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Embeddings of sign relations into sign relations II

In Toth (2009b) we had shown that there are 6 possibilities to embed a 3-adic sign class into a 3-adic sign class, according to the 6 permutations of every 3-adic sign class and the 6 matching conditions between the 3 fundamental caegories:

3.1. (IOM ≡ MOI)
3.2. (OIM ≡ MIO)
3.3. (MIO ≡ OIM)
3.4. (IMO ≡ OMI)
3.5. (MOI ≡ IOM)
3.6. (OMI ≡ IMO)

Geometrically, the matching point ≡ creates a center of in-between symmetry (binnensymmetry), so that all dyads of the sign to embed to the right of the matching point change the order of their contextural indices:

1. $(3.1_{3,4} \quad 2.2._{1,2.4} \quad 1.3_{,3,4} \quad \uparrow \quad \uparrow \quad \uparrow \quad)$

$\qquad\qquad\qquad\qquad 1.3_{4,3} \quad 2.2_{4,2,1} \quad 3.1_{4,3} \quad) =$

$\times(3.1_{3,4}\ 2.2._{1,2.4}\ 1.3_{,3,4}\ 1.3_{4,3}\ 2.2_{4,2,1}\ 3.1_{4,3}) =$
$(3.1_{3,4}\ 2.2._{1,2.4}\ 1.3_{,3,4}\ 1.3_{4,3}\ 2.2_{4,2,1}\ 3.1_{4,3})$

2. $(2.2_{1,2,4} \quad 3.1_{3,4} \quad 1.3_{3,4} \quad \uparrow \quad \uparrow \quad \uparrow \quad)$

$\qquad\qquad\qquad\qquad 1.3_{4,3} \quad 3.1_{4,3} \quad 2.2_{4,2,1} \quad)$

$\times(2.2_{1,2,4}\ 3.1_{3,4}\ \ 1.3_{3,4}\ 1.3_{4,3}\ 3.1_{4,3}\ 2.2_{4,2,1}) =$
$(2.2_{1,2,4}\ 3.1_{3,4}\ \ 1.3_{3,4}\ 1.3_{4,3}\ 3.1_{4,3}\ 2.2_{4,2,1}$

3. $(1.3_{3,4} \quad 3.1_{3,4} \quad 2.2_{1,2,4} \quad \uparrow \quad \uparrow \quad \uparrow \quad)$

$\qquad 2.2_{4,2,1} \quad 3.1_{4,3} \quad 1.3_{4,3}$

$\times(1.3_{3,4}\, 3.1_{3,4}\;\; 2.2_{1,2,4}\, 2.2_{4,2,1}\;\; 3.1_{4,3}\, 1.3_{4,3}) =$
$(1.3_{3,4}\, 3.1_{3,4}\;\; 2.2_{1,2,4}\, 2.2_{4,2,1}\;\; 3.1_{4,3}\, 1.3_{4,3})$

4. $(3.1_{3,4} \quad 1.3_{3,4} \quad 2.2_{1,2,4} \quad \uparrow \quad \uparrow \quad \uparrow \quad)$

$\qquad 2.2_{4,2,1} \quad 3.1_{4,3} \quad 1.3_{3,4} \quad)$

$\times(3.1_{3,4}\; 1.3_{3,4}\; 2.2_{1,2,4}\, 2.2_{4,2,1}\; 3.1_{4,3}\, 1.3_{3,4}) =$
$(3.1_{3,4}\; 1.3_{3,4}\; 2.2_{1,2,4}\, 2.2_{4,2,1}\; 3.1_{4,3}\, 1.3_{3,4})$

5. $(1.3_{3,4} \quad 2.2_{1,2,4} \quad 3.1_{3,4} \quad \uparrow \quad \uparrow \quad \uparrow \quad)$

$\qquad 3.1_{4,3} \quad 2.2_{4,2,1} \quad 1.3_{4,3} \quad)$

$\times(1.3_{3,4}\; 2.2_{1,2,4}\; 3.1_{3,4}\; 3.1_{4,3}\; 2.2_{4,2,1}\; 1.3_{4,3}) =$
$(1.3_{3,4}\; 2.2_{1,2,4}\; 3.1_{3,4}\; 3.1_{4,3}\; 2.2_{4,2,1}\; 1.3_{4,3})$

6. $(2.2_{1,2,4} \quad 1.3_{3,4} \quad 3.1_{3,4} \quad \uparrow \quad \uparrow \quad \uparrow \quad)$

$\qquad 3.1_{4,3} \quad 1.3_{4,3} \quad 2.2_{4,2,1} \quad)$

$\times(2.2_{1,2,4}\; 1.3_{3,4}\; 3.1_{3,4}\, 3.1_{4,3}\; 1.3_{4,3}\, 2.2_{4,2,1}) =$
$(2.2_{1,2,4}\; 1.3_{3,4}\; 3.1_{3,4}\, 3.1_{4,3}\; 1.3_{4,3}\, 2.2_{4,2,1})$

As one sees, embeddings of whole sign classes into whole sign classes lead to sign graphs of six vertices. Binnensymmetry always separates sub-signs. Thus, the monocontextural case where binnensymmetry goes through a sub-sign by splitting it into its symmetric prime-signs (restricted to genuine sub-signs)

$(3.1\ 2 \times 2\ 1.3 \times (3.1\ 2 \times 2\ 1.3)$

does not exist in polycontextural semiotics, which means it does not only not occur naturally, but cannot even be constructed.

Whenever two fundamental categories coincide or match, one has to make sure that one them has totally reflected contextural order:

$$\{(M \equiv M), (O \equiv O), (I \equiv I)\} \qquad \left\{ \begin{array}{c} (ijk \parallel kji) \\ (ikj \parallel jki) \\ (jik \parallel kij) \end{array} \right\}$$

Since the other cases ((jki || ikj), (kij) || (jik), (kji) || (ijk)) are already included in the above 3 types, the "mediative morphisms" (Toth 2009a) ((ikj), (jik), (jki), (kij)) gather themselves together to pairs consisting of a morphism and its hetero-morphism(2009a)

Toth, Alfred, 3-contextural 3-adic semiotic systems. In: Electronic Journal for Mathematical Semiotics, http://www.mathematical-semiotics.com/pdf/3-cont%203adic%20sem%20Syst.pdf.

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