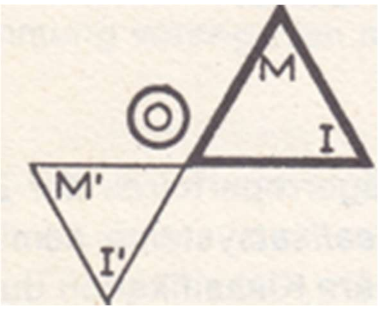
Prof. Dr. Alfred Toth

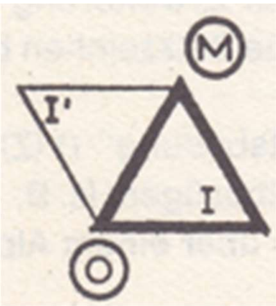
Theorie semiotischer Texteme

1. In der Theorie der Texteme (vgl. Kaehr 2010) geht es, allgemein gesprochen, um Zeichenzusammenhänge (vgl. Toth 2010). Diese wurden in der monokontexturalen Semiotik bereits von Bense ansatzweise behandelt (vgl. Bense 1975, S. 78 ff.).

Beispiel für monadische Zeichenzusammenhänge:



Beispiel für dyadische Zeichenzusammenhänge:



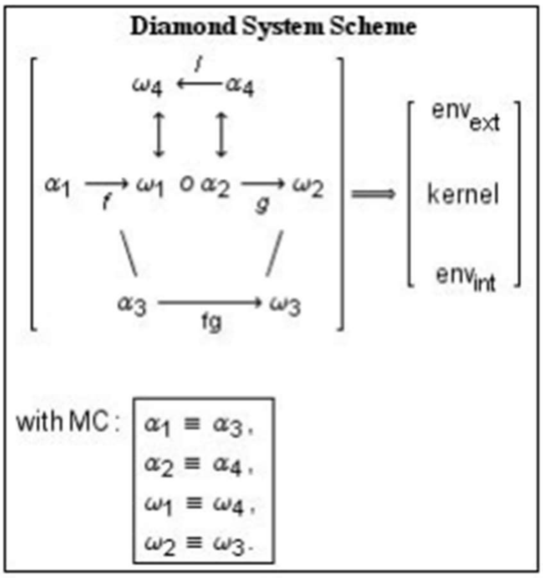
(Triadischen Zeichenzusammenhang gibt dagegen nur bei der dualinvarianten Zeichenklasse (×(3.1, 2.2, 1.3) = (3.1, 2.2, 1.3)).)

2. Zur Motivation polykontexturaler Zeichenzusammenhänge vgl. Kaehr (2010, S. 2):

> Because texts are not linearly ordered sign systems but tabular ordered sign configurations, signs in texts are not anymore properly conceived as signs, they have to be understood as bi-signs, i.e. as signs with intrinsic and irreducible environments. Hence a text is a tabular composition, combination, i.e. configuration of bi-signs, i.e *textems*.

Im folgenden wollen wir auf Grund unserer Vorarbeiten (vgl. Toth 2025a-d) eine semiotische Theorie der Texteme konstruieren, indem wir Punkt für Punkt Kaehr (2010) folgen, worauf hier ein für allemal verwiesen sei.

2.1. Semiotische Diamond-Systeme



$$((2), 3) \leftarrow (1, (2))$$

$$(((1), 2) \rightarrow ((2), 3)) \circ ((1, (2)) \rightarrow (2, (3)))$$

$$((1), 2) \rightarrow (2, (3))$$

Env(ext) = ((2), 3) ← (1, (2))

Kernel = (((1), 2) → ((2), 3)) ∘ ((1, (2)) → (2, (3)))

Env(int) = ((1), 2) → (2, (3))

Matching conditions:

((1), 2) ≡ ((1), 2)

(1, (2)) ≡ (1, (2))

((2), 3) ≡ ((2), 3)

(2, (3)) ≡ (2, (3))

2.2. Semiotische Komposition

Example

$M \longrightarrow O \longrightarrow I$

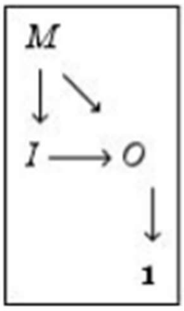
Semiotic composition:

$(M \longrightarrow O) \circ (O \longrightarrow I) \Longrightarrow (M \longrightarrow I)$

