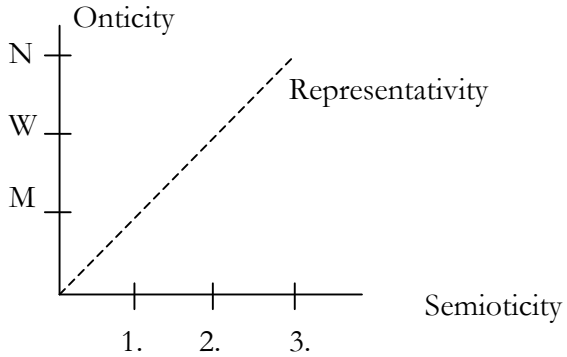
Prof. Dr. Alfred Toth

Pre-semiotic spaces

1. For Peircean semiotics, "an absolutely complete diversity of 'worlds' and 'pieces of worlds', of 'Be' (Sein) and 'Being' (Seiendem) can principally [...] not be realized by a consciousness that works over triadic sign relations" (Bense 1979, p. 59). Nevertheless, consciousness is understood as a "two-valued functor of Being (Seinsfunktor) which generates the subject-object relation" (Bense 1976, p. 27), because Peirce "keeps up the difference between the epistemological object and subject in connecting both poles by their representedness" (Walther 1989, p. 76). "In doing so, we presuppose a non-transcendental notion of recognition whose essential process is based on the differentiation between (recognizable) 'world' and (recognizing) 'consciousness', but also in establishing a real triadic relation between them" (Bense 1976, p. 91). Since a thematic of Being (Seinsthematik) "cannot be motivated and legitimated other than by a sign thematics" (Bense 1971, p. 16), it follows, "that notions of objects are relevant only in view of a sign class and have a reality thematic only in relation to this sign class which can be discussed and judged as its connection of reality" (Bense 1976, p. 109). Therefore, sign thematic and reality thematic "behave not like 'platonic' and 'realistic' concepts of Being, but only like the most extreme cases or the most extreme entities of the one and only thematic of Being" (Bense 1976, p. 85).

Thus, to the sign relation and its reality thematic there also belongs "the differentiation between 'onticity' and 'semioticity', which rules the relationship of our experience of the world" (Bense 1979, p. 19). This relationship is formulated by the 'Theorem about Onticity and Semioticity": "With increasing semioticity also the onticity of representation increases" (Bense 1976, p. 60):



At last, the triadic sign relation determines "the moments of the process of representation between World and Consciousness" (Gfesser 1990, p. 131).

2. In Toth (2008c), we assigned to each sub-relation of the triadic sign relation (SR) a parametric set [±S, ±O], where S stands for subject and O stands for object:

SR = [[±S, ±O], [±S, ±O], [±S, ±O]]

The general sign structure is thus

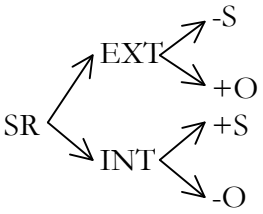
SR = (±a.±b ±c.±d ±e.±f)

Since the construction principle for sign relations a, b, c, d, e, f ∈ {1, 2, 3} with b ≤ d ≤ f (semiotic trichotomic inclusion order) applies to all possible cases, we get the following four types of basic sign classes. As an example, we show the sign class (3.1 2.1 1.3) and its parametric variations:

[+S, +O]:	(a.b c.d e.f)	(3.1 2.1 1.3)
[+S, –O]:	(a.-b c.-d e.-f)	(3.-1 2.-1 1.-3)
[-S, +O]:	(-a.b –c.d –e.f)	(-3.1 –2.1 –1.3)
[-S, –O]:	(-a.-b –c.-d –e.-f)	(-3.-1 –2.-1 –1.-3)

Thus, [+S, +O], the "regular" sign class with exclusively positive parameters, is nothing but one of four special cases of parametric sign classes.

