Prof. Dr. Alfred Toth

Semiotische Ränder und Nachbarschaften

1. Definitionen

1.1. Grenzen

$G((3.a, 2.b, 1.c), (c.1, b.2, a.3)) = ((3.a, 2.b, 1.c) \cup (c.1, b.2, a.3)) \setminus ((3.a, 2.b, 1.c) \cap\cup (c.1, b.2, a.3))$.

1.2. Ränder

$\mathcal{R}_\lambda(3.a, 2.b, 1.c) = (\{1.x\}, \{2.y\}, \{3.z\} \mid x < a, y < b, z < c)$

$\mathcal{R}_\rho(3.a, 2.b, 1.c) = (\{1.x\}, \{2.y\}, \{3.z\} \mid x > a, y > b, z > c)$

$\mathcal{R}_\lambda(c.1, b.2, a.3) = (\{x.1\}, \{y.2\}, \{z.3\} \mid x < c, y < b, z < a)$

$\mathcal{R}_\rho(c.1, b.2, a.3) = (\{x.1\}, \{y.2\}, \{z.3\} \mid x > c, y > b, z > a)$.

1.3. Randgrenzen

$\mathfrak{G}_{ZTh\lambda} = G((3.a, 2.b, 1.c), (c.1, b.2, a.3)) \cap \mathcal{R}_\lambda(3.a, 2.b, 1.c)$

$\mathfrak{G}_{ZTh\rho} = ((3.a, 2.b, 1.c), (c.1, b.2, a.3)) \cap \mathcal{R}_\rho(3.a, 2.b, 1.c)$

$\mathfrak{G}_{RTh\lambda} = ((3.a, 2.b, 1.c), (c.1, b.2, a.3)) \cap \mathcal{R}_\lambda(c.1, b.2, a.3)$

$\mathfrak{G}_{RTh\rho} = ((3.a, 2.b, 1.c), (c.1, b.2, a.3)) \cap \mathcal{R}_\rho(c.1, b.2, a.3)$.

1.4. Nachbarschaft

$N_\lambda(3.a, 2.b, 1.c) = (\{1.x\}, \{2.y\}, \{3.z\} \mid x < a, y < b, z < c) \cup \{(1.\pm x), (2.\pm y), (3.\pm z)\}$

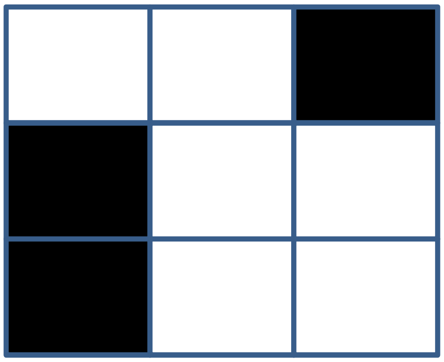
$N_\rho(3.a, 2.b, 1.c) = (\{1.x\}, \{2.y\}, \{3.z\} \mid x > a, y > b, z > c) \cup \{(1.\pm x), (2.\pm y), (3.\pm z)\}$

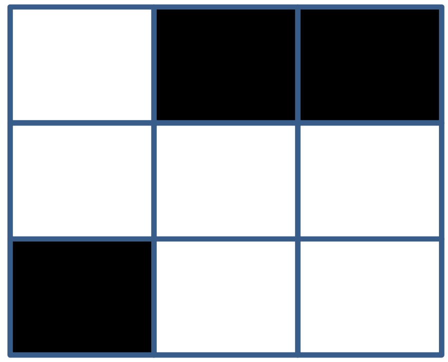
$N_\lambda(c.1, b.2, a.3) = (\{x.1\}, \{y.2\}, \{z.3\} \mid x < c, y < b, z < a) \cup \{(1.\pm x), (2.\pm y), (3.\pm z)\}$

$N_{\rho}(c.1, b.2, a.3) = (\{x.1\}, \{y.2\}, \{z.3\} \mid x > c, y > b, z > a) \cup$
$\{(1.\pm x), (2.\pm y), (3.\pm z)\}$.

