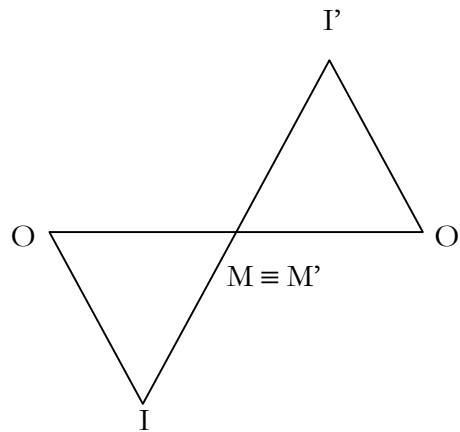
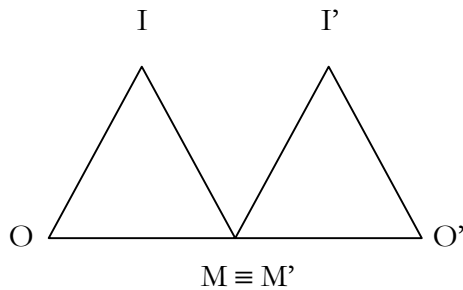


Prof. Dr. Alfred Toth

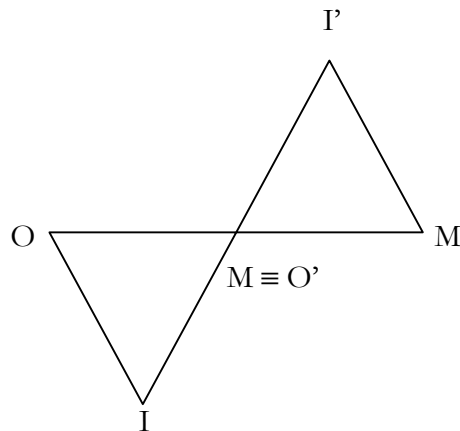
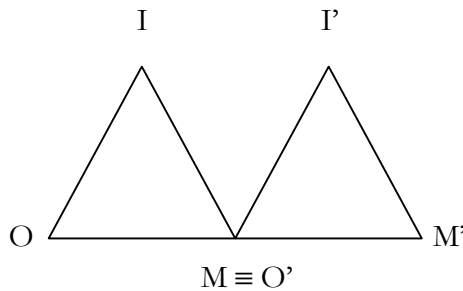
Semiotic 2-, 5- and 23-categories

1. Sign connexes have been studied in theoretical semiotics since the beginnings (Bense 1967, 1971). Only in 2008, I have published a widely complete sign grammar showing connections of 2 and more signs in both macro-semiotic and micro-semiotic manner (Toth 2008a). One of the main results from my “General Sign Grammar” is that signs cannot only hang together in the same, but also in different fundamental categories, cf. the following examples:

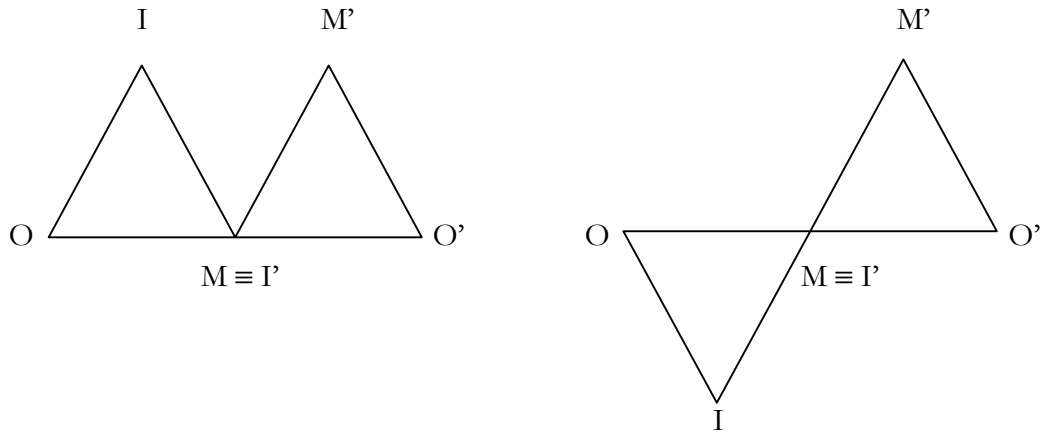
M ≡ M'



