Prof. Dr. Alfred Toth

Pre-semiotic bonds

1. The present study continues some former work about semiotic bonds that has been restricted to classical semiotics (Toth 2008b, c, d). The first part investigates the possible bonds of the sub-signs of the pre-semiotic matrix over the pre-semiotic sign relation $SR_{4,3}$ = (0., .1., .2., .3.):

	.1	.2	.3
0.	0.1	0.2	0.3
1.	1.1	1.2	1.3
2.	2.1	2.2	2.3
3.	3.1	3.2	3.3

In the second part, we will have a look at the pre-semiotic bonds in the pre-semiotic sign classes and reality thematics under special consideration of their part-relations:

$SR_{4,3}$ = (0. ⇒ .1) ⇒ ((.1. ⇒ .2.) ⇒ (.2. ⇒ .3.))

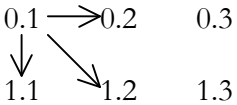
Thus, $SR_{4,3}$ consists of the following primary relations: the monadic relation (0.), the dyadic relation (.1. ⇒ .2.), the triadic relation (0. ⇒ .1 ⇒ .2.) and the tetradic relation (0. ⇒ .1 ⇒ .2. ⇒ .3.), and of the following $2 \cdot 6 = 12$ secondary relations:

(3.1) → (2.1)	(1.3) → (1.2)
(2.1) → (1.1)	(1.2) → (1.1)
(1.1) → (0.1)	(1.1) → (1.0)
(3.1) → (1.1)	(1.2) → (1.1)
(3.1) → (0.1)	(1.3) → (1.0)
(2.1) → (0.1)	(1.2) → (1.0)

for the pre-semiotic sign classes and their reality thematics, respectively.

2. In the following, we show the pre-semiotic bonds for the sub-signs of the pre-semiotic (4 × 3) matrix:

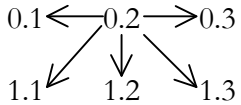
Semiotic bonds of the Pre-Quali (0.1):



SV(0.1) = 3

(0.1) → (0.2) = (X.Y) → (X.Y+1)
(0.1) → (1.1) = (X.Y) → (X+1.Y)
(0.1) → (1.2) = (X.Y) → (X+1.Y+1)

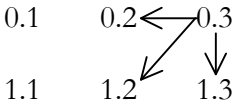
Semiotic bonds of the Pre-Sin (0.2):



SV(0.2) = 5

(0.2) → (0.1) = (X.Y) → (X.Y-1)
(0.2) → (0.3) = (X.Y) → (X.Y+1)
(0.2) → (1.1) = (X.Y) → (X+1.Y-1)
(0.2) → (1.2) = (X.Y) → (X+1.Y)
(0.2) → (1.3) = (X.Y) → (X+1.Y+1)

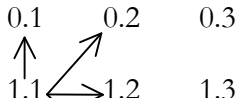
Semiotic bonds of the Pre-Legi (0.3):



SV(0.3) = 3

(0.3) → (0.2) = (X.Y) → (X.Y-1)
(0.3) → (1.2) = (X.Y) → (X+1.Y-1)
(0.3) → (1.3) = (X.Y) → (X+1.Y)

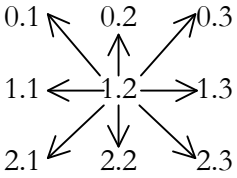
Semiotic bonds of the Quali-Sign (1.1):



SV(1.1) = 5

(1.1) → (0.1) = (X.Y) → (X-1.Y)
(1.1) → (0.2) = (X.Y) → (X-1.Y+1)
(1.1) → (1.2) = (X.Y) → (X.Y+1)
(1.1) → (2.1) = (X.Y) → (X+1.Y)
(1.1) → (1.2) = (X.Y) → (X.Y+1)

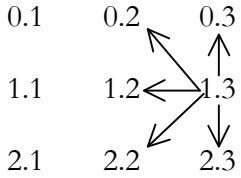
Semiotic bonds of the Sin-Sign (1.2):



SV(1.2) = 8

(1.2) → (0.1) = (X.Y) → (X-1.Y-1)
(1.2) → (0.2) = (X.Y) → (X-1.Y)
(1.2) → (0.3) = (X.Y) → (X-1.Y+1)
(1.2) → (1.1) = (X.Y) → (X.Y-1)