For the sake of interpretation, we propose that [-S] means "hidden" subject, [-O] means "hidden" object, [+S] means "overt" subject, and [+O] means "overt object". In addition, we may say that hidden subjects and overt objects determine "exterior" semiotic sign relations, while overt subjects and hidden objects determine "interior" semiotic sign relations. As we will see below, the respective exterior and interior sign relations are to be found in the sub-relations of the medium, the object and the interpretant as well. The following graph visualizes the somewhat tricky connections between "overtness" and "hiddenness" of subject and object and their semiotic "exteriority" and "interiority":



3. In Toth (2008b), I introduced the pre-semiotic sign relation

$SR_{4,3}$ (3.a 2.b 1.c 0.d)

with the semiotic inclusion order

(a ≤ b ≤ c ≤ d),

whose corresponding semiotic structure is thus 4-otomic, but 3-adic, since in Z^r_k, the categorial number k ≠ 0 (Bense 1975, p. 65), and therefore the pre-semiotic matrix is "defective" from the viewpoint of a quadratic matrix of Cartesian products over (.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

From this semiotic matrix, we can construct the following 15 tetradic-trichotomic sign classes and their dual reality thematics, which we will write now in their parametric form:

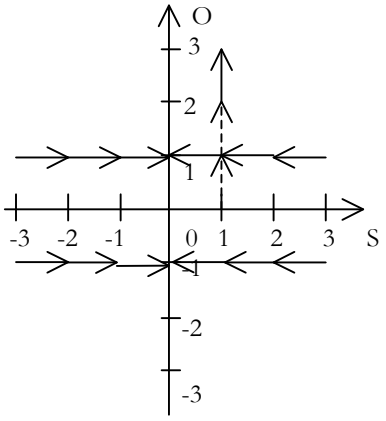
1 (±3.±1 ±2.±1 ±1.±1 ±0.±1) × (±1.±0 ±1.±1 ±1.±2 ±1.±3)
2 (±3.±1 ±2.±1 ±1.±1 ±0.±2) × (±2.±0 ±1.±1 ±1.±2 ±1.±3)
3 (±3.±1 ±2.±1 ±1.±1 ±0.±3) × (±3.±0 ±1.±1 ±1.±2 ±1.±3)
4 (±3.±1 ±2.±1 ±1.±2 ±0.±2) × (±2.±0 ±2.±1 ±1.±2 ±1.±3)
5 (±3.±1 ±2.±1 ±1.±2 ±0.±3) × (±3.±0 ±2.±1 ±1.±2 ±1.±3)
6 (±3.±1 ±2.±1 ±1.±3 ±0.±3) × (±3.±0 ±3.±1 ±1.±2 ±1.±3)
7 (±3.±1 ±2.±2 ±1.±2 ±0.±2) × (±2.±0 ±2.±1 ±2.±2 ±1.±3)
8 (±3.±1 ±2.±2 ±1.±2 ±0.±3) × (±3.±0 ±2.±1 ±2.±2 ±1.±3)
9 (±3.±1 ±2.±2 ±1.±3 ±0.±3) × (±3.±0 ±3.±1 ±2.±2 ±1.±3)
10 (±3.±1 ±2.±3 ±1.±3 ±0.±3) × (±3.±0 ±3.±1 ±3.±2 ±1.±3)
11 (±3.±2 ±2.±2 ±1.±2 ±0.±2) × (±2.±0 ±2.±1 ±2.±2 ±2.±3)
12 (±3.±2 ±2.±2 ±1.±2 ±0.±3) × (±3.±0 ±2.±1 ±2.±2 ±2.±3)
13 (±3.±2 ±2.±2 ±1.±3 ±0.±3) × (±3.±0 ±3.±1 ±2.±2 ±2.±3)
14 (±3.±2 ±2.±3 ±1.±3 ±0.±3) × (±3.±0 ±3.±1 ±3.±2 ±2.±3)
15 (±3.±3 ±2.±3 ±1.±3 ±0.±3) × (±3.±0 ±3.±1 ±3.±2 ±3.±3)

