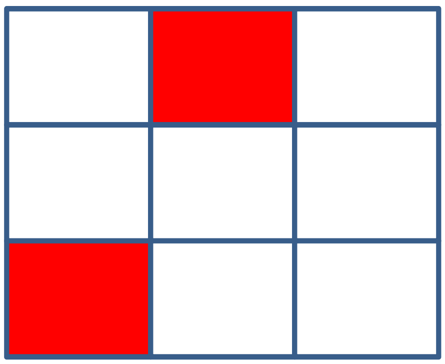
Grenzränder:

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

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

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

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



2.4. (3.1, 2.2, 1.2) $\times$ (2.1, 2.2, 1.3)

G((3.1, 2.2, 1.2), (2.1, 2.2, 1.3)) = (1.2, 1.3, 2.1, 3.1)

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

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

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

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

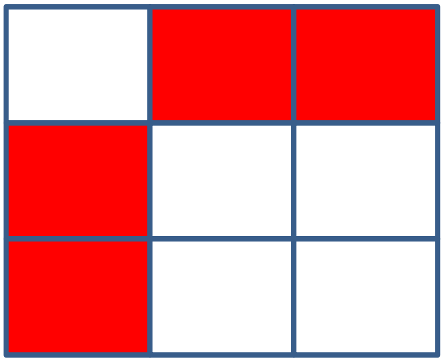
Grenzränder:

G((3.1, 2.2, 1.2), (2.1, 2.2, 1.3)) $\cap$ $\mathcal{R}_\lambda$(3.1, 2.2, 1.2) = (2.1)

G((3.1, 2.2, 1.2), (2.1, 2.2, 1.3)) $\cap$ $\mathcal{R}_\rho$(3.1, 2.2, 1.2) = (1.3)

G((3.1, 2.2, 1.2), (2.1, 2.2, 1.3)) $\cap$ $\mathcal{R}_\lambda$(2.1, 2.2, 1.3) = (1.2)

G((3.1, 2.2, 1.2), (2.1, 2.2, 1.3)) $\cap$ $\mathcal{R}_\rho$(2.1, 2.2, 1.3) = (3.1).



2.5. (3.1, 2.2, 1.3) × (3.1, 2.2, 1.3)

$G((3.1, 2.2, 1.3), (3.1, 2.2, 1.3)) = \emptyset$

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

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

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

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

Grenzränder:

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

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

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

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

2.6. (3.1, 2.3, 1.3) × (3.1, 3.2, 1.3)

$G((3.1, 2.3, 1.3), (3.1, 3.2, 1.3)) = (2.3, 3.2)$

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

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

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

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

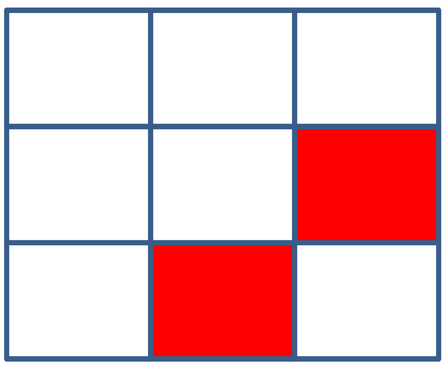
Grenzränder:

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

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

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

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



2.7. $(3.2, 2.2, 1.2) \times (2.1, 2.2, 2.3)$

$G((3.2, 2.2, 1.2), (2.1, 2.2, 2.3)) = (1.2, 2.1, 2.3, 3.2)$

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

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

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

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

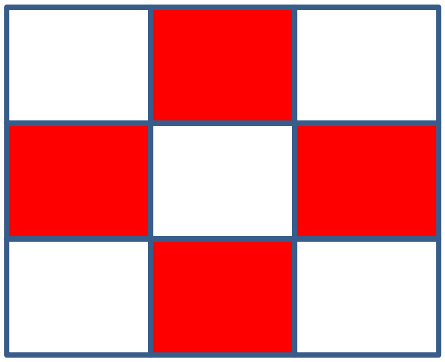
Grenzränder:

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

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

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

$G((3.2, 2.2, 1.2), (2.1, 2.2, 2.3)) \cap \mathcal{R}_\rho(2.1, 2.2, 2.3) = (3.2)$.



