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Homeostasis in semiotic systems

1. As in cybernetics and systems theory, homeostasis means here the property of semiotic systems to regulate themselves with the purpose of maintaining stable conditions in order to avoid “semiotic chaos” (Arin 1982) or “semiotic catastrophe” (Arin 1983).

The necessity for self-regulating semiotic systems follows from the well-known fact that informational systems bridge between physical and biological systems on the one side and semiotic systems on the other side, information thus being a concept that participates in the world of matter as well as in the world of mind, which means the same as to bridge between subject and object in a semiotic relation. Therefore, Bense stated that the concept of the sign “is both a material and an intelligible mediation which as a whole does not allow a complete separation between (material) world and (intelligible) consciousness” (1979, pp. 18-19).

2. As Walther (1982) pointed out, each sign class of the semiotic system of the 10 sign classes hangs together in at least one sub-sign with the dual-inverse sign class (3.1 2.2 1.3), which is the determinant of the semiotic matrix, the 10 sign classes thus forming a “determinant-symmetric duality system” (Walther 1982, p. 18). These 10 sign classes obey the semiotic Law of Inclusive Trichotomic Order which states that the abstract sign relation (3.a 2.b 1.c) must obey the restriction ($a \leq b \leq c$), according to which the trichotomic value of the position n in a sign set must never be smaller than the trichotomic value of the position $n-1$, i.e. its immediate predecessor. However, if we abolish this law (cf. Toth 2008), we get a system of 27 sign classes and thus the full combinatorial power of the abstract sign relation with 3^3 possibilities.

Yet unfortunately, the system of the 27 sign classes, unlike the system of the 10 sign classes, does not form a symmetric duality system, but shows that all but 2 sign classes hang together either with the dual-inverse sign class (3.1 2.2 1.3) or with the Genuine Category Class (3.3 2.2 1.1), the main diagonal of the semiotic matrix, which itself is a transposition of the dual-inverse sign class (Bense 1992, p. 37). However, the two sign classes that seem to be at first glance isolated in the system of the 27 sign classes:

(3.2 2.1 1.2) × (2.1 1.2 2.3)

(3.2 2.3 1.2) × (2.1 3.2 2.3)

hang together via the sub-sign (3.2) × (2.3) with the following group of 4 sign classes serving as transitory system between the groups connected with (3.1 2.2 1.3) and the groups connected with (3.3 2.2 1.1):

(3.2 2.1 1.3) × (3.1 1.2 2.3)

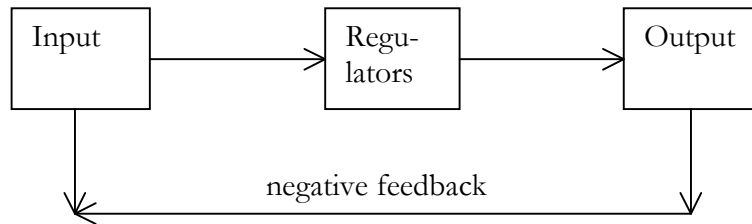
(3.2 2.1 1.1) × (1.1 1.2 2.3)

(3.2 2.2 1.2) × (2.1 2.2 2.3)

(3.2 2.3 1.1) × (1.1 3.2 2.3)

Moreover, the groups connected with (3.1 2.2 1.3) and the ones connected with (3.3 2.2 1.1) are connected themselves by the dual-inverse sub-sign $(2.2) \times (2.2)$ which clearly establishes the “eigen-real” sign class (Bense 1992) in its function of negative feedback not only in the system of the 10 sign classes but also in the system of the 27 sign classes.