4. Each sign class and each reality thematic thus appear in their 4 basic forms as shown above. This makes a total of 120 basic semiotic representation schemata. However, for the sake of space, in the following, we shall only show the graphs of the 4 basic sign classes and for the reality thematic that is dual to the sign class with strictly positive parameters. As one can see easily, the 4 parametric sign classes span up 15 pre-semiotic spaces which define the full pre-semiotic space of representation of the pre-semiotic sign function depending on their possible subject- and object-values. In other words, the 15 pre-semiotic spaces scoop out all possible semiotic representational spaces generated by the parametric sign functions as hulls or "borders" of the semiotic and the ontological space in the sense of Bense (1975, pp. 64 ss.), but including the never-land between them. This never-land may be identified with the Hegelian determination of Becoming (Werden) in the sense of the inseparatedness of Being (Sein) and Nothing (Nichts): "Therefore, the Becoming (Werden) is determined as the general ontological frame, inside of which Being (Sein) and Nothing (Nichts) meet" (Günther 1991, p. 251). By this determination, the pre-semiotic never-land covers also what Günther called the „third Beyond" (cf. Toth 2008a, pp. 115 ss.): „However, if the progressive process of subjectivization of the mechanism of a mechanical brain, which becomes more and more similar to mind, and the objectivization of a consciousness, which

becomes constructible out of still deeper abysses, are capable of approaching one another infinitely in an inverse movement, then they disclose between themselves a ‚middle Beyond'. In other words: the process of reflection, or the information, respectively, possesses a specific transdencence" (Günther 1963, pp. 36 s.).

The numbers of the following graphs refer to the list of the 15 pre-semiotic sign classes and their dual reality thematics displayed above.

1.



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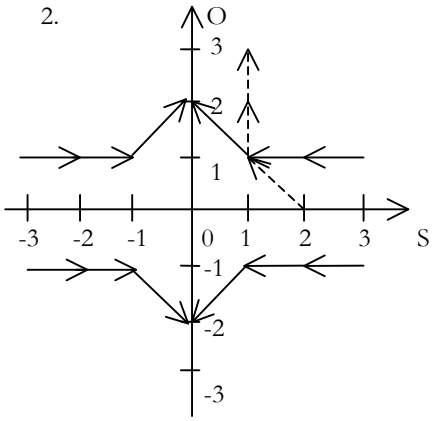

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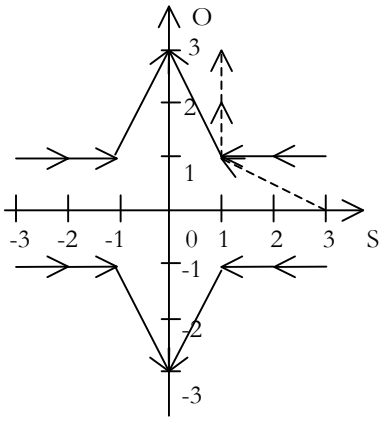

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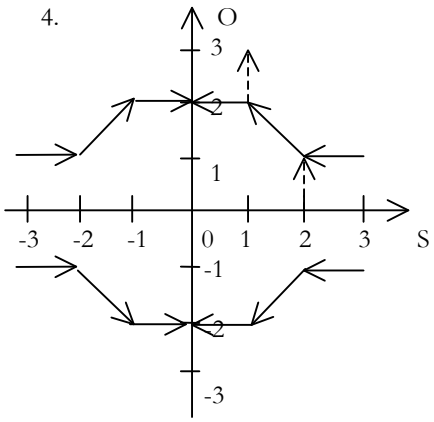

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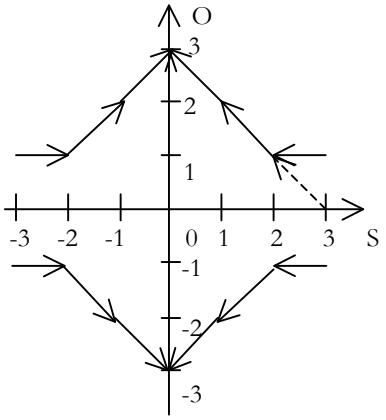

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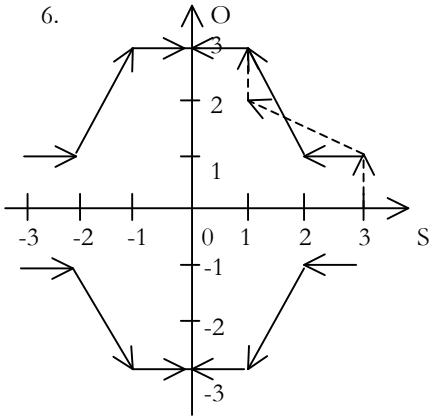