2.8. (3.2, 2.2, 1.3) × (3.1, 2.2, 2.3)

G((3.2, 2.2, 1.3), (3.1, 2.2, 2.3)) = (1.3, 2.3, 3.1, 3.2)

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

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

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

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

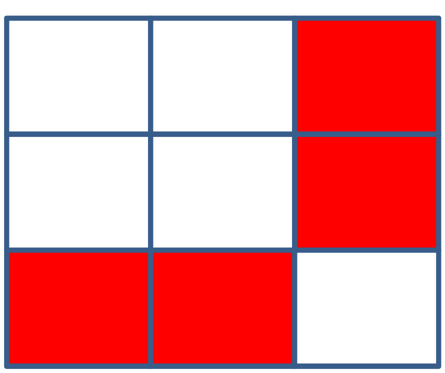
Grenzränder:

G((3.2, 2.2, 1.3), (3.1, 2.2, 2.3)) ∩ $\mathcal{R}_\lambda$(3.2, 2.2, 1.3) = (3.1)

G((3.2, 2.2, 1.3), (3.1, 2.2, 2.3)) ∩ $\mathcal{R}_\rho$(3.2, 2.2, 1.3) = (2.3)

G((3.2, 2.2, 1.3), (3.1, 2.2, 2.3)) ∩ $\mathcal{R}_\lambda$(3.1, 2.2, 2.3) = (1.3)

G((3.2, 2.2, 1.3), (3.1, 2.2, 2.3)) ∩ $\mathcal{R}_\rho$(3.1, 2.2, 2.3) = (3.2).



2.9. $(3.2, 2.3, 1.3) \times (3.1, 3.2, 2.3)$

$G((3.2, 2.3, 1.3), (3.1, 3.2, 2.3)) = (1.3, 3.1)$

$\mathcal{R}_\lambda(3.2, 2.3, 1.3) = (3.1, 2.1, 2.2, 1.1, 1.2)$

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

$\mathcal{R}_\lambda(3.1, 3.2, 2.3) = (1.1, 2.1, 1.2, 2.2, 1.3)$

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

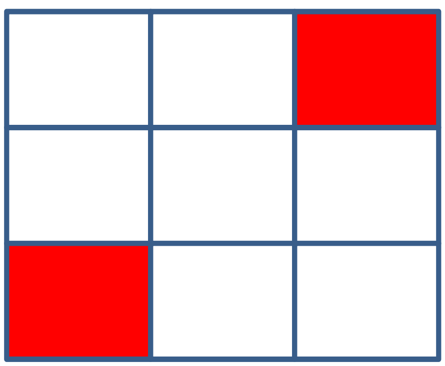
Grenzränder:

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

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

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

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



2.10. $(3.3, 2.3, 1.3) \times (3.1, 3.2, 3.3)$

$G((3.3, 2.3, 1.3), (3.1, 3.2, 3.3) = (1.3, 2.3, 3.1, 3.2)$

$\mathcal{R}_\lambda(3.3, 2.3, 1.3) = (3.1, 3.2, 2.1, 2.2, 1.1, 1.2)$

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

$\mathcal{R}_\lambda(3.1, 3.2, 3.3) = (1.1, 2.1, 1.2, 2.2, 1.3, 2.3)$

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

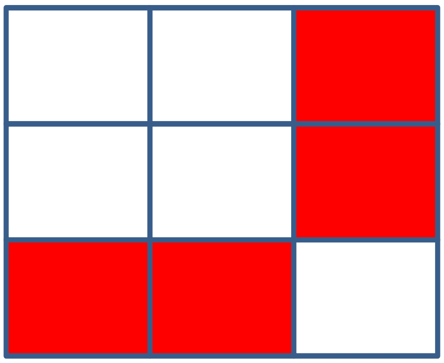
Grenzränder:

$G((3.3, 2.3, 1.3), (3.1, 3.2, 3.3)) \cap \mathcal{R}_\lambda(3.3, 2.3, 1.3) = (3.1, 3.2)$

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

$G((3.3, 2.3, 1.3), (3.1, 3.2, 3.3)) \cap \mathcal{R}_\lambda(3.1, 3.2, 3.3) = (1.3, 2.3)$

$G((3.3, 2.3, 1.3), (3.1, 3.2, 3.3)) \cap \mathcal{R}_\rho(3.1, 3.2, 3.3) = \emptyset$.



3. Feststellungen

3.1. $G(Zkl_i, Zkl_j) = (Zkl_i \cup Zkl_j) \setminus (Zkl_i \cap Zkl_j)$.

3.2. $\mathcal{R}_\lambda(Zkl)$ und $\mathcal{R}_\rho(Zkl)$ bei Trichotomien, $\mathcal{R}_\lambda(Rth)$ und $\mathcal{R}_\rho(Rth)$ sind orthogonal zu einander (links = oben, rechts = unten).

3.3.$G(Rth) = \times G(Zkl)$.

3.4. 4-elementige Grenzen trotz homogenen Thematisation weisen die folgenden beiden Dualsysteme auf.

2.4. $(3.1, 2.2, 1.2) \times (2.1, 2.2, 1.3)$

$G((3.1, 2.2, 1.2), (2.1, 2.2, 1.3)) = (1.2, 1.3, 2.1, 3.1)$

2.8. $(3.2, 2.2, 1.3) \times (3.1, 2.2, 2.3)$

$G((3.2, 2.2, 1.3), (3.1, 2.2, 2.3)) = (1.3, 2.3, 3.1, 3.2)$

Literatur

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

3.12.2013