Semiotic bonds of the Legi-Sign (1.3):



SV(1.3) = 5

(1.3) → (0.2) = (X.Y) → (X-1.Y-1)
(1.3) → (0.3) = (X.Y) → (X-1.Y)
(1.3) → (1.2) = (X.Y) → (X.Y-1)
(1.3) → (2.2) = (X.Y) → (X+1.Y-1)

(1.2) → (1.3) = (X.Y) → (X.Y+1)
(1.2) → (2.1) = (X.Y) → (X+1.Y-1)
(1.2) → (2.2) = (X.Y) → (X+1.Y)
(1.2) → (2.3) = (X.Y) → (X+1.Y+1)

(1.3) → (2.3) = (X.Y) → (X+1.Y)

Semiotic bonds of the Icon (2.1):

0.1 0.2 0.3

1.1 1.2 1.3

2.1 2.2 2.3

3.1 3.2 3.3 SV(2.1) = 5

(2.1) → (1.1) = (X.Y) → (X-1.Y)
(2.1) → (1.2) = (X.Y) → (X-1.Y+1)
(2.1) → (2.2) = (X.Y) → (X.Y+1)
(2.1) → (3.1) = (X.Y) → (X+1.Y)
(2.1) → (3.2) = (X.Y) → (X+1.Y+1)

Semiotic bonds of the Index (2.2):

0.1 0.2 0.3

1.1 1.2 1.3

2.1 2.2 2.3

3.1 3.2 3.3 SV(2.2) = 8

(2.2) → (1.1) = (X.Y) → (X-1.Y-1)
(2.2) → (1.2) = (X.Y) → (X-1.Y)
(2.2) → (1.3) = (X.Y) → (X-1.Y+1)
(2.2) → (2.1) = (X.Y) → (X.Y-1)
(2.2) → (2.3) = (X.Y) → (X.Y+1)
(2.2) → (3.1) = (X.Y) → (X+1.Y-1)
(2.2) → (3.2) = (X.Y) → (X+1.Y)
(2.2) → (3.3) = (X.Y) → (X+1.Y+1)

Semiotic bonds of the Symbol (2.3):

0.1 0.2 0.3

1.1 1.2 1.3

2.1 2.2 2.3

3.1 3.2 3.3 SV(2.3) = 5

(2.3) → (1.2) = (X.Y) → (X-1.Y-1)
(2.3) → (1.3) = (X.Y) → (X-1.Y)
(2.3) → (2.2) = (X.Y) → (X.Y-1)
(2.3) → (3.2) = (X.Y) → (X+1.Y-1)
(2.3) → (3.3) = (X.Y) → (X+1.Y)

Semiotic bonds of the Rhema (3.1):

0.1 0.2 0.3

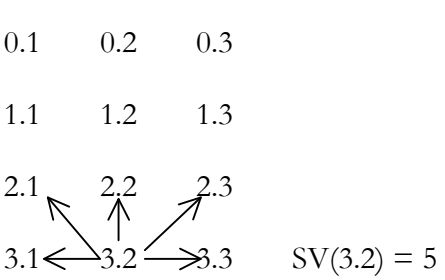
1.1 1.2 1.3

2.1 2.2 2.3

3.1 3.2 3.3 SV(3.1) = 3

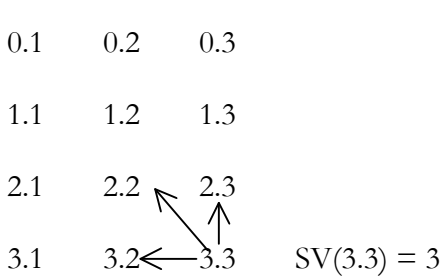
(3.1) → (2.1) = (X.Y) → (X-1.Y)
(3.1) → (2.2) = (X.Y) → (X-1.Y+1)
(3.1) → (3.2) = (X.Y) → (X.Y+1)

Semiotic bonds of the Dicent (3.2):