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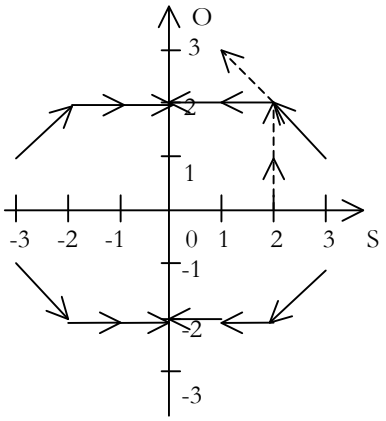
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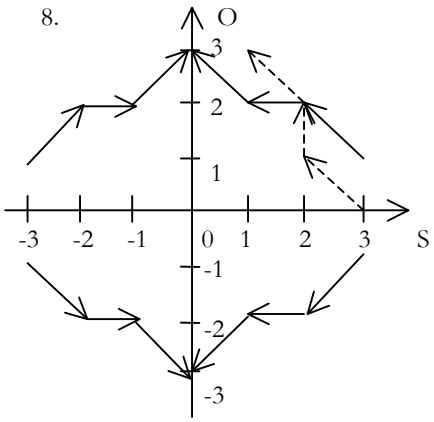
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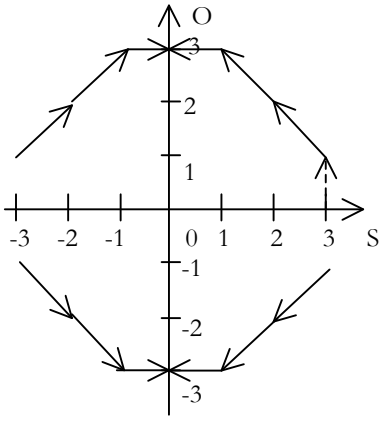
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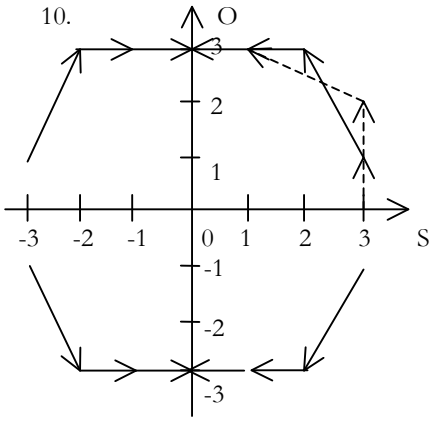
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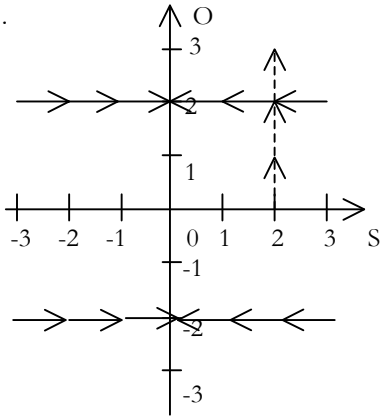
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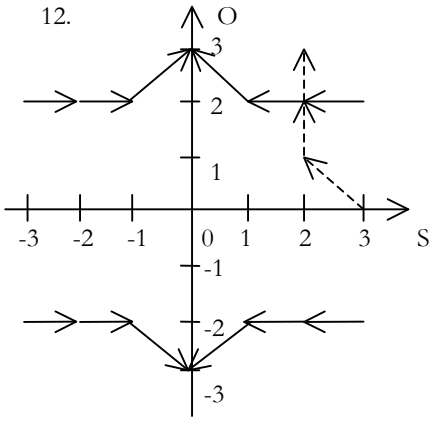
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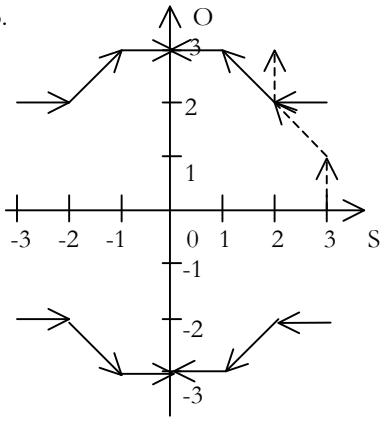

