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n-ads and n$^{\text{th}}$ contextures

1. In Toth (2009), I had mapped the 9 sub-signs of the 3-contextural semiotic 3×3 matrix to the first 3 contextures of the system of qualitative numbers, here containing also the three number structures of proto-, deutero- and trito-numbers:

Proto	Deutero	Trito	Deci	
0	0	(1.1), (1.2), (2.1), (2.2) 0	0	C1
00 01	00 01	(2.2), (2.3), (3.2), (3.3) 00 01	0 1	C2
000 001 012	000 001 012	(1.1), (1.3), (3.1), (3.3) 000 001 010 011 012	0 1 3 4 5	C3

However, if we disregard the identitive morphisms which appear in 2 contextures in a 3-contextural semiotics (in 3 contextures in a 4-contextural semiotic, etc.), we can easily see that there is connection between the value of a semiotic relation and its corresponding contexture:

K1:   0   (1.1), (1.2), (2.1)   monads

K2:   00, 01   (2.2), (2.3), (3.2)   dyads

K3:   000, 001, 010, 011, 012   (3.3), (3.1), (1.3)   triads

Form the way how the sub-signs are ordered now, one can see that n-ads belong to n-th contextures, with the exception that the dual sub-signs are always in the same contextures. The double appearance of the genuine sub-

signs serves the decomposition of the respective matrices, cf. Günther (1979, pp. 231 ss.).

2. In a next step we have to ask what the differentiation between the three qualitative number structures mean for semiotics. Since all three number structures have to be mapped on the 9 sub-signs of the semiotic 3×3 matrix, it is a priori senseless to take over the definitions based on length and iteration/accretion of keno-symbols which work for qualitative numbers, but not for signs.

2.1. As a proto-sign we define a pair (m:n) consisting of a semiotic (i.e. triadic or trichotomic) value m and the occurrence of this value inside of a sign relation (dyad, triad). E.g., (2.1) = (2:1) (1:1); (2.2) = (2:2). As one sees, in most cases, sub-signs have to be represented by pairs of pairs of proto-signs rather than by pairs alone.

Therefore, the semiotic proto-matrix looks as follows:

(1:2) —   (1:1) (2:1)   (1:1) (3:1)

(2:1) (1:1)   (2:2) —   (2:1) (3:1)

(3:1) (1:1)   (3:1) (2.:1)   (3:2) —

2.2. As a deutero-sign we define an "exponential" function m^n consisting of a semiotic (i.e. triadic or trichotomic) value m and the occurrence of this value inside of a sign relation (dyad, triad). E.g., $(2.1) = 2^1$; $(2.2) = 2^2$. However, this is not just another writing of the pair-notation for proto-signs. There are two most important differences:
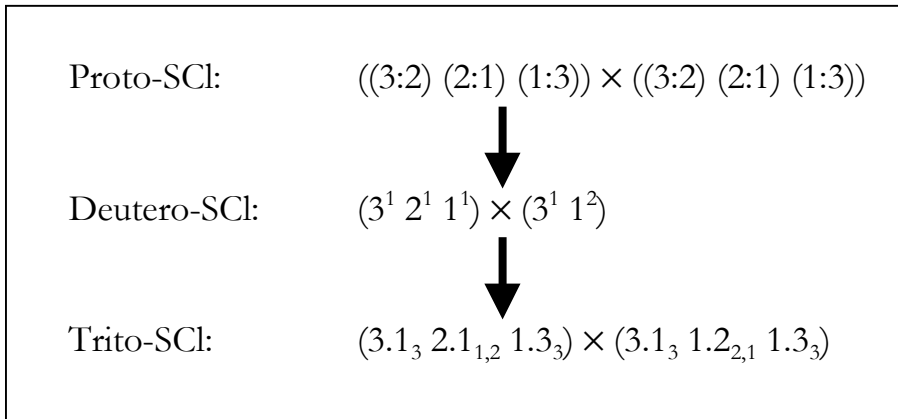
1. It is impossible to note the contextures (inner semiotic environments) to the proto-sign notation (e.g. $3.1_3\ 2.2_{1,2}\ 1.3_3 \neq (3:2\ 2:2\ 1:2)$).

2. The deutero-sign notatio, already introduced in Toth (2007, p.215), allows a "ligature"-writing especially for reality thematics. (E.g. $(3.1\ 2.3\ 1.3 \times 3.1\ 3.2\ 1.3)$ = $3^2\ 1^1$; $(3.3\ 2.3\ 1.3 \times 3.1\ 3.2\ 3.3) = 3^3$, etc.). So, outside of well-defined sign classes and their bijective mappings to reality thematics, the fundamental-categorial or trito-structure may to be reconstructible form the deutero-structure. Unlike the trito-notation, the deutero-notation also allows to show

the inner structures of thematizing and thematized realities in reality thematics (cf. Toth 2007, pp. 215 ss.).

2.3. As a trito-sign we define a regular numeric sign class together with its semiotic contextures in the form of inner semiotic environments (Kaehr 2008). Through dualization we get the corresponding reality thematics in which not only the order of the sub-signs and the prime-signs, but also the order of the contextural indices are turned around (semiotic diamond theory). E.g. $(3.1_3\ 2.2_{1,2}\ 1.3_3) \times (3.1_3\ 2.2_{2,1}\ 1.3_3)$.

2.4. E.g., we have for the notation of the sign class (3.1 2.1 1.3) in the proto-, deutero- and trito-strcuture:

Proto-SCl: $((3{:}2)\ (2{:}1)\ (1{:}3)) \times ((3{:}2)\ (2{:}1)\ (1{:}3))$

Deutero-SCl: $(3^1\ 2^1\ 1^1) \times (3^1\ 1^2)$

Trito-SCl: $(3.1_3\ 2.1_{1,2}\ 1.3_3) \times (3.1_3\ 1.2_{2,1}\ 1.3_3)$

3. In a third and last step, we can now determine the intra- and trans-successors and predecessors of every sub-sign per contexture and per qualitative number structure. However, in the case of semiotics, this is trivial, at least as long we stay in 3 contextures as we did up to now: Every sub-sign is at the same time the predecessor and the successor of every sub-sign.

K1:   (1.1), (1.2), (2.1)

K2:   (2.2), (2.3), (3.2)

K3:   (3.3), (3.1), (1.3)
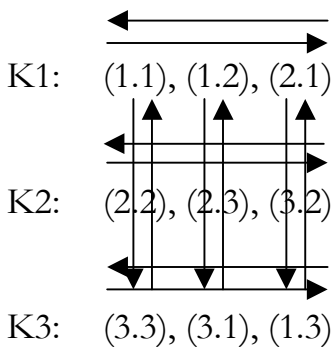
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