(3.2) → (2.1) = (X.Y) → (X-1.Y-1)
(3.2) → (2.2) = (X.Y) → (X-1.Y)
(3.2) → (2.3) = (X.Y) → (X-1.Y+1)
(3.2) → (3.1) = (X.Y) → (X.Y-1)
(3.2) → (3.3) = (X.Y) → (X.Y+1)

Semiotic bonds of the Argument (3.3):



(3.3) → (2.2) = (X.Y) → (X-1.Y-1)
(3.3) → (2.3) = (X.Y) → (X-1.Y)
(3.3) → (3.2) = (X.Y) → (X.Y-1)

Thus, the (X.Y) notation for a sub-sign used gives some insights into pre-semotic number theory, too (cf. Bense 1975, pp. 167 ss.; Toth 2008a, pp. 151 ss., 155 ss., 295 ss.). Diagonality has the following sub-sign structure [X±1.Y±1], for dual sub-signs, we have. (a.b) → (b.a): (X.Y) → (X+z.Y-z), z ∈ {1, 2, 3}, but cf. also: (2.1) → (3.0) = (X.Y) → (X+1.Y-1), so that the scheme (X+z.Y-z) generally stands for transformations of a sub-signs into another with identical representation value.

3. Bonds in pre-semiotic sign classes and reality thematics:

1 (3.1 2.1 1.1 0.1) × (1.0 1.1 1.2 1.3)

(3.1) → (2.1) = (X.Y) → (X-1.Y)	(1.3) → (1.2) = (X.Y) → (X.Y-1)
(2.1) → (1.1) = (X.Y) → (X-1.Y)	(1.2) → (1.1) = (X.Y) → (X.Y-1)
(1.1) → (0.1) = (X.Y) → (X-1.Y)	(1.1) → (1.0) = (X.Y) → (X.Y-1)
(3.1) → (1.1) = (X.Y) → (X-2.Y)	(1.2) → (1.1) = (X.Y) → (X.Y-1)
(3.1) → (0.1) = (X.Y) → (X-3.Y)	(1.3) → (1.0) = (X.Y) → (X.Y-3)
(2.1) → (0.1) = (X.Y) → (X-2.Y)	(1.2) → (1.0) = (X.Y) → (X.Y-2)

2 (3.1 2.1 1.1 0.2) × (2.0 1.1 1.2 1.3)

(3.1) → (2.1) = (X.Y) → (X-1.Y)	(1.3) → (1.2) = (X.Y) → (X.Y-2)
(2.1) → (1.1) = (X.Y) → (X-1.Y)	(1.2) → (1.1) = (X.Y) → (X.Y-1)
(1.1) → (0.2) = (X.Y) → (X-1.Y+1)	(1.1) → (2.0) = (X.Y) → (X+1.Y-1)
(3.1) → (1.1) = (X.Y) → (X-2.Y)	(1.3) → (1.1) = (X.Y) → (X.Y-2)
(3.1) → (0.2) = (X.Y) → (X-3.Y+1)	(1.3) → (2.0) = (X.Y) → (X+1.Y-3)
(2.1) → (0.2) = (X.Y) → (X-2.Y+1)	(1.2) → (2.0) = (X.Y) → (X+1.Y-2)

3 (3.1 2.1 1.1 0.3) × (3.0 1.1 1.2 1.3)

(3.1) → (2.1) = (X.Y) → (X-1.Y)	(1.3) → (1.2) = (X.Y) → (X.Y-1)
(2.1) → (1.1) = (X.Y) → (X-1.Y)	(1.2) → (1.1) = (X.Y) → (X.Y-1)

(1.1) → (0.3) = (X.Y) → (X-1.Y+2)
(3.1) → (1.1) = (X.Y) → (X-2.Y)
(3.1) → (0.3) = (X.Y) → (X-3.Y+2)
(2.1) → (0.3) = (X.Y) → (X-2.Y+2)

(1.1) → (3.0) = (X.Y) → (X+2.Y-1)
(1.3) → (1.1) = (X.Y) → (X.Y-2)
(1.3) → (3.0) = (X.Y) → (X+2.Y-3)
(1.2) → (3.0) = (X.Y) → (X+2.Y-2)

4 (3.1 2.1 1.2 0.2) × (2.0 2.1 1.2 1.3)