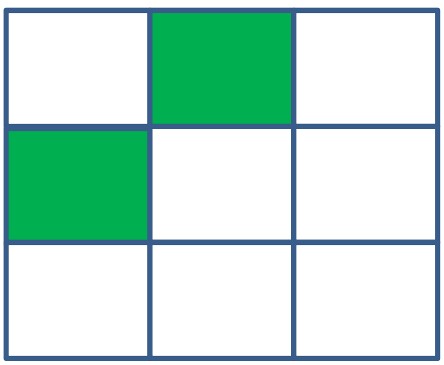
2. Beispiele

$DS = [(3.1, 2.1, 1.3) \times (3.1, 1.2, 1.3)]$

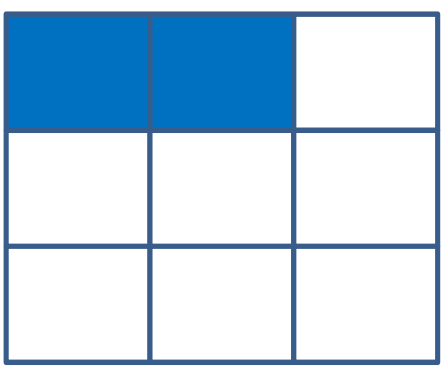




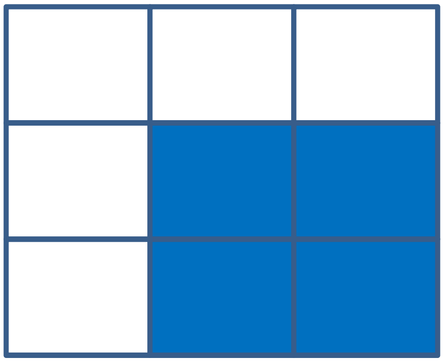
$G((3.1, 2.1, 1.3), (3.1, 1.2, 1.3)) = (1.2, 2.1)$



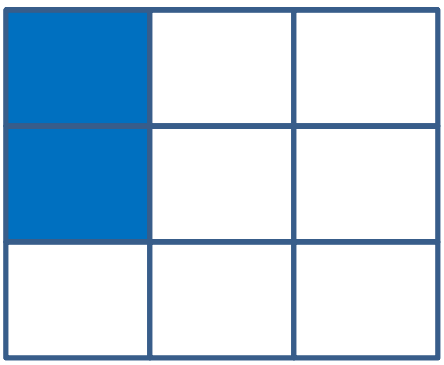
$\mathcal{R}_{\lambda}(3.1, 2.1, 1.3) = (1.1, 1.2)$



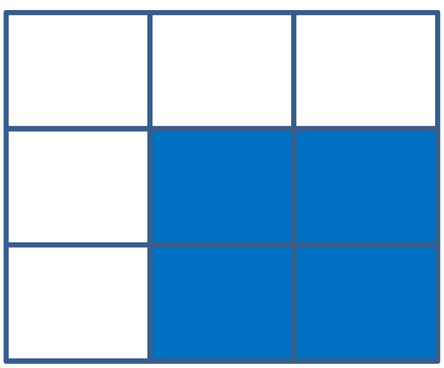
$\mathcal{R}_{\rho}(3.1, 2.1, 1.3) = (3.2, 3.3, 2.2, 2.3)$



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



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

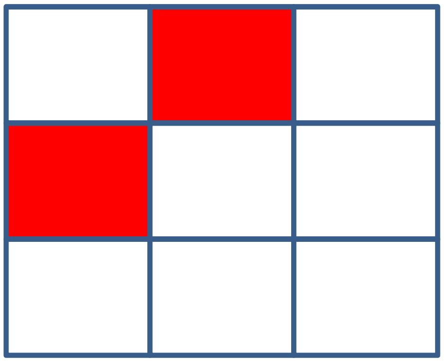


$\mathfrak{G}_{ZTh\lambda} = G((3.1, 2.1, 1.3), (3.1, 1.2, 1.3)) \cap \mathcal{R}_{\lambda}(3.1, 2.1, 1.3) = (1.2)$