$1 \to 2 \to 3$

$(1 \to 2) \circ (2 \to 3) = (1 \to 3)$

Conceptual graph for anchored signs



1

↓ ↘

3 → 2

↓

$\underline{1}$

$$\frac{\textbf{Diamond composition rule for signs} \quad (M_\alpha \longrightarrow I_\omega) \diamond (I_\alpha \longrightarrow O_\omega)}{(M_\alpha \longrightarrow O_\omega) \,\big|\, (\tilde{I}_\omega \longleftarrow \tilde{I}_\alpha)}$$

$$\tilde{I}_\alpha \equiv \mathrm{diff}(I_\alpha)$$

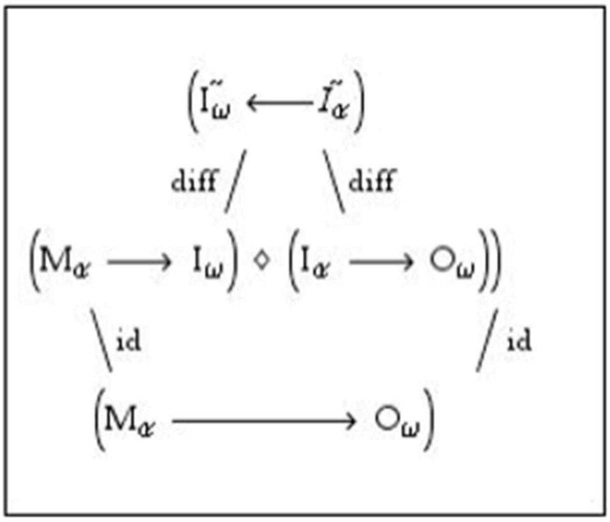
$$\tilde{I}_\omega \equiv \mathrm{diff}(I_\omega).$$

$(1_\alpha \to 3_\omega) \circ (3_\alpha \to 2_\omega)$

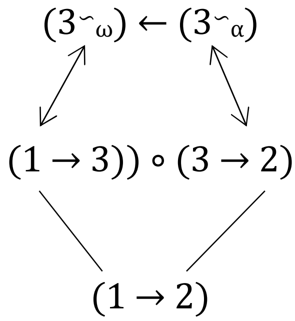
$(1_\alpha \to 2_\omega) \mid (3^{\smile}_{\omega} \leftarrow 3^{\smile}_{\alpha})$

$3^{\smile}_{\alpha} \equiv \mathrm{diff}(I_\alpha)$

$3^{\smile}_{\omega} \equiv \mathrm{diff}(I_\omega)$



Depending on the sign scheme, the environment of the object-domain O, or the medium M or the interpretant I, is constructed by diamondization.



Diamond composition based on *O*:

$(M_{\alpha} \rightarrow O_{\omega}) \diamond (O_{\alpha} \rightarrow I_{\omega}) \Longrightarrow (M_{\alpha} \rightarrow I_{\omega}) \mid (O_{\omega} \longleftarrow O_{\alpha})$

$(I_{\alpha} \rightarrow O_{\omega}) \diamond (O_{\alpha} \rightarrow M_{\omega}) \Longrightarrow (I_{\alpha} \rightarrow M_{\omega}) \mid (O_{\omega} \longleftarrow O_{\alpha})$

Diamond composition based on *M*:

$(I_{\alpha} \rightarrow M_{\omega}) \diamond (M_{\alpha} \rightarrow O_{\omega}) \Longrightarrow (I_{\alpha} \rightarrow O_{\omega}) \mid (M_{\omega} \longleftarrow M_{\alpha})$

$(O_{\alpha} \rightarrow M_{\omega}) \diamond (M_{\alpha} \rightarrow I_{\omega}) \Longrightarrow (O_{\alpha} \rightarrow I_{\omega}) \mid (M_{\omega} \longleftarrow M_{\alpha})$

Diamond composition based on I:

$(M_{\alpha} \rightarrow I_{\omega}) \diamond (I_{\alpha} \rightarrow O_{\omega}) \Longrightarrow (M_{\alpha} \rightarrow O_{\omega}) \mid (I_{\omega} \longleftarrow I_{\alpha})$

$(O_{\alpha} \rightarrow I_{\omega}) \diamond (I_{\alpha} \rightarrow M_{\omega}) \Longrightarrow (O_{\alpha} \rightarrow M_{\omega}) \mid (I_{\omega} \longleftarrow I_{\alpha})$

