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Matching conditions of subsigns in Stein sequences

1. As defined in Toth (2009), we start with the following aleatoric number sequence or Stein sequence whose elements are elements from the following finite set

{0, 1, 3, 4, 5}

1340543514531100151454531105435134054 3
514531101514545311054453110151455435 13
5435351453110015145453110545311014545 3
110543513405435145311015145453453110 35

If we distribute the 9 sub-signs of the semiotic 3×3 matrix to those decimal numbers that correspond to the qualitative numbers of the contextures 1-3 (cf. Toth 2009), we get the following mappings:

0 ← (1.1), (1.2), (1.3), (2.1), (2.2), (2.3), (3.1), (3.2), (3.3)
1 ← (1.1), (1.3), (2.2), (2.3), (3.1), (3.2), (3.3)
2 ← Ø
3 ← (1.1), (1.3), (3.1), (3.3)
4 ← (1.1), (1.3), (3.1), (3.3)
5 ← (1.1), (1.3), (3.1), (3.3)

By these mappings we can substitute the above Stein number sequence by the following sequence of sub-signs of the semiotic 3×3 matrix:

(1.1), (1.3), (2.2), (2.3), (3.1), (3.2), (3.3), (1.1),
(.1 ≡ 1.) (.2 ≡ 2.) (.1 ≡ 3.) (.3 ≡ 1.)
(3. ≡ 2.) (.3 ≡ 3.) (.2 ≡ 3.)

$$(1.3), (3.1), (3.3), (1.1), (1.3), (3.1), (3.3), (1.1),$$
$$(.3 \equiv 3.) \quad (.3 \equiv 1.) \quad (.3 \equiv 3.) \quad (.3 \equiv 1.)$$
$$(.1 \equiv 3.) \quad (.1 \equiv 1.) \quad (.1 \equiv 3.)$$

$$(1.2), (1.3), (2.1), (2.2), (2.3), (3.1), (3.2), (3.3)$$
$$(.2 \equiv 1.) \quad (.1 \equiv 2.) \quad (.3 \equiv 3.) \quad (.3 \equiv 1.)$$
$$(.3 \equiv 2.) \quad (.2 \equiv 2.)$$

As we see, the matching pairs of sub-signs start to come back soon. Moreover, as already pointed out in Toth (2009), the structure is somewhat iterative, because the order of the elements in the above mappings has left unchanged. Therefore, every sub-sign can match every sub-sign:

(1.1) ≡ (1.1)				
(1.1) ≡ (1.2)	(1.2) ≡ (1.2)			
(1.1) ≡ (1.3)	(1.2) ≡ (1.3)	(1.3) ≡ (1.3)		
(1.1) ≡ (2.1)	(1.2) ≡ (2.1)	(1.3) ≡ (2.1)	(2.1) ≡ (2.1)	
(1.1) ≡ (2.2)	(1.2) ≡ (2.2)	(1.3) ≡ (2.2)	(2.1) ≡ (2.2)	(2.2) ≡ (2.2)
(1.1) ≡ (2.3)	(1.2) ≡ (2.3)	(1.3) ≡ (2.3)	(2.1) ≡ (2.3)	(2.2) ≡ (2.3)
(1.1) ≡ (3.1)	(1.2) ≡ (3.1)	(1.3) ≡ (3.1)	(2.1) ≡ (3.1)	(2.2) ≡ (3.1)
(1.1) ≡ (3.2)	(1.2) ≡ (3.2)	(1.3) ≡ (3.2)	(2.1) ≡ (3.2)	(2.2) ≡ (3.2)
(1.1) ≡ (3.3)	(1.2) ≡ (3.3)	(1.3) ≡ (3.3)	(2.1) ≡ (3.3)	(2.2) ≡ (3.3)

(2.3) ≡ (2.3)			
(2.3) ≡ (3.1)	(3.1) ≡ (3.1)		
(2.3) ≡ (3.2)	(3.1) ≡ (3.2)	(3.2) ≡ (3.2)	
(2.3) ≡ (3.3)	(3.1) ≡ (3.3)	(3.2) ≡ (3.3)	(3.3) ≡ (3.3),

hence totally 55 matching conditions.

Well understood, these matching conditions concern solely sub-sign with environments of the form

$(a.b)_{i,j}$

and not

(b.a) $(a.b)_{j,i}$

Thus, for the corresponding contextuated sub-sign of a Peano number of the form

-3,

we would have either $(a.b)_{j,i}$ or $(b.a)_{j,i}$.

Moreover, if i, j refer to 2 contextures, for –x (x ∈ {0, 1, 3, 4, 5) we have 4 possibilities for sub-signs:

(-a.b), (a.-b), (-a-,.-b).

Bibliography

Toth, Alfred, Sign relations from Stein number sequences. In: Electronic Journal of Mathematical Semiotics, http://www.mathematical-semiotics.com/pdf/Peano-Qual_Stat.pdf (2009)

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