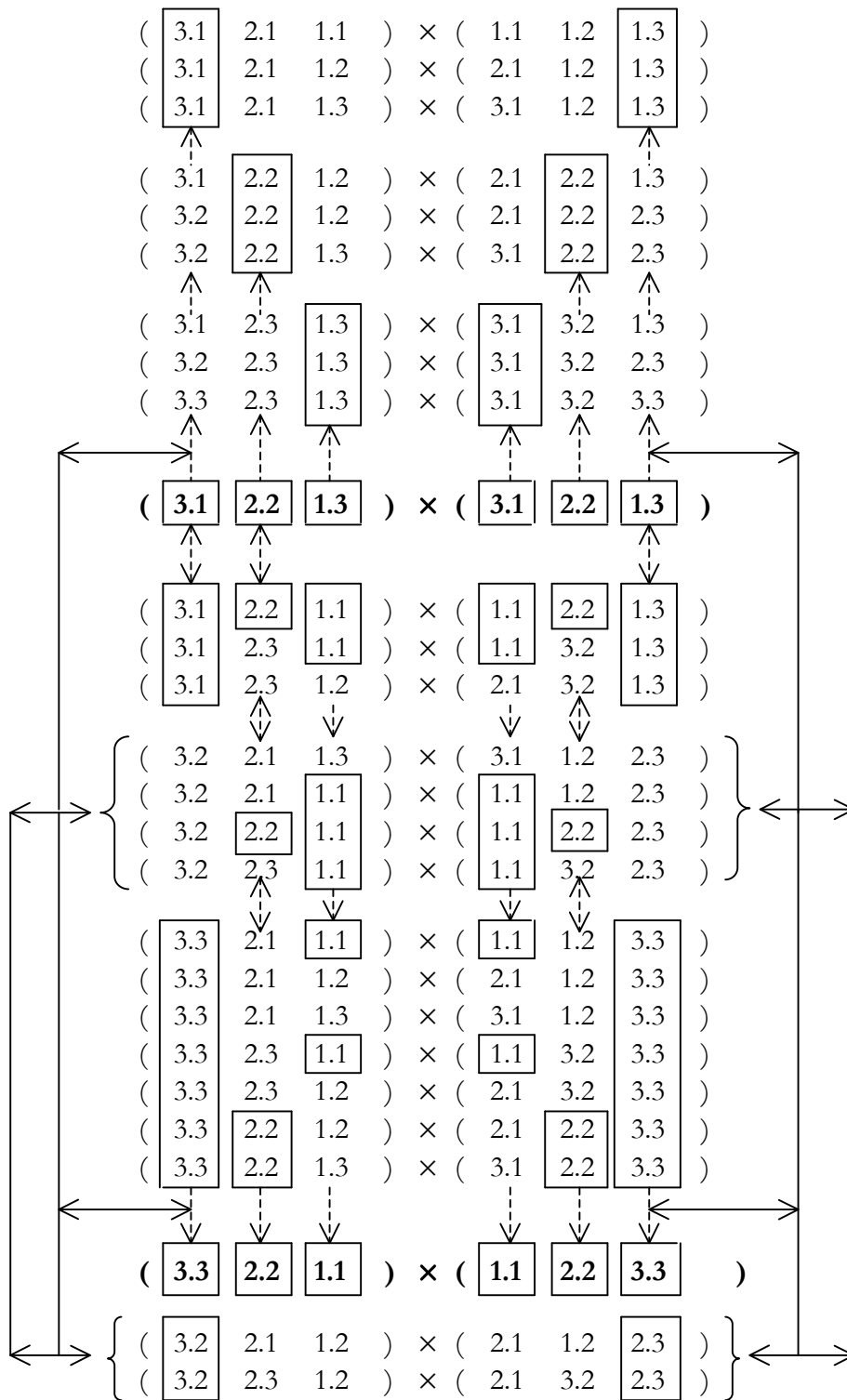
Therefore, in the very broad model of a cybernetic system with input, output, regulators and feedback:



with the eigen-real sign class (3.1 2.2 1.3) serving as mechanism of negative semiotic feedback and thus the whole cybernetic system serving as determinant-symmetric duality system, all 10 sign classes can show up both as input and output. The regulators are semiotic transformations which guarantee the 17 sign classes not obeying the Law of Inclusive Trichotomic Order to be adjusted to this restriction and thus to be transformed into the system of the 10 sign classes, f.ex.:

Sign-class from the system of the 27 sign classes	→	Sign classes from the system of the 10 sign classes
(3.2 2.3 1.1)	→	(3.2 2.3 1.3)
(3.2 2.1 1.1)	→	(3.2 2.3 1.3)
	→	(3.2 2.2 1.2)
(3.3 2.2 1.1)	→	(3.2 2.2 1.2)
	→	(3.2 2.3 1.3)
	→	(3.3 2.3 1.3)

Here, we thus have in semiotic systems a remarkable case of “univocal ambiguity” typical for polycontextural systems (cf. Kronthaler 1986, p. 60). Typical for polycontextural systems, too, is that the choice of which of the univocally ambiguous sign classes are selected depends apparently on the interplay between both input and output. In conclusion, the following table shows the complete system of homeostasis between the systems of the 10 and the 27 sign classes.



Bibliography

- Arin, Erekin, Die Semiochaogenetik. In: Semiosis 25/26, 1982, pp. 28-41
Arin, Ertekin, Die semiotische Katastrophe. In: Semiosis 30, 1983, pp. 21-33
Bense, Max, Die Unwahrscheinlichkeit des Ästhetischen. Baden-Baden 1979
Bense, Max, Die Eigenrealität der Zeichen. Baden-Baden 1992
Kronthaler, Engelbert, Grundlegung einer Mathematik der Qualitäten. Frankfurt am Main 1986
Toth, Alfred, Semiotic symmetry and the question of identity. Ch. 1 (2008)
Walther, Elisabeth, Nachtrag zu Trichotomischen Triaden. In: Semiosis 27, 1982, pp. 15-20

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