

**Prof. Dr. Alfred Toth**

## **Topologische Werte semiotischer Subrelationen**

1. In dieser Arbeit werden die bisherigen Ergebnisse der topologischen Semiotik (vgl. zuletzt Toth 2013a, b) dadurch zusammengefaßt, daß die topologischen Werte für Grenzen, Ränder, Grenzränder, Nachbarschaften und Umgebungen aller 9 semiotischen Subrelationen (Subzeichen) gegeben werden, wie sie in der semiotischen Matrix (vgl. Bense 1975, S. 37) erscheinen.

2.1.  $R = (1.1)$

$$G(1.1, 1.1) = (1.1)$$

$$R_\lambda(1.1) = \emptyset$$

$$R_\rho(1.1) = (1.2, 1.3, 2.1, 3.1)$$

$$\mathfrak{G}_\lambda = G(1.1) \cap \emptyset = \emptyset$$

$$\mathfrak{G}_\rho = G(1.1) \cap (1.2, 1.3, 2.1, 3.1) = \emptyset$$

$$N(1.1) = \{1.2, 2.1, 2.2\}$$

$$U(1.1) = \{1.3, 2.3, 3.1, 3.2, 3.3\}$$

$$N(U(1.1)) = \{1.2, 2.1, 2.2\}.$$

2.2.  $R = (1.2)$

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

$$R_\lambda(1.2) = (1.1)$$

$$R_\rho(1.2) = (1.3, 2.2, 3.2)$$

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

$$\mathfrak{G}_\rho = G(1.2, 2.1) \cap (1.3, 2.2, 3.2) = \emptyset$$

$$N(1.2) = \{1.1, 1.3, 2.1, 2.2, 2.3\}$$

$$U(1.2) = \{3.1, 3.2, 3.3\}$$

$N(U(1.2)) = (2.1, 2.2, 2.3).$

2.3.  $R = (1.3)$

$R_\lambda(1.3) = (1.1, 1.2)$

$R_\rho(3.1) = (3.2, 3.3)$

$\mathfrak{G}_\lambda = G(1.3, 3.1) \cap (1.1, 1.2) = \emptyset$

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

$N(1.3) = \{1.2, 2.2, 2.3\}$

$U(1.3) = \{1.1, 2.1, 3.1, 3.2, 3.3\}$

$N(U(1.3)) = \{1.2, 2.2, 2.3\}.$

2.4.  $R = (2.1)$

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

$R_\lambda(2.1) = (1.1)$

$R_\rho(2.1) = (2.2, 2.3, 3.1)$

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

$\mathfrak{G}_\rho = G(2.1, 1.2) \cap (2.2, 2.3, 3.1) = \emptyset$

$N(2.1) = \{1.1, 1.2, 2.2, 3.1, 3.2\}$

$U(2.1) = \{1.3, 2.3, 3.3\}$

$N(U(2.1)) = \{1.2, 2.2, 3.2\}.$

2.5.  $R = (2.2)$

$G(2.2, 2.2) = (2.2)$

$R_\lambda(2.2) = (1.2, 2.1)$

$R_\rho(2.2) = (2.3, 3.2)$

$$\mathfrak{G}_\lambda = G(2.2) \cap (1.2, 2.1) = \emptyset$$

$$\mathfrak{G}_\rho = G(2.2) \cap (2.3, 3.2) = \emptyset$$

$$N(2.2) = \{1.1, 1.2, 1.3, 2.1, 2.3, 3.1, 3.2, 3.3\}$$

$$U(2.2) = \emptyset$$

$$N(U(2.2)) = \mathfrak{M}_{3 \times 3}.$$

$$2.6. R = (2.3)$$

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

$$R_\lambda(2.3) = (1.3, 2.1, 2.2)$$

$$R_\rho(2.3) = (3.3)$$

$$\mathfrak{G}_\lambda = G(2.3, 3.2) \cap (1.3, 2.1, 2.2) = \emptyset$$

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

$$N(2.3) = \{1.2, 1.3, 2.2, 3.2, 3.3\}$$

$$U(2.3) = \{1.1, 2.1, 3.1\}$$

$$N(U(2.3)) = \{1.2, 2.2, 3.2\}.$$

$$2.7. R = (3.1)$$

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

$$R_\lambda(3.1) = (1.1, 2.1)$$

$$R_\rho(3.1) = (3.2, 3.3)$$

$$\mathfrak{G}_\lambda = G(3.1, 1.3) \cap (1.1, 2.1) = \emptyset$$

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

$$N(3.1) = \{2.1, 2.2, 3.2\}$$

$$U(3.1) = \{1.1, 1.2, 1.3, 2.3, 3.3\}$$

$N(U(3.1)) = \{2.1, 2.2, 3.2\}.$

2.8.  $R = (3.2)$

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

$R_\lambda(3.2) = (1.2, 2.2, 3.1)$

$R_\rho(3.2) = (3.3)$

$\mathfrak{G}_\lambda = G(3.2, 2.3) \cap (1.2, 2.2, 3.1) = \emptyset$

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

$N(3.2) = \{2.1, 2.2, 2.3, 3.1, 3.3\}$

$U(3.2) = \{1.1, 1.2, 1.3\}$

$N(U(3.2)) = \{2.1, 2.2, 2.3\}.$

2.9.  $R = (3.3)$

$G(3.3, 3.3) = (3.3)$

$R_\lambda(3.3) = (1.3, 2.3, 3.1, 3.2)$

$R_\rho(2.1) = \emptyset$

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

$\mathfrak{G}_\rho = G(3.3) \cap \emptyset = \emptyset$

$N(3.3) = \{2.2, 2.3, 3.2\}$

$U(3.3) = \{1.1, 1.2, 1.3, 2.1, 3.1\}$

$N(U(3.3)) = \{2.2, 2.3, 3.2\}.$

## Literatur

Bense, Max, Semiotische Prozesse und Systeme. Baden-Baden 1975

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