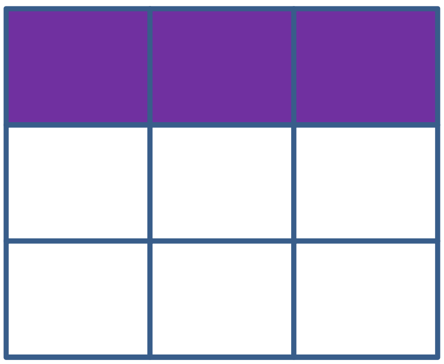
$\mathfrak{G}_{ZTh\rho} = G((3.1, 2.1, 1.3), (3.1, 1.2, 1.3)) \cap \mathcal{R}_{\rho}(3.1, 2.1, 1.3) = \emptyset$

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

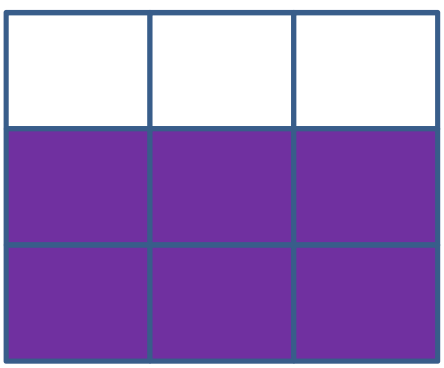
$\mathfrak{G}_{RTh\rho} = G((3.1, 2.1, 1.3), (3.1, 1.2, 1.3)) \cap \mathcal{R}_{\rho}(3.1, 1.2, 1.3) = \emptyset$.



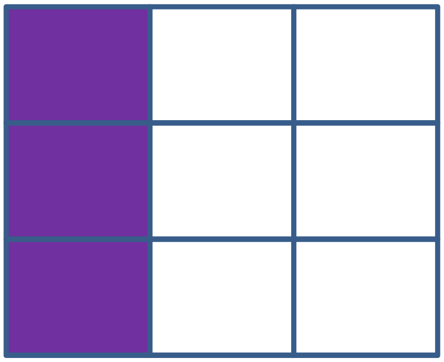
$N_\lambda(3.1, 2.1, 1.3) = (1.1, 1.2, 1.3)$



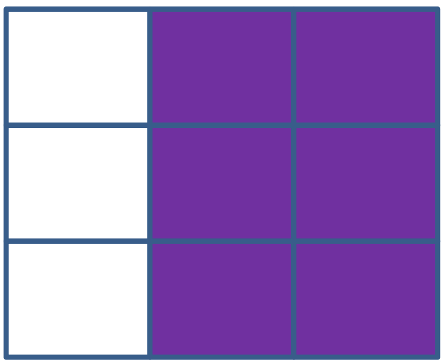
$N_\rho(3.1, 2.1, 1.3) = (2.1, 2.2, 2.3, 3.1, 3.2, 3.3)$



$N_\lambda(3.1, 1.2, 1.3) = (1.1, 2.1, 3.1)$



$N_\rho(3.1, 1.2, 1.3) = (1.2, 1.3, 2.2, 2.3, 3.2, 3.3)$



Literatur

Toth, Alfred, Die Ränder von Zeichen und Objekten. 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, Semiotisch-ontische Äquivalenz von Grenzen und Rändern. In: Electronic Journal for Mathematical Semiotics, 2013c

Toth, Alfred, Semiotisch-ontische Äquivalenz eingebetteter Teilsysteme. In: Electronic Journal for Mathematical Semiotics, 2013d

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