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Connections of inner semiotic environments (NETS, 3)

1. The distinction of system and environment is crucial for cybernetics. In semiotics, this distinction has been introduced by Bense (1975, pp.97 ss., 108 ss.). However, since there is no environment for category theoretic morphisms, in classical mathematics as well as in classical semiotics, semiotic environment, up to now, always means outer semiotic environment. Therefore, outer semiotic environment means, in accordance with the Peircean principle that no sign can appear alone, the connections between signs in the form of static sub-signs or dynamic semioses.

1.1. Example of sign connection by static sub-signs

(3.1 2.1 1.3)
| |
(3.1 2.2 1.3)

1.2. Example of sign connection by dynamic semiosis

(3.1 2.1 1.2)
| |
(3.1 2.1 1.3)

Note: In classical semiotics, pairs of dualized sub-signs are treated as identical, f. ex.:

$\times(3.1) = (1.3)$

On this strictly mono-contextural principle (cf. Kaehr 2009), the inner connections between sign classes and reality thematics are established, e.g.:

(3.1 2.1 1.3) \times (3.1 1.2 1.3),

but consider

$$\begin{array}{c} \underline{(3.1 \ 2.1 \ 1.3)} \times \underline{(3.1 \ 1.2 \ 1.3)}. \\ \begin{array}{c} \text{---} \\ | \quad | \quad | \\ \text{---} \\ | \quad | \\ \text{---} \end{array} \end{array}$$

and not

$$\begin{array}{c} \underline{(3.1 \ 2.1 \ 1.3)} \times \underline{(3.1 \ 1.2 \ 1.3)}. \\ \begin{array}{c} \text{---} \\ | \quad | \quad | \\ \text{---} \\ | \quad | \\ \text{---} \end{array} \end{array}$$

because $\times(3.1) = (1.3)$ and $\times(1.3) = (3.1)$. Moreover, since, according to Kaehr (2009), we even have

$$\times(\text{id}_x) \neq (\text{id}_x), x \in \{1, 2, 3\},$$

it follows especially that

$$\times(3.1 \ 2.2 \ 1.3) \neq (3.1 \ 2.2 \ 1.3)$$

in contradiction with the classical-semiotic theory of eigenreality.

The reason for the disequations is that “self-identity is able to distinguish its directionality as left (lo) and right (ro) order” (Kaehr 2009, p. 2).

From the standpoint of classical semiotics, this leads to the paradoxical situation, that, from a poly-contextural standpoint, we have on the one side

$$K(a.b) = K(b.a),$$

i.e. the contexture of a sub-signs (a.b) is identical with the contexture of its dualized sub-sign. However, if not only the sub-signs, but the contexture as well is dualized

$$\times(K(a.b)) \neq K(b.a),$$

we get again a disequation.

2. In order to solve the problems caused by the above disequations, Kaehr (2009) redefined the semiotic fundamental categories:

Firstness:	Peirce:	A
	Kaehr:	$A a$
Secondness:	Peirce:	$A \rightarrow B$
	Kaehr:	$A \rightarrow B c$
Thirdness:	Peirce:	$A \rightarrow C$
	Kaehr:	$A \rightarrow C b_1 \leftarrow b_2$

In Kaehr’s own words: “A composition is always accompanied by an environment of its morphisms. Therefore, an initial object or the number 1, firstness, is diamond theoretically always doubled: as itself and as its environment, i.e. $(A | a)$. That is, as a morphism, and as a hetero-morphism. A diamond initial object is not a singular object but a doublet. Also called bi-object” (2009, p. 2).

Therefore,

$$PS = (.1., .2., .3.)$$

is the mono-contextural set of prime-signs without inner semiotic environments. Clearly, the prime-signs are not connected with one another.

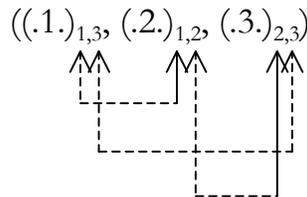
However, by introducing the concept of inner semiotic environment (or hetero-morphism), we get in the case of 3-contextural PS

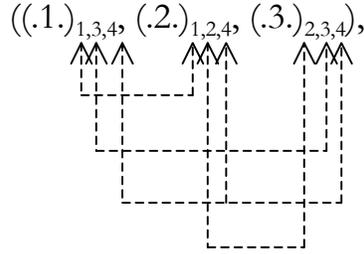
$$PS_3 = ((.1.)_{1,3}, (.2.)_{1,2}, (.3.)_{2,3})$$

and in the case of 4-contextural PS

$$PS_4 = ((.1.)_{1,3,4}, (.2.)_{1,2,4}, (.3.)_{2,3,4}),$$

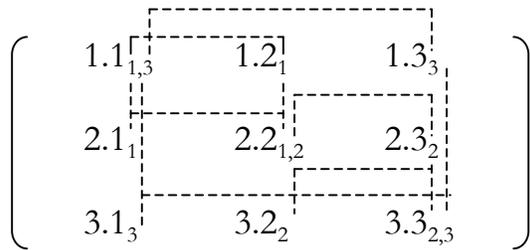
and therefore sets of prime-signs which are connected by their inner environments



