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Triads and trichotomies as adjunctions

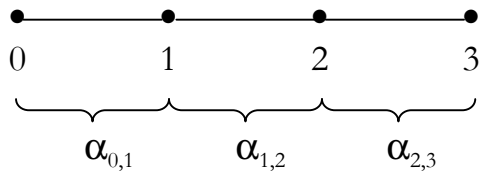
According to Toth (2009), instead of introducing prime-signs in the following static manner (cf. Bense 1980)

$$PS = \{.1., .2., .3.\},$$

I have suggested the following dynamic introduction of prime-signs:

$$PS = \langle [[0, 1], [0, 2], [0, 3]] \rangle$$

with



If we write, as usual, the prime-signs as row and a column, we get the following categorial semiotic 3×3 matrix which differs considerably from the hitherto used categorial matrices in semiotics (cf. Toth 1997, pp. 21 ss.; 2008, pp. 159 ss.):

	$\alpha_{0,1}$	$\alpha_{1,2}$	$\alpha_{2,3}$
$\alpha_{0,1}$	$\alpha_{0,1}\alpha_{0,1}$	$\alpha_{0,1}\alpha_{1,2}$	$\alpha_{0,1}\alpha_{2,3}$
$\alpha_{1,2}$	$\alpha_{1,2}\alpha_{0,1}$	$\alpha_{1,2}\alpha_{1,2}$	$\alpha_{1,2}\alpha_{2,3}$
$\alpha_{2,3}$	$\alpha_{2,3}\alpha_{0,1}$	$\alpha_{2,3}\alpha_{1,2}$	$\alpha_{2,3}\alpha_{2,3}$

If we now define

$$Z = \{(\alpha_{0,1}), (\alpha_{1,2}), (\alpha_{2,3})\},$$

then we have

	$\alpha_{0,1}$	$\alpha_{1,2}$	$\alpha_{2,3}$
$\alpha_{0,1}$	$Z\alpha_{0,1}$	$Z\alpha_{1,2}$	$Z\alpha_{2,3}$
$\alpha_{1,2}$	$Z\alpha_{0,1}$	$Z\alpha_{1,2}$	$Z\alpha_{2,3}$
$\alpha_{2,3}$	$Z\alpha_{0,1}$	$Z\alpha_{1,2}$	$Z\alpha_{2,3}$

as well as

	$\alpha_{0,1}$	$\alpha_{1,2}$	$\alpha_{2,3}$
$\alpha_{0,1}$	$\alpha_{0,1}Z$	$\alpha_{0,1}Z$	$\alpha_{0,1}Z$
$\alpha_{1,2}$	$\alpha_{1,2}Z$	$\alpha_{1,2}Z$	$\alpha_{1,2}Z$
$\alpha_{2,3}$	$\alpha_{2,3}Z$	$\alpha_{2,3}Z$	$\alpha_{2,3}Z$

Hence, if we take the structure $Z\alpha_{i,j}$, where the $[\alpha_{i,j}]$ are left-adjoint, the result is a matrix of the triads, but if we take the structure $\alpha_{0,1}Z$, where the $[\alpha_{i,j}]$ are right-adjoint, the result is a matrix of trichotomies. However, the most astonishing result is that now dual (converse) sub-signs are no longer identical inside, but between the two matrices

$$\begin{aligned}
 Z\alpha_{1,2} &\neq Z\alpha_{0,1} \wedge \alpha_{0,1}Z \neq \alpha_{1,2}Z, & \text{but } Z\alpha_{1,2} &= \alpha_{0,1}Z \\
 Z\alpha_{2,3} &\neq Z\alpha_{0,1} \wedge \alpha_{0,1}Z \neq \alpha_{2,3}Z, & \text{but } Z\alpha_{2,3} &= \alpha_{0,1}Z \\
 Z\alpha_{2,3} &\neq Z\alpha_{1,2} \wedge \alpha_{1,2}Z \neq \alpha_{2,3}Z & \text{but } Z\alpha_{2,3} &= \alpha_{1,2}Z.
 \end{aligned}$$

Bibliography

Bense, Max, Die Einführung der Primzeichen. In: *Ars Semeiotica* 3/3, 1980, pp. 287-294

Toth, Alfred, Entwurf einer semiotisch-relationalen Grammatik. Tübingen 1997

Toth, Alfred, *Semiotische Strukturen und Prozesse*. Klagenfurt 2008

Toth, Alfred, *Categorial and saltatorial sign classes*. <http://www.mathematical-semiotics.com/pdf/Cat.%20and%20salt.%20sign%20classes.pdf> (2009)

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