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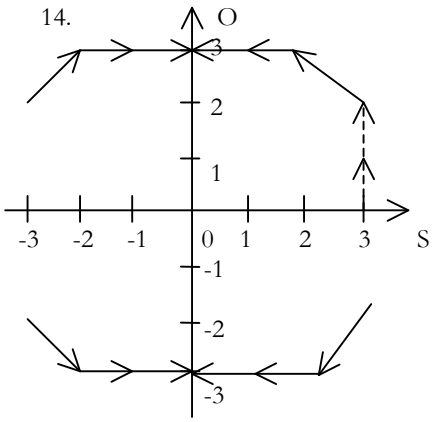

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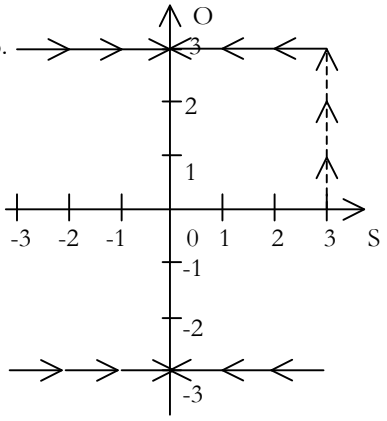

5. However, the 120 basic pre-semiotic functions enclose only the homogeneous parametric sign relations. Since the general pre-semiotic sign relation consists of 8 prime-signs, each of which can be either positive or negative, and since there are 15 pre-semiotic sign classes and 15 pre-semiotic reality thematics, we get a total amount of $2 \cdot 15 \cdot 2^8 = 7'680$ pre-semiotic sign classes, included their dual reality thematics. Alternative classifications of this enormous structural semiotic wealth can be achieved by using either the parametric subject-object classification or the classification by INTernal and EXTernal sign-object relations, both of which have been introduced in the beginning of this study and in Toth (2008c).

Generally, the 7'680 pre-semiotic sign classes and reality thematics span up no less than 1'920 pre-semiotic spaces that can be handled either as metric or as topological spaces (cf. Toth 2007, pp. 96 ss.).

With the following little list, we show the complete general structures of the homogeneous and of some inhomogeneous sign classes:

(3.a 2.b 1.c 0.d)
[[+S, +O], [+S, +O], [+S, +O], [+S, +O]]
[[INT, EXT], [INT, EXT]], [INT, EXT], [INT, EXT]]

(-3.a -2.b -1.c -0.d)
[[-S, +O], [-S, +O], [-S, +O], [-S, +O]]
[[EXT, EXT], [EXT, EXT], [EXT, EXT], [EXT]]

(3.-a 2.-b 1.-c 0.-d)
[[+S, -O], [+S, -O], [+S, -O], [+S, -O]]
[[INT, INT], [INT, INT], [INT, INT], [INT, INT]]

(-3.-a -2.-b -1.-c -0.-d)
[[-S, -O], [-S, -O], [-S, -O], [-S, -O]
[[EXT, INT], [EXT, INT], [EXT, INT], [EXT, INT]]

} homogeneous pre-semiotic spaces (4)

(-3.a 2.-b -1.-c 0.d)
[[-S, +O], [+S, -O], [-S, -O], [+S, +O]]
[[EXT, INT], [INT, INT], [EXT, INT], [EXT, INT]]

(3.a -2.-b -1.-c -0.d)
[[+S, +O], [-S, -O], [-S, -O], [-S, +O]]
[[INT, EXT], [EXT, INT], [EXT, INT], [EXT, EXT]]

(3.a 2.b 1.-c -1.d)
[[+S, +O], [+S, +O], [+S, -O], [-S, +O]]
[[INT, EXT], [INT, EXT], [INT, INT], [EXT, EXT]]

(-3.-a -2.b -1.c -0.-d)
[[-S, -O], [-S, +O], [-S, +O], [-S, -O]]
[[EXT, INT], [EXT, EXT], [EXT, EXT], [EXT, INT]]

... (1916 more)

} inhomogeneous pre-semiotic spaces

Furthermore, and in order to conclude this first study about pre-semiotic spaces, since it was stated in Toth (2008a, pp. 159 ss.) that each sign class and each reality thematic have 6 transpositions, we can start with the maximally general pre-semiotic sign relation

$SR_{4,3}$ = (±a.±b ±c.±d ±e.±f)

and then get 6 · 7'680 = 46'080 parametric pre-semiotic sign classes (and reality thematics) and thus 11'520 pre-semiotic spaces.

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