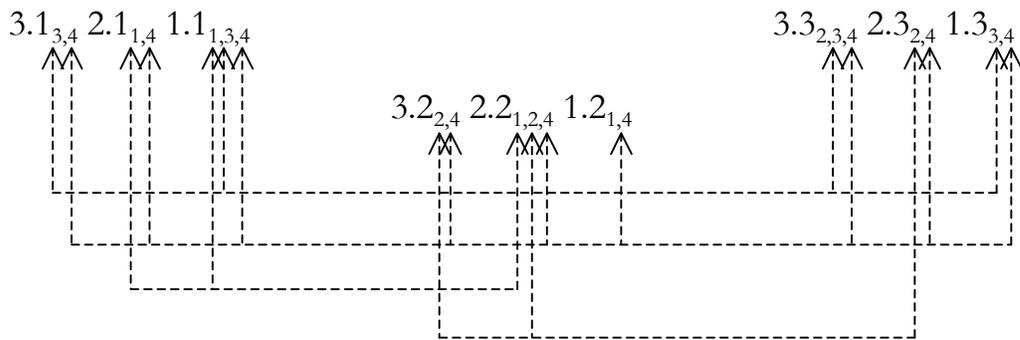


Naturally, the complexity of connections by inner semiotic environments increases with increasing number of contextures involved.

3. The sets of prime-signs are examples of connections solely by their inner semiotic environments. If we have a look at the 3-contextural triadic semiotic matrix



we recognize that in each triad and in each trichotomy the sub-signs are pairwise connected by their inner semiotic environment. It follows that there are no triadic sign relations, which are not connected by their inner semiotic environment. This is especially important for sign relation which are neither connected by static sub-signs nor by dynamic semioses, f. ex.:



The three sign classes in this example have no other than inner environmental semiotic connections.

This simple fact has tremendous consequences for the semiotic universe. Since there are pairs of sign classes which have no static nor dynamic connection, the conclusion was made in Toth (2009) that the semiotic universe is non-

connected (in the topological sense). As a matter of fact, from a purely mono-contextural standpoint, the two following statements from Peirce and Karger, respectively, must appear contradictory (quotation from Toth 2009):

Walther paraphrasiert (ohne Quellenangabe des zugrunde liegenden Zitats) Peirce wie folgt: “Die einzige geistige Wirkung eines Zeichens bzw. der ‘letzte logische Interpretant’, der kein Zeichen ist, aber allgemein beobachtet werden kann, ist ein ‘Wechsel der Denkgewohnheit’, wie Peirce bemerkte” (1979, S. 78). Ohne auf diese Stelle zu referieren, heisst es dann aber bei Karger: “Es ist aber so, dass eine ‘Denkgewohnheit’ ein Zeichen darstellt und der Wechsel zu einer neuen Denkgewohnheit ebenfalls. Es werden also Veränderungen am Zeichen erfahren, die wiederum zum Zeichen führen” (1986, S. 42).

However, from a poly-contextural standpoint, we can “save” the coexistence of the contradictory utterances, because even then, when an n-tuple of sign classes is topologically non-connected what concerns their sub-signs and/or semioses, it is necessarily connected by the internal semiotic environments of their sub-signs and/or semioses. To put it in the form of

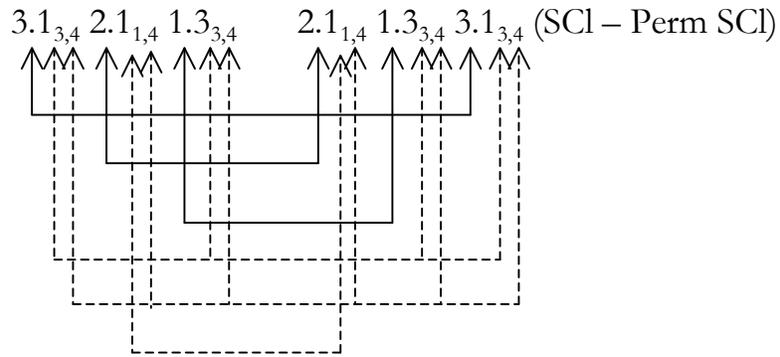
Theorem: Any n-tuple of sign-classes is connected by the heteromorphisms of their sub-signs involved, but not any n-tuple is necessarily connected by the morphisms of their sub-signs involved.

This extremely important semiotic theorem could not have found without the groundbreaking work of Rudolf Kaehr.

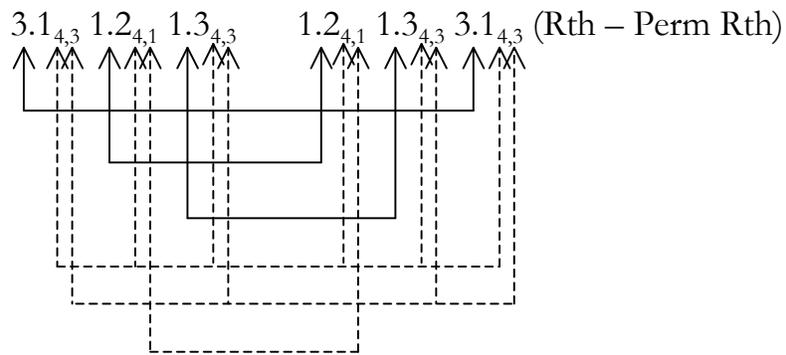
It therefore seems, that the change of one’s habitude of mind (Wechsel der Denkgewohnheit) means indeed a loss of outer semiotic connections, but at the same time the hitherto hardly used inner semiotic connections are opening unforeseen semiotic possibilities.