(3.1) → (2.1) = (X.Y) → (X-1.Y)
(2.1) → (1.2) = (X.Y) → (X-1.Y+1)
(1.2) → (0.2) = (X.Y) → (X-1.Y+1)
(3.1) → (1.2) = (X.Y) → (X-2.Y+1)
(3.1) → (0.2) = (X.Y) → (X-3.Y+1)
(2.1) → (0.2) = (X.Y) → (X-2.Y+1)

(1.3) → (1.2) = (X.Y) → (X.Y-1)
(1.2) → (2.1) = (X.Y) → (X+1.Y-1)
(2.1) → (2.0) = (X.Y) → (X.Y-1)
(1.3) → (2.1) = (X.Y) → (X+1.Y-2)
(1.3) → (2.0) = (X.Y) → (X+1.Y-3)
(1.2) → (2.0) = (X.Y) → (X+1.Y-2)

5 (3.1 2.1 1.2 0.3) × (3.0 2.1 1.2 1.3)

(3.1) → (2.1) = (X.Y) → (X-1.Y)
(2.1) → (1.2) = (X.Y) → (X-1.Y+1)
(1.2) → (0.3) = (X.Y) → (X-1.Y+1)
(3.1) → (1.2) = (X.Y) → (X-2.Y+1)
(3.1) → (0.3) = (X.Y) → (X-3.Y+2)
(2.1) → (0.3) = (X.Y) → (X-2.Y+2)

(1.3) → (1.2) = (X.Y) → (X.Y-1)
(1.2) → (2.1) = (X.Y) → (X+1.Y-1)
(2.1) → (3.0) = (X.Y) → (X+1.Y-1)
(1.3) → (2.1) = (X.Y) → (X+1.Y-2)
(1.3) → (3.0) = (X.Y) → (X+2.Y-3)
(1.2) → (3.0) = (X.Y) → (X+2.Y-2)

6 (3.1 2.1 1.3 0.3) × (3.0 3.1 1.2 1.3)

(3.1) → (2.1) = (X.Y) → (X-1.Y)
(2.1) → (1.3) = (X.Y) → (X-1.Y+2)
(1.3) → (0.3) = (X.Y) → (X-1.Y)
(3.1) → (1.3) = (X.Y) → (X-2.Y+2)
(3.1) → (0.3) = (X.Y) → (X-3.Y+2)
(2.1) → (0.3) = (X.Y) → (X-2.Y+2)

(1.3) → (1.2) = (X.Y) → (X.Y-1)
(1.2) → (1.3) = (X.Y) → (X.Y+1)
(3.1) → (3.0) = (X.Y) → (X.Y-1)
(1.3) → (3.1) = (X.Y) → (X+2.Y-2)
(1.3) → (3.0) = (X.Y) → (X+2.Y-3)
(1.2) → (3.0) = (X.Y) → (X+2.Y-2)

7 (3.1 2.2 1.2 0.2) × (2.0 2.1 2.2 1.3)

(3.1) → (2.2) = (X.Y) → (X-1.Y+1)
(2.2) → (1.2) = (X.Y) → (X-1.Y)
(1.2) → (0.2) = (X.Y) → (X-1.Y)
(3.1) → (1.2) = (X.Y) → (X-2.Y+1)
(3.1) → (0.2) = (X.Y) → (X-3.Y+1)
(2.2) → (0.2) = (X.Y) → (X-2.Y)

(1.3) → (2.2) = (X.Y) → (X+1.Y-1)
(2.2) → (2.1) = (X.Y) → (X.Y-1)
(2.1) → (2.0) = (X.Y) → (X.Y-1)
(1.3) → (2.1) = (X.Y) → (X+1.Y-2)
(1.3) → (2.0) = (X.Y) → (X+1.Y-3)
(2.2) → (2.0) = (X.Y) → (X.Y-2)

8 (3.1 2.2 1.2 0.3) × (3.0 2.1 2.2 1.3)

(3.1) → (2.2) = (X.Y) → (X-1.Y+1)
(2.2) → (1.2) = (X.Y) → (X-1.Y)
(1.2) → (0.3) = (X.Y) → (X-1.Y+1)
(3.1) → (1.2) = (X.Y) → (X-2.Y+1)
(3.1) → (0.3) = (X.Y) → (X-3.Y+2)