1-Kompositionen:

$(3_{\alpha} \rightarrow 1_{\omega}) \circ (1_{\alpha} \rightarrow 2_{\omega}) \rightarrow (3_{\alpha} \rightarrow 2_{\omega}) \mid (1_{\omega} \leftarrow 1_{\alpha})$

$(2_{\alpha} \rightarrow 1_{\omega}) \circ (1_{\alpha} \rightarrow 3_{\omega}) \rightarrow (2_{\alpha} \rightarrow 3_{\omega}) \mid (1_{\omega} \leftarrow 1_{\alpha})$

2-Kompositionen:

$(1_{\alpha} \rightarrow 2_{\omega}) \circ (2_{\alpha} \rightarrow 3_{\omega}) \rightarrow (1_{\alpha} \rightarrow 3_{\omega}) \mid (2_{\omega} \leftarrow 2_{\alpha})$

$(3_{\alpha} \rightarrow 2_{\omega}) \circ (2_{\alpha} \rightarrow 1_{\omega}) \rightarrow (3_{\alpha} \rightarrow 1_{\omega}) \mid (2_{\omega} \leftarrow 2_{\alpha})$

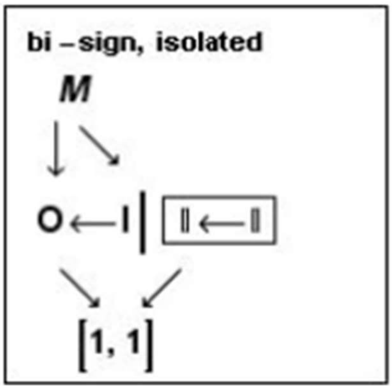
3-Kompositionen:

$(1_\alpha \rightarrow 3_\omega) \circ (3_\alpha \rightarrow 2_\omega) \rightarrow (1_\alpha \rightarrow 2_\omega) \mid (3_\omega \leftarrow 3_\alpha)$

$(2_\alpha \rightarrow 3_\omega) \circ (3_\alpha \rightarrow 1_\omega) \rightarrow (2_\alpha \rightarrow 1_\omega) \mid (3_\omega \leftarrow 3_\alpha)$

Geankerte Diamonds als Bi-Zeichen:

Anchord diamonds are anchoring both, the sign system and its environment.



1

↓ ↘

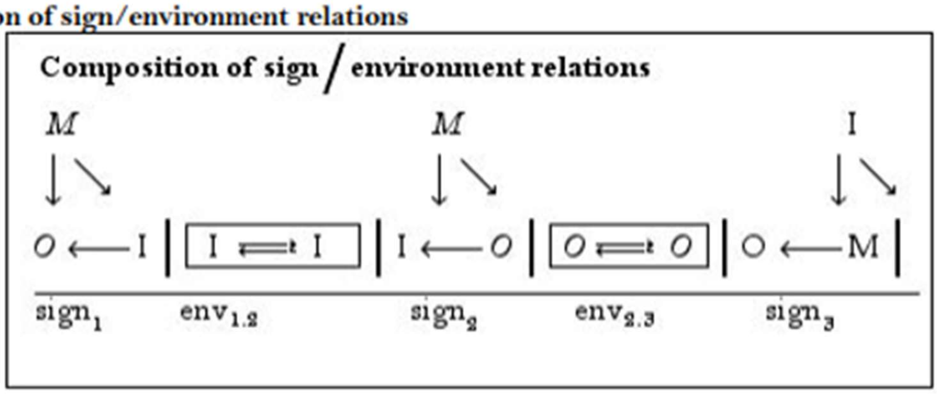
2 → 3 | 3 ← 3

↘ ↙

[1, 1]

Unäre Umgebungen:

Composition of sign/environment relations

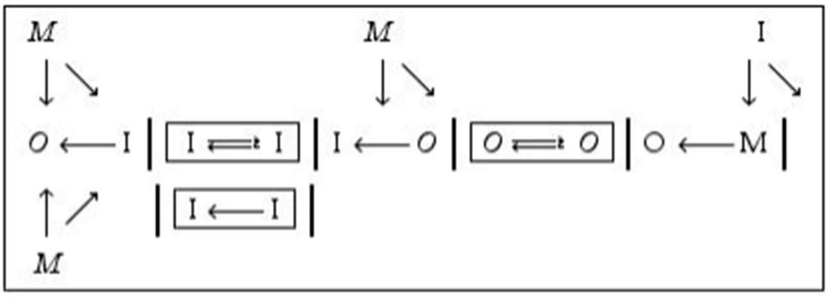


1 1 3

↓ ↘ ↓ ↘ ↓ ↘

2 ← 3 | 3 ⇄ 3 | 3 ← 2 | 2 ⇄ 2 | 2 ← 1 |

Binäre Umgebungen:



