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A poly-contextural view on eigenreality

1. According to Bense (1992), amongst the 10 Peircean sign classes and reality thematics, there is just one sign class, whose dual reality thematic is identical with the sign class:

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

For the other 9 sign classes, we have

$x(3.a\ 2.b\ 1.c) \neq (3.a\ 2.b\ 1.c)$ with a, b, c $\in \{1, 2, 3\}$,

f. ex.

$\times(3.1\ 2.1\ 1.3) = (3.1\ 1.2\ 1.3)$.

However, as has been pointed out earlier

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

and even

$(2.2) \neq \times(2.2)$ (Kaehr 2009, p.12),

which means that there is a semiotic difference between the rhema and the dualized legi-sign and between the legi-sign and the dualized rhema, as well as between the dualization of genuine sub-signs (identitive morphisms). This is, by the way, already a result from Bense's use of the Möbius band as a model for the eigenreal sign class: one turn, and one is at the same place, but on the opposite side of the ribbon. However, the consequences of this fact have not been taken care of in semiotics up to know.

2. Using Kaehr's polycontextural-semiotic 3-matrix, things get quickly clearer. So, the eigenreal sign class appears in the form

$\times(3.1_3\ 2.2_{1,2}\ 1.3_3) = (3.1_3\ 2.2_{2,1}\ 1.3_3)$, i.e.

$(3.1_3\ 2.2_{1,2}\ 1.3_3) \neq (3.1_3\ 2.2_{2,1}\ 1.3_3)$,

although in 3 contextures, the differences between ×(3.1) and (1.3), and ×(1.3) and (3.1), respectively, do not come out yet. However, if we take 4 contextures (and thus triadic semiotics as a fragment of a 4-contextural semiotics, cf. Toth 2003, pp. 54 ss.), we get

$\times(3.1_{3,4}\ 2.2_{1,2,4}\ 1.3_{3,4}) = (3.1_{4,3}\ 2.2_{4,2,1}\ 1.3_{4,3})$.

The result: In all semiotic contextures > 1, there is no eigenreality. As a matter of fact, there is not even eigenreality in the contexture 1, because of the semiotic difference between between ×(3.1) and (1.3), and ×(1.3) and (3.1), and possibly (2.2) and (2.2) – although identity still holds in a 1-contextural semiotics.

2. However, as it was pointed out already in Toth (2008), it is possible to produce eigenreality artificially. However, in the case of 4-contextural

$(3.1_{3,4}\ 2.2_{1,2,4}\ 1.3_{3,4})$,

we have two two-digit indices and one three-digit index. It follows, that we need two operators to produce eigenreality on the level of inner semiotic environments. Operators that work on two-digit indices are binary, like negation in logic, so they cause no problem. For our purpose, we can use Bense's operation of dualization:

×[3,4] = [4,3].

However, × is only capable of converting the order of a whole sequence of indices:

×[1,2,4] = [4,2,1],

but × cannot produce [1,4,2], [2,1,4], [2,4,1], and [4,1,2]. Therefore, we rename the dualization operation "$\times_1$" and define $\times_2$ as trialization, moving the last digit of a sequence of indices to the beginning of the sequence, f. ex.

$\times_2[1,2,4] = [4,1,2]$.

Then, we obtain, e.g.

$\times_1(124) = (421)$, $\times_1(421) = (124)$, i.e. $\times_1\times_1(124) = (124)$

$\times_2(124) = (241)$, $\times_2(241) = (412)$, $\times_2(412) = (124)$, i.e. $\times_2\times_2\times_2(124) = (124)$
$\times_1\times_2(124) = (142)$
$\times_2\times_1(124) = (214)$
$\times_1\times_2\times_2(124) = \times_2\times_1(124)$
$\times_2\times_2\times_1 = \times_1\times_2(124)$
$\times_1\times_2\times_1(124) = \times_1\times_2(124)$
$\times_2\times_1\times_2(124) = (421)$, and so on.

Therefore, we can now produce all 6 permutations of a three-digit sequence like [1,2,4] by aid of the dualization $\times_1$ and the trialization $\times_2$. Since we are up to artificially produce eigenreality, the question is: How can we produce [1,2,4]?

Because of $\times_1$ $(2.2_{1,2,4}) = (2.2_{4,2,1})$, we need odd cycles of trialization. However, for (3.1) and (1.3), dualization (with even cycles) is sufficient. What we thus have to introduce are field restrictions (cf., e.g., Menge 1991, pp. 141, 151) for the two classes of operators:

$\times_1\times_1$ $[3.1_{3,4}, 1.3_{3,4}]$, $\times_1\times_2\times_2[2.2_{1,2,4}]$ $(3.1_{3,4}\ 2.2_{1,2,4}\ 1.3_{3,4}) = (3.1_{3,4}\ 2.2_{1,2,4}\ 1.3_{3,4})$
$\times_1\times_1$ $[3.1_{3,4}, 1.3_{3,4}]$, $\times_2\times_2\times_2[2.2_{1,2,4}]$ $(3.1_{3,4}\ 2.2_{1,2,4}\ 1.3_{3,4}) = (3.1_{3,4}\ 2.2_{1,2,4}\ 1.3_{3,4})$

Therefore, these are the two easiest ways to produce eigenreality by aid of 1 binary and two ternary operators. Concluding, note that by aid of the method presented in Toth (2008), it is possible to turn every sign class into an eigenreal sign class – as long as inner semiotic environments are not been taken into account. However, by aid of the two operators $\times_1$ and $\times_2$, it is possible to turn all those sign classes into eigenreal sign classes which contain a genuine (identitive) sub-sign, thus six of the ten Peircean sign classes. For the other four sign classes, things are even easier, since there we have to deal solely with two-digit indices for which we do not need trialization. Thus, the first conclusion of this study (together with Toth 2008) is that every sign class, mono- or poly-contextural, can be turned into an eigenreal sign class. However, this result goes hand in hand with the second conclusion that eigenreality is an artificial and superfluous semiotic feature which has no relevance at all.

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