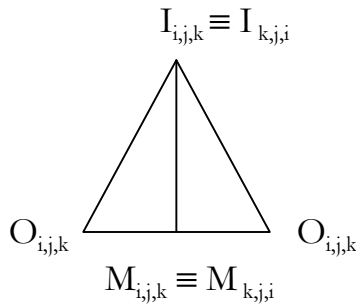
M ≡ O'



$M \equiv I'$



On the basis of my work and of his own studies, Kaehr (2009a) has now shown that the same two types of matching conditions also apply for “bi-signs” in “textems”. For a bi-sign, we have

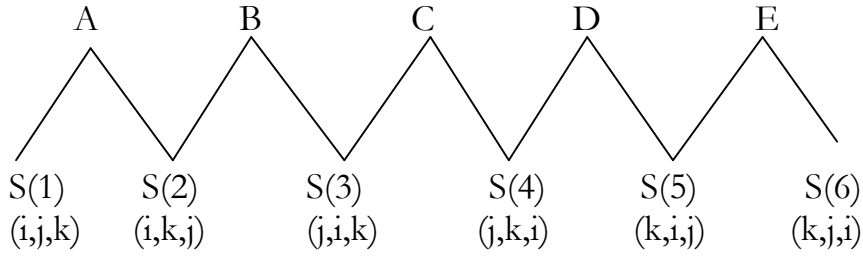


However, the matching depends here not only on the fundamental categories, but also on the contextual indices, i.e. between the morphisms (i, j, k) and the heteromorphisms (k, j, i) .

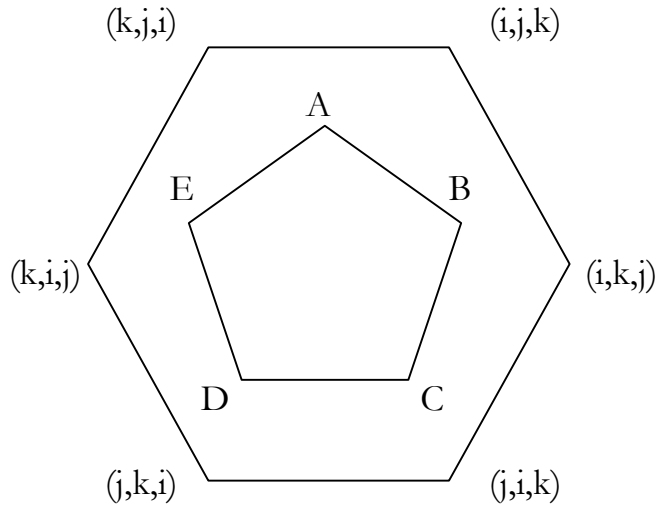
2. As I have shown in Toth (2009), besides morphisms and heteromorphisms, there are always mediative morphisms for $K > 2$. Thus, bi-signs can only exist for $K = 2$. For 3 contextures, we have the following system of morphisms, heteromorphisms and mediative morphisms:

$$(i,j,k) \rightarrow (i,k,j) \rightarrow (j,i,k) \rightarrow (j,k,i) \rightarrow (k,i,j) \rightarrow (k,j,i),$$

which is a cyclic relation. Therefore, for sign relations in 3 contextures, what we need are not bi-signs, but 5-signs which could be illustrated as follows (following a 3-sign in Kaehr 2009b, p. 5):



or



3. For $K = 4$, we need 23-categories or 23-signs, according to the 24 permutations of the inner environments (i,j,k,l) :

$(ijkl), (ijlk), (ikjl), (iklj), (iljk), (ilkj),$
 $(jikl), (jilk), (jkil), (jkli), (jlik), (jlki),$
 $(kijl), (kijl), (kjil), (kjli), (klij), (klji),$
 $(lijk), (likj), (ljik), (ljki), (lkij), (lkji).$

For $K = 5$ and $K = 6$, we are dealing already with 119-categories and 719-categories, respectively. A motivation for these mediative morphisms can be awaited, since, after all, we are dealing with signs and thus with meaning and sense and not with “tokens” or algebraic pseudo-signs. Another question strives the need of how many fundamental categories make sense in semiotics. My last approach toward this question is Toth (2008b).

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