4. Concluding, I want to give some examples in order to show in which semiotic areas the introduction of semiotic connections by inner environments may be helpful. In Toth (2008) I had introduced a typology of semiotic connections between sign classes and their permutations, reality thematics and their permutations, sign classes and permutations of their reality thematics, permutations of sign classes and permutations of their reality thematics.

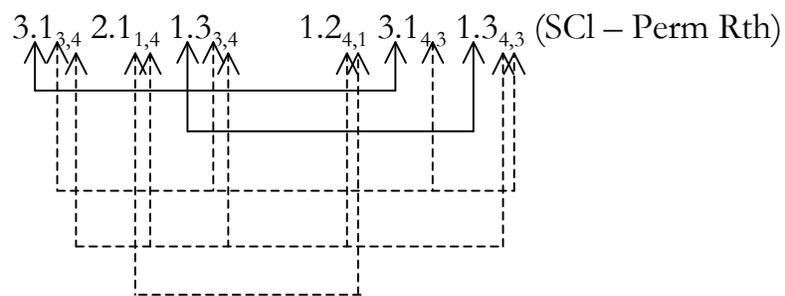
4.1. Connections of sign classes and permutations of sign classes



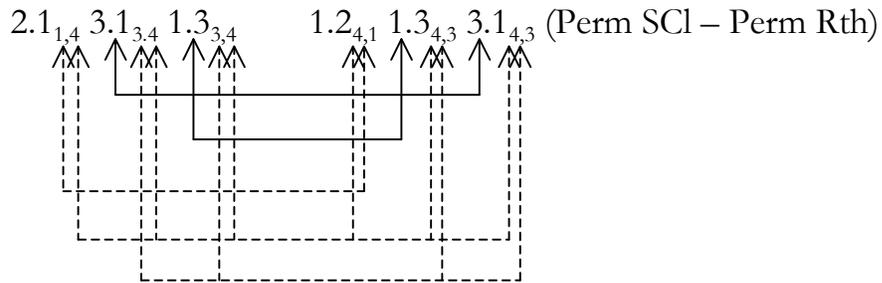
4.2. Connections of reality thematics and permutations of reality thematics



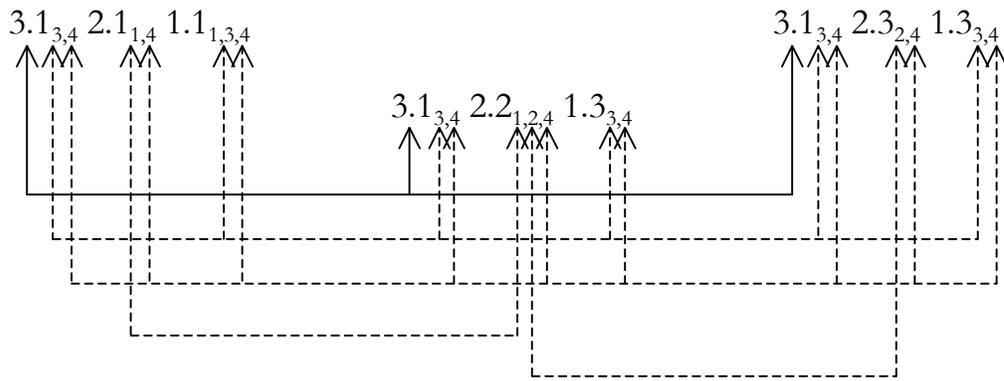
4.3. Connections of sign classes and permutations of reality thematics



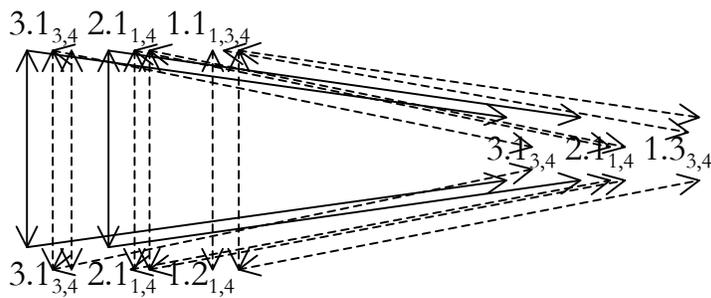
4.4. Connections of permutations of sign classes and permutations of reality thematics



4.5. Communication schemata (cf. Bense 1971, pp. 39 ss.; Toth 1993, pp. 147 ss.)



4.6. Creation schemata (cf. Bense 1976, pp. 106 ss.; Toth 1993, pp. 158 ss.)



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