1 1 3

↓ ↘ ↓ ↘ ↓ ↘

2 ← 3 | 3 ⇄ 3 | 3 ← 2 | 2 ⇄ 2 | 2 ← 1 |

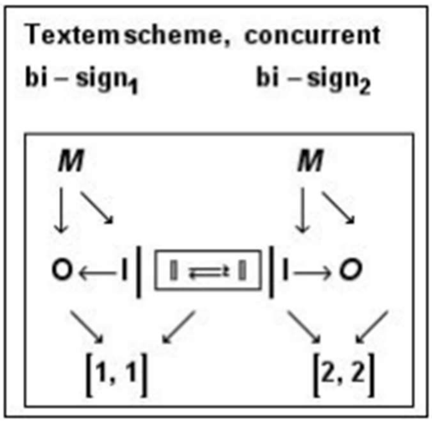
↑ ↗ | 3 ← 3 |

1

Zwei Bi-Zeichen bilden ein Textem:

A *textem* consist of two diamondized anchord signs, i.e. bi-signs, inter-playing together by their mediated external environments. Hence, a textem is an interplay of two bi-signs. A bi-sign is a diamondized anchord sign, i.e. a sign with intrinsic environments and its anchor.

A *textem* is reducible to its interacting bi-signs by excluding its chiastic interactivity.
A semiotic *diamond* is a bi-sign, de-rooted from its *anchor*,.
A single *bi-sign* is disconnected from its neighbor bi-sign, hence it is a bi-sign without interaction but realizing an anchored semiotic diamond with its isolated, and hence restricted, *environment*.
A *sign* is a semiotic diamond, depraved from its environment.



1 1

↓ ↘ ↓ ↘

2 ← 3 | 3 ⇄ 3 | 3 → 2

↘ ↙ ↘ ↙

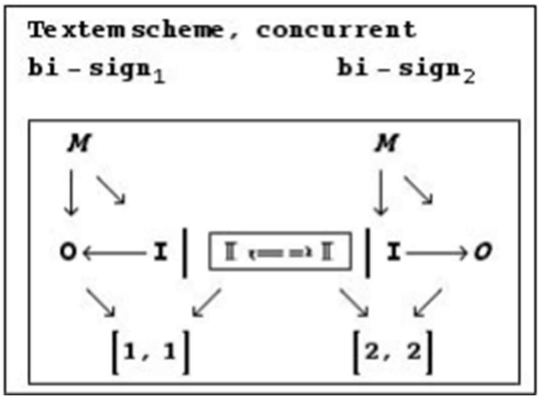
[<u>1</u>, <u>1</u>] [<u>2</u>, <u>2</u>]

textem:

$$diamond = (\text{sign} + \text{environment})$$

$$bi-sign = (\text{diamond} + 2-\text{anchor})$$

$$textem = (\text{bi}-\text{sign} + \text{bi}-\text{sign} + \text{chiasm})$$



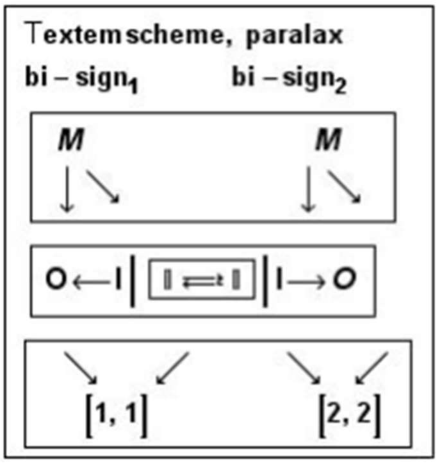
1 1

↓ ↘ ↓ ↘

2 → 3 | 3 ← 3 | 3 → 2

↘ ↙ ↘ ↙

[1, 1] [2, 2]



