Prof. Dr. Alfred Toth

Intra- and trans- successors and predecessors in polycontextural semiotics

1. Since the linearity of the Peano-numbers is abolished in qualitative mathematics, it is to expect that every polycontextural number has more than one predecessor and successor (Kronthaler 1986). This problem arises already on the level of the dyadic sub-signs of triadic sign relations, f. ex. in a 3-contextural semiotics:

$(3.1_3\ 2.2_{1,2}\ 1.2_1) \rightarrow (3.1_3\ 2.2_1\ 1.2_1) < (3.1_3\ 2.2_2\ 1.2_1)$

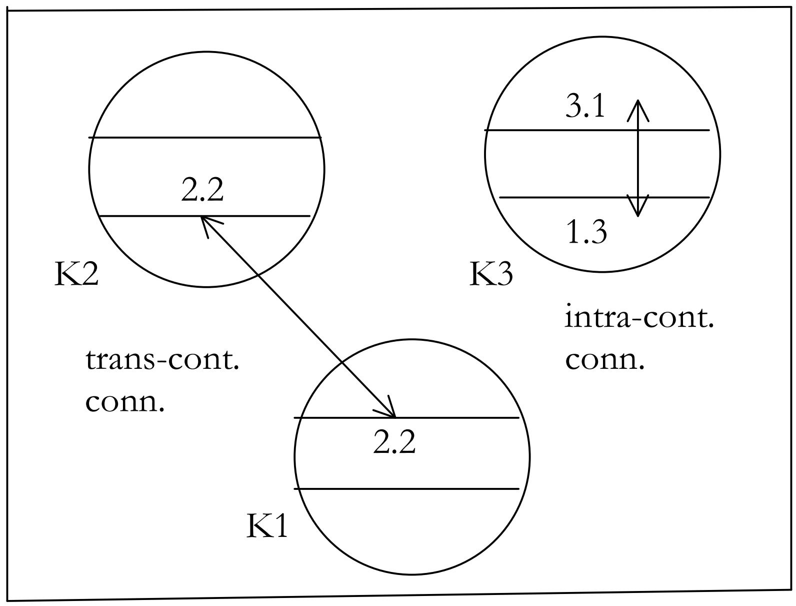
and grows with increasing number of contextures involved:

$(3.1_{3,4}\ 2.2_{1,2,4}\ 1.2_{1,4}) \rightarrow (3.1_3\ 2.2_1\ 1.2_1) < \ldots < \ldots (3.1_4\ 2.2_4\ 1.2_4)$

However, in polycontextural sign relations, one has to differentiate between the predecessors/successors of the sign classes and of the contextures:

$(3.1_3\ 2.2_{1,2}\ 1.2_1) \rightarrow (3.1_3\ 2.2_1\ 1.2_1) < (3.1_3\ 2.2_2\ 1.2_1)$ (contextural order)
$(2.2_1) < (2.2_2)$ (order of sub-signs)

2. Since polycontextures are understood as disseminated monocontextures, we suggest the following polycontextural sign model in order to make the problems raised in this article clear:



Thus, in (3.1_3 $2.2_{1,2}$ 1.3_3) there is trans-contextural connection

$(2.2_1) \leftrightarrow (2.2_2)$

and an intra-contextural connection.

$(3.1_3) \leftrightarrow (1.3_3)$.

An easy way to find the predecessors/successors of non-contextuated sub-signs is by aid of the semiotic matrix (cf. Toth 2008). Therefore we have

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

Since theoretically every sub-sign can be assigned every contexture(s), we have further

$\mathrm{N}(1.1_i) = (1.1_j)$, if $i < j$

and

$\mathsf{N}(1.2_i) = \{(1.3_j), (2.2_k)\}$, if $i < j < k$

That means that from two sub-signs (a.b), (c.d) with c > a and b > d, (c.d), N(a.b) ≠ N(c.d), but $\mathsf{N}(a.b_j) = (c.d_j)$, if $j > i$. Of course, this leads to a very complex system of predecessors and successors already in the sub-system of the sub-signs – and the more amongst sign classes and reality thematics.

Bibliography

Kronthaler, Engelbert, Grundlegung einer Mathematik der Qualitäten. Frankfurt am Main 1986

Toth, Alfred, Semiotic covalent bonds. http://www.mathematical-semiotics.com/pdf/CovalBonds.pdf (2008)

10.4.2009