

Prof. Dr. Alfred Toth

Semiotic contextural values

1. Semiotics is a system, which is practically exclusively based on ordinal numbers. For example, the triadic relation is based on the concept of prime-signs in which the generative semiotic relation parallels the successor relation of Peano numbers (cf. Bense 1975, pp. 168 ss.; 1983, pp. 192 ss.). However, in 1980, Angelika Karger introduced a measure into semiotics based on cardinal numbers, the representation values. The representation value of any semiotic relation is calculated simply by adding the values of the prime-signs of which the relation is constructed, f. ex.

$$RV(2.1) = RV(1.2) = 3$$

$$RV(3.1 \ 2.2 \ 1.3) = RV(3.2 \ 2.2 \ 1.2) = 12$$

$$RV(3.3 \ 2.3 \ 1.3) = 15$$

Of course, the dual reality thematics of the sign classes as well as their permutations have the same representation value.

2. In this paper, I want to introduce a second semiotic measure based on cardinal numbers, the contextural values. According to Kaehr (2009), each sub-sign of the semiotic 3×3-matrix can be assigned a contextural index. The mapping of contextural indices to sub-signs is bijective; dual sub-signs get the same contextural index. However, the indices vary according to the contextures. E.g., the semiotic 3×3-matrix can be given for 3 or 4 contextures:

3-contextural 3×3-matrix:

$$\left(\begin{array}{ccc} 1.1_{1,3} & 1.2_1 & 1.3_3 \\ 2.1_1 & 2.2_{1,2} & 2.3_2 \\ 3.1_3 & 3.2_2 & 3.3_{2,3} \end{array} \right)$$

4-contextural 3×3-matrix

$$\left(\begin{array}{ccc} 1.1_{1,3,4} & 1.2_{1,4} & 1.3_{3,4} \\ 2.1_{1,4} & 2.2_{1,2,4} & 2.3_{2,4} \\ 3.1_{3,4} & 3.2_{2,4} & 3.3_{2,3,4} \end{array} \right)$$

We now define the contextural value (CV) of a semiotic relation as the sum of the contextural indices of this relation, f. ex.

$$CV(1.1) = 1+3+4 = 8$$

$$CV(1.2) = CV(2.1) = 1+4 = 5$$

$$CV(3.1 \ 2.2 \ 1.3) = 21$$

3. We can now compare the representation and the contextural values for all 10 Peircean sign classes. We will assume as basis the 4-contextural 3×3-matrix:

$$(3.1_{3,4} \ 2.1_{1,4} \ 1.2_{1,4}) \quad Kw = 17 \quad Rpw = 10$$

$$(3.1_{3,4} \ 2.1_{1,4} \ 1.3_{3,4}) \quad Kw = 19 \quad Rpw = 11$$

$$(3.1_{3,4} \ 2.2_{1,2,4} \ 1.2_{1,4}) \quad Kw = 19 \quad Rpw = 11$$

$$(3.1_{3,4} \ 2.2_{1,2,4} \ 1.3_{3,4}) \quad Kw = 19 \quad Rpw = 12$$

$$(3.2_{2,4} \ 2.3_{2,4} \ 1.3_{3,4}) \quad Kw = 19 \quad Rpw = 14$$

$$(3.2_{2,4} \ 2.2_{1,2,4} \ 1.2_{1,4}) \quad Kw = 18 \quad Rpw = 12$$

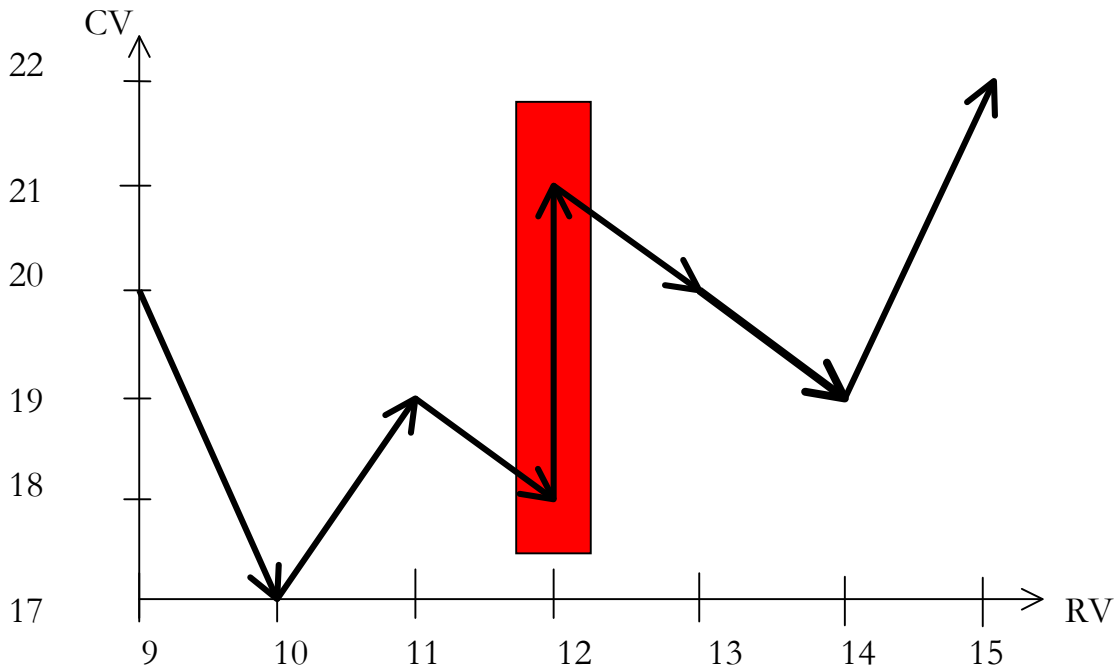
$$(3.1_{3,4} \ 2.1_{1,4} \ 1.1_{1,3,4}) \quad Kw = 20 \quad Rpw = 9$$

$$(3.1_{3,4} \ 2.3_{2,4} \ 1.3_{3,4}) \quad Kw = 20 \quad Rpw = 13$$

$$(3.2_{2,4} \ 2.2_{1,2,4} \ 1.3_{3,4}) \quad Kw = 20 \quad Rpw = 13$$

$$(3.3_{2,3,4} \ 2.3_{2,4} \ 1.3_{3,4}) \quad Kw = 22 \quad Rpw = 15$$

We can now display the interrelationship between the representation and the contextural values for the 10 sign classes in the following diagram:



Although there is no eigenreality in a poly-contextural semiotics (cf. Toth 2009) and thereby no direct connection between the “complete object” (3.2 2.2 1.2) and the “esthetic object” (3.1 2.2 1.3), as it has been pointed out in Bense (1992), there seems to be a connection between these two sign classes due to the fact that they are the only two sign classes, which have the same representation value, but lie in two different contextures.

Bibliography

- Bense, Max, Semiotische Prozesse und Systeme. Baden-Baden 1975
 Bense, Max, Das Universum der Zeichen. Baden-Baden 1983
 Bense, Max, Die Eigenrealtat der Zeichen. Baden-Baden 1992
 Karger, Angelika, Uber Reprasentationswerte. In: Semiosis 17/18, 1980, pp. 23-29
 Kaehr, Rudolf, Sketch on semiotics in diamonds. In: <http://www.thinkartlab.com/pkl/lola/Semiotics-in-Diamonds/Semiotics-in-Diamonds.html> (2009)
 Toth, Alfred, A poly-contextural view on eigenreality. In: Electronic Journal for Mathematical Semiotics, <http://www.mathematical-semiotics.com/pdf/NETS6.pdf> (2009)

16.3.2009