1 1

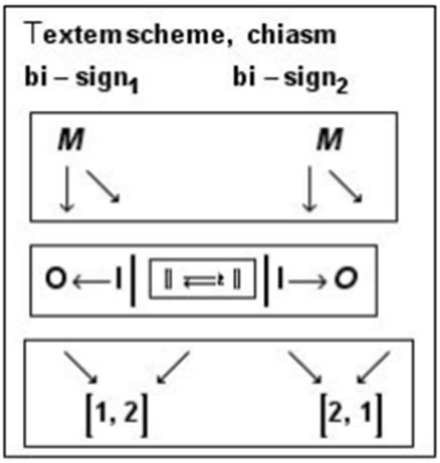
↓ ↘ ↓ ↘

2 ← 3 | 3 ⇄ 3 | 3 → 2

↘ ↙ ↘ ↙

[1, 1] [2, 2]

Chiastic textem:
My environment for the other; the others environment for me. Both environments together as the intrinsic interplay of a textem.



1   1

↓   ↘   ↓   ↘

2   ←   3 | 3 ⇄ 3 | 3   →   2

↘   ↙   ↘   ↙

$[\underline{1}, \underline{2}]$ $[\underline{2}, \underline{1}]$

Interpretations

$$\text{textem} = \left[\text{sign} \parallel \text{sign};\ \text{env} \parallel \text{env} : \text{anchor} \parallel \text{anchor}\right]$$

$$\text{textem} = \left[\text{signs; environments : anchors}\right],$$

$$\text{textem} = \left[\text{objects; environments : anchors}\right]$$

$$\text{textem} = \left[\text{morphisms; environments : anchors}\right]$$

$$\left[\begin{matrix} \textbf{textem} \\ \left[\left[\left[\begin{matrix}[\text{morph, morph}] \\ \text{Env}_{\text{intern}}\end{matrix}\right]\left[\begin{matrix}[\text{morph, morph}] \\ \text{Env}_{\text{intern}}\end{matrix}\right] \atop \left[\text{Env}_{\text{extern}}, \text{Env}_{\text{extern}}\right]\right] \atop \left[\left\langle \text{anchor}_{(1;2)} \right\rangle \parallel \left\langle \text{anchor}_{(2;1)} \right\rangle\right]\right]\end{matrix}\right]$$

Classifications of *signs* and diamonds as reductions of textems

sign = $\left[\text{morphism}; \emptyset : \emptyset\right]$,

$$\begin{bmatrix} \textbf{sign} \\ \begin{bmatrix} \begin{bmatrix} [1, 2, 3] \\ \emptyset \end{bmatrix} \\ \langle \emptyset; \emptyset \rangle \end{bmatrix} \end{bmatrix}, \begin{bmatrix} \textbf{anchord sign} \\ \begin{bmatrix} \begin{bmatrix} [1, 2, 3] \\ \emptyset \end{bmatrix} \\ \langle 1; \emptyset \rangle \end{bmatrix} \end{bmatrix},$$

$$\begin{bmatrix} \textbf{specul env} \\ \begin{bmatrix} \begin{bmatrix} [1, 2, 3] \\ \emptyset \end{bmatrix} \\ \langle \emptyset; 1 \rangle \end{bmatrix} \end{bmatrix}, \begin{bmatrix} \textbf{specul sign} \\ \begin{bmatrix} \begin{bmatrix} [1, 2, 3] \\ \emptyset \end{bmatrix} \\ \langle 1; 1 \rangle \end{bmatrix} \end{bmatrix},$$

$$\begin{bmatrix} \textbf{sem diamond} \\ \begin{bmatrix} \begin{bmatrix} [1, 2, 3] \\ 4 \end{bmatrix} \\ \langle \emptyset; \emptyset \rangle \end{bmatrix} \end{bmatrix}, \begin{bmatrix} \textbf{anch diamond} \\ \begin{bmatrix} \begin{bmatrix} [1, 2, 3] \\ 4 \end{bmatrix} \\ \langle 1; \emptyset \rangle \end{bmatrix} \end{bmatrix}, \begin{bmatrix} \textbf{anchord env} \\ \begin{bmatrix} \begin{bmatrix} [1, 2, 3] \\ 4 \end{bmatrix} \\ \langle \emptyset; 1 \rangle \end{bmatrix} \end{bmatrix},$$

$$\begin{bmatrix} \textbf{bi - sign} \\ \begin{bmatrix} \begin{bmatrix} [1, 2, 3] \\ 4 \end{bmatrix} \\ \langle 1; 1 \rangle \end{bmatrix} \end{bmatrix}.$$

$$\frac{\left[\left(M_{\alpha} \longrightarrow I_{\omega}\right) \diamond \left(I_{\alpha} \longrightarrow O_{\omega}\right)\right] \odot \left[\left(M_{\alpha} \longrightarrow I_{\omega}\right) \diamond \left(I_{\alpha} \longrightarrow O_{\omega}\right)\right]}{\left(M_{\alpha} \longrightarrow O_{\omega}\right) \Big| \left(\tilde{I_{\omega}} \rightleftarrows \tilde{I_{\alpha}}\right) \Big| \left(M_{\alpha} \longrightarrow O_{\omega}\right)}$$