(1.3) → (2.2) = (X.Y) → (X+1.Y-1)
(2.2) → (2.1) = (X.Y) → (X.Y-1)
(2.1) → (3.0) = (X.Y) → (X+1.Y-1)
(1.3) → (2.1) = (X.Y) → (X+1.Y-2)
(1.3) → (3.0) = (X.Y) → (X+2.Y-3)

(2.2) → (0.3) = (X.Y) → (X-2.Y+1) (2.2) → (3.0) = (X.Y) → (X+1.Y-2)

9 (3.1 2.2 1.3 0.3) × (3.0 3.1 2.2 1.3)

(3.1) → (2.2) = (X.Y) → (X-1.Y+1) (1.3) → (2.2) = (X.Y) → (X+1.Y-1)
(2.2) → (1.3) = (X.Y) → (X-1.Y+1) (2.2) → (3.1) = (X.Y) → (X+1.Y-1)
(1.3) → (0.3) = (X.Y) → (X-1.Y) (3.1) → (3.0) = (X.Y) → (X.Y-1)
(3.1) → (1.3) = (X.Y) → (X-2.Y+2) (1.3) → (3.1) = (X.Y) → (X+2.Y-2)
(3.1) → (0.3) = (X.Y) → (X-3.Y+2) (1.3) → (3.0) = (X.Y) → (X+2.Y-3)
(2.2) → (0.3) = (X.Y) → (X-2.Y+1) (2.2) → (3.0) = (X.Y) → (X+1.Y-2)

10 (3.1 2.3 1.3 0.3) × (3.0 3.1 3.2 1.3)

(3.1) → (2.3) = (X.Y) → (X-1.Y+2) (1.3) → (3.2) = (X.Y) → (X+2.Y-1)
(2.3) → (1.3) = (X.Y) → (X-1.Y) (3.2) → (3.1) = (X.Y) → (X.Y-1)
(1.3) → (0.3) = (X.Y) → (X-1.Y) (3.1) → (3.0) = (X.Y) → (X.Y-1)
(3.1) → (1.3) = (X.Y) → (X-2.Y+2) (1.3) → (3.1) = (X.Y) → (X+2.Y-2)
(3.1) → (0.3) = (X.Y) → (X-3.Y+2) (1.3) → (3.0) = (X.Y) → (X+2.Y-3)
(2.3) → (0.3) = (X.Y) → (X-2.Y) (3.2) → (3.0) = (X.Y) → (X.Y-2)

11 (3.2 2.2 1.2 0.2) × (2.0 2.1 2.2 2.3)

(3.2) → (2.2) = (X.Y) → (X-1.Y) (2.3) → (2.2) = (X.Y) → (X.Y-1)
(2.2) → (1.2) = (X.Y) → (X-1.Y) (2.2) → (2.1) = (X.Y) → (X.Y-1)
(1.2) → (0.2) = (X.Y) → (X-1.Y) (2.1) → (2.0) = (X.Y) → (X.Y-1)
(3.2) → (1.2) = (X.Y) → (X-2.Y) (2.3) → (2.1) = (X.Y) → (X.Y-2)
(3.2) → (0.2) = (X.Y) → (X-3.Y) (2.3) → (2.0) = (X.Y) → (X.Y-3)
(2.2) → (0.2) = (X.Y) → (X-2.Y) (2.2) → (2.0) = (X.Y) → (X.Y-2)

12 (3.2 2.2 1.2 0.3) × (3.0 2.1 2.2 2.3)

(3.2) → (2.2) = (X.Y) → (X-1.Y) (2.3) → (2.2) = (X.Y) → (X.Y-1)
(2.2) → (1.2) = (X.Y) → (X-1.Y) (2.2) → (2.1) = (X.Y) → (X.Y-1)
(1.2) → (0.3) = (X.Y) → (X-1.Y+1) (2.1) → (3.0) = (X.Y) → (X+1.Y-1)
(3.2) → (1.2) = (X.Y) → (X-2.Y) (2.3) → (2.1) = (X.Y) → (X.Y-2)
(3.2) → (0.3) = (X.Y) → (X-3.Y+1) (2.3) → (3.0) = (X.Y) → (X+1.Y-3)
(2.2) → (0.3) = (X.Y) → (X-2.Y+1) (2.2) → (3.0) = (X.Y) → (X+1.Y-2)