Diamond composition rule for homogeneous textems

1-Kompositionen:

$(3_\alpha \rightarrow 1_\omega) \circ (1_\alpha \rightarrow 2_\omega) \rightarrow (3_\alpha \rightarrow 2_\omega) \mid (1_\omega \leftarrow 1_\alpha)$

$(2_\alpha \rightarrow 1_\omega) \circ (1_\alpha \rightarrow 3_\omega) \rightarrow (2_\alpha \rightarrow 3_\omega) \mid (1_\omega \leftarrow 1_\alpha)$

2-Kompositionen:

$(1_\alpha \rightarrow 2_\omega) \circ (2_\alpha \rightarrow 3_\omega) \rightarrow (1_\alpha \rightarrow 3_\omega) \mid (2_\omega \leftarrow 2_\alpha)$

$(3_\alpha \rightarrow 2_\omega) \circ (2_\alpha \rightarrow 1_\omega) \rightarrow (3_\alpha \rightarrow 1_\omega) \mid (2_\omega \leftarrow 2_\alpha)$

3-Kompositionen:

$(1_\alpha \rightarrow 3_\omega) \circ (3_\alpha \rightarrow 2_\omega) \rightarrow (1_\alpha \rightarrow 2_\omega) \mid (3_\omega \leftarrow 3_\alpha)$

$(2_\alpha \rightarrow 3_\omega) \circ (3_\alpha \rightarrow 1_\omega) \rightarrow (2_\alpha \rightarrow 1_\omega) \mid (3_\omega \leftarrow 3_\alpha)$

$$\frac{\left[(M_{\alpha} \longrightarrow I_{\omega}) \diamond (I_{\alpha} \longrightarrow O_{\omega})\right] \odot \left[(I_{\alpha} \longrightarrow M_{\omega}) \diamond (M_{\alpha} \longrightarrow O_{\omega})\right]}{(M_{\alpha} \longrightarrow O_{\omega}) \left\| \begin{array}{|c|} \hline \tilde{I}_{\omega} \longleftarrow \tilde{I}_{\alpha} \\ \tilde{M}_{\omega} \longleftarrow \tilde{M}_{\alpha} \\ \hline \end{array} \right\| (M_{\alpha} \longrightarrow O_{\omega})}$$

Diamond composition rule for heterogeneous textems

$$[(1_{\alpha} \to 3_{\omega}) \circ (3_{\alpha} \to 2_{\omega})] \odot [(3_{\alpha} \to 1_{\omega}) \circ (1_{\omega} \to 2_{\alpha})]$$

$$(1_{\alpha} \to 2_{\omega}) \quad \begin{vmatrix} \tilde{3}_{\omega} \leftarrow \tilde{3}_{\alpha} \\ \tilde{1}_{\omega} \leftarrow \tilde{1}_{\alpha} \end{vmatrix} \quad (1_{\alpha} \to 2_{\omega})$$

The bilateral interaction between the two isomorphic environments is a new topic added to the unilateral environment of diamonds.

$(1): \boxed{\tilde{I}_{\omega} \leftleftarrows \tilde{I}_{\alpha}}$:

In this case (1), both actors are agreeing to accept a common environment.

$(2): \boxed{\tilde{I}_{\omega} \rightleftarrows \tilde{I}_{\alpha}}$

In this case (2), both actors agree in the autonomy and simultaneity of their environments, which are accepted as their common environment.

$(3): \begin{array}{|c|} \hline \tilde{I}_{\omega} \longleftarrow \tilde{I}_{\alpha} \\ \tilde{M}_{\omega} \longleftarrow \tilde{M}_{\alpha} \\ \hline \end{array}$

In this case (3), two different environments are accepted as the common environment. A further task would be to analyze their intra-environmental structure of cooperation.

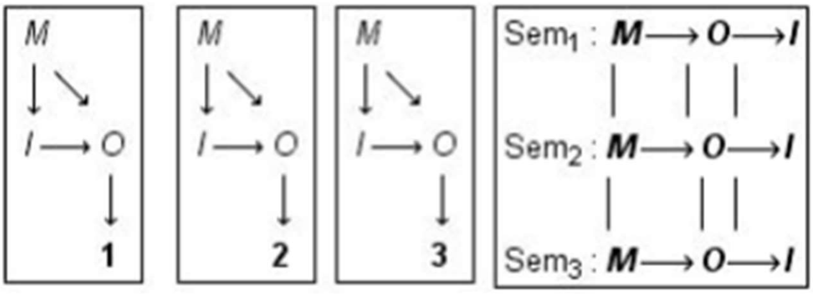
$(4): \begin{array}{|c|} \hline \tilde{I}_{\omega} \longleftarrow \tilde{I}_{\alpha} \\ \tilde{M}_{\omega} \longrightarrow \tilde{M}_{\alpha} \\ \hline \end{array}$

In this case (4), two different and antidromic environments are accepted as the common environment of the textem.

2.3. Polykontexturale Texteme

Polycontextural textems are introduced, in analogy to polycontextural formal systems, logics and arithmetics, as disseminated, i.e. distributed over kenomic loci and mediated by chiastic principles.

3-kontexturale Semiotik:



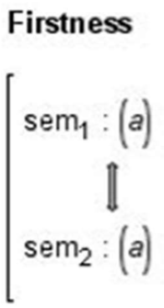
1 1 1 Sem1: M → O → I

↓ ↘ ↓ ↘ ↓ ↘ | | |

3 → 2 3 → 2 3 → 2 Sem1: M → O → I

↓ ↓ ↓ | | |

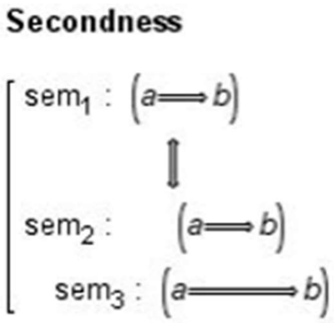
<u>1</u> <u>2</u> <u>3</u> Sem3: M → O → I



Sem1: (1)

↕

Sem2: (1)



Sem1: (1 → 2)

↕

Sem2: (1 → 2)

Sem3: (1 → 2)

Thirdness

$$\begin{bmatrix} sem_1: (a \Longrightarrow b \Longrightarrow c) \\ \Updownarrow \\ sem_2: \quad (a \Longrightarrow b \Longrightarrow c) \\ sem_3: (a \Longrightarrow b \Longrightarrow c) \end{bmatrix}$$

Sem1: $(1 \rightarrow 2 \rightarrow 3)$

$\updownarrow$

Sem2: $(1 \rightarrow 2 \rightarrow 3)$

Sem3: $(1 \quad \rightarrow \quad 2 \quad \rightarrow \quad 3)$

4-kontexturale Semiotik:

$$\begin{pmatrix} M_{1,3,4} & \Longrightarrow & O_{1,3}/M_2 \\ \downarrow & \times & \downarrow \\ I_{2,3,4} & \Longrightarrow & I_1/O_{2,4} \end{pmatrix}$$

with:

$sem_1: (M, O, I)$, $sem_2: (M, O, I)$, $sem_3: (M, O, I)$, $sem_4: (M, O, I)$

$$\begin{matrix} 1_{1,3,4} & \rightarrow & 2_{1,3}/1_2 \\ \downarrow & \times & \downarrow \\ 3_{2,3,4} & \rightarrow & 3_1/2_{2,4} \end{matrix}$$

Matching Conditions:

$1_1 \cong 1_3 \cong 1_4$

$2_1 \cong 1_2 \cong 2_3$

$3_1 \cong 2_2 \cong 2_4$

$3_2 \cong 3_3 \cong 3_4$

Such a modeling of a 4-contextural semiotics as a mediation of distributed 3-contextural semiotics, and its generalization, is not possible within the paradigm of classical semiotics and logic because it surpasses its principle of *irreflexive* identity of its objects and morphisms, i.e. an object O can't be at once a medium M, like for $O_{1,3}/M_2$. Reflexive identity is required, a mechanism I'm calling for strategic reasons since years the '*as-abstraction*' in contrast to the 'is-abstraction'.

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