13 (3.2 2.2 1.3 0.3) × (3.0 3.1 2.2 2.3)

(3.2) → (2.2) = (X.Y) → (X-1.Y) (2.3) → (2.2) = (X.Y) → (X.Y-1)
(2.2) → (1.3) = (X.Y) → (X-1.Y+1) (2.2) → (3.1) = (X.Y) → (X+1.Y-1)
(1.3) → (0.3) = (X.Y) → (X-1.Y) (3.1) → (3.0) = (X.Y) → (X.Y-1)
(3.2) → (1.3) = (X.Y) → (X-2.Y+1) (2.3) → (3.1) = (X.Y) → (X+1.Y-2)
(3.2) → (0.3) = (X.Y) → (X-3.Y+1) (2.3) → (3.0) = (X.Y) → (X+1.Y-3)
(2.2) → (0.3) = (X.Y) → (X-2.Y+1) (2.2) → (3.0) = (X.Y) → (X+1.Y-2)

14 (3.2 2.3 1.3 0.3) × (3.0 3.1 3.2 2.3)

(3.2) → (2.3) = (X.Y) → (X-1.Y+1)	(2.3) → (3.2) = (X.Y) → (X+1.Y-1)
(2.3) → (1.3) = (X.Y) → (X-1.Y)	(3.2) → (3.1) = (X.Y) → (X.Y-1)
(1.3) → (0.3) = (X.Y) → (X-1.Y)	(3.1) → (3.0) = (X.Y) → (X.Y-1)
(3.2) → (1.3) = (X.Y) → (X-2.Y+1)	(2.3) → (3.1) = (X.Y) → (X+1.Y-2)
(3.2) → (0.3) = (X.Y) → (X-3.Y+1)	(2.3) → (3.0) = (X.Y) → (X+1.Y-3)
(2.3) → (0.3) = (X.Y) → (X-2.Y)	(3.2) → (3.0) = (X.Y) → (X.Y-2)

15 (3.3 2.3 1.3 0.3) × (3.0 3.1 3.2 3.3)

(3.3) → (2.3) = (X.Y) → (X-1.Y)	(3.3) → (3.2) = (X.Y) → (X.Y-1)
(2.3) → (1.3) = (X.Y) → (X-1.Y)	(3.2) → (3.1) = (X.Y) → (X.Y-1)
(1.3) → (0.3) = (X.Y) → (X-1.Y)	(3.1) → (3.0) = (X.Y) → (X.Y-1)
(3.3) → (1.3) = (X.Y) → (X-2.Y)	(3.3) → (3.1) = (X.Y) → (X.Y-2)
(3.3) → (0.3) = (X.Y) → (X-3.Y)	(3.3) → (3.0) = (X.Y) → (X.Y-3)
(2.3) → (0.3) = (X.Y) → (X-2.Y)	(3.2) → (3.0) = (X.Y) → (X.Y-2)

Thus, we have for the following relational schemes for the 3 main sign classes (3.1 2.1 1.1 0.1), (3.2 2.2 1.2 0.2), and (3.3 2.3 1.3 0.3):

(3.a) → (2.a) = (X.Y) → (X-1.Y)	(a.3) → (a.2) = (X.Y) → (X.Y-1)
(2.a) → (1.a) = (X.Y) → (X-1.Y)	(a.2) → (a.1) = (X.Y) → (X.Y-1)
(1.a) → (0.a) = (X.Y) → (X-1.Y)	(a.1) → (a.0) = (X.Y) → (X.Y-1)
(3.a) → (1.a) = (X.Y) → (X-2.Y)	(a.2) → (a.1) = (X.Y) → (X.Y-1)
(3.a) → (0.a) = (X.Y) → (X-3.Y)	(a.3) → (a.0) = (X.Y) → (X.Y-3)
(2.a) → (0.a) = (X.Y) → (X-2.Y)	(a.2) → (a.0) = (X.Y) → (X.Y-2),

where $a \in \{1, 2, 3\}$.

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