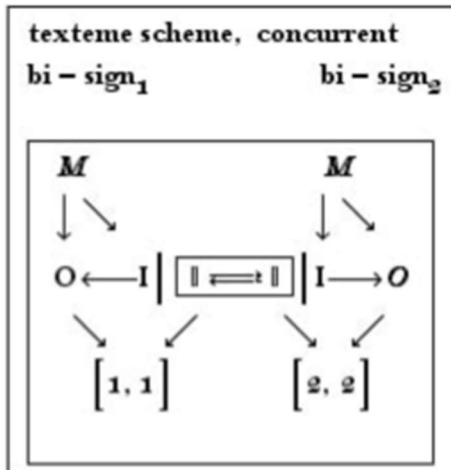


Prof. Dr. Alfred Toth

Bi-Signs bei semiotischen zellulären Automaten

1. Der Begriff und das formale Modell des Bi-Signs wurden von Kaehr (2009, S. 10) eingeführt.



Konstruiert man Bi-Signs mit Hilfe der numerischen Notation der Bense-Semiotik, so ergeben sich 6 Möglichkeiten von Bedeutungsfunktion und ihrer Konversen

$$2.1 \leftarrow 3.1$$

$$2.2 \leftarrow 3.1 \qquad 2.2 \leftarrow 3.2$$

$$2.3 \leftarrow 3.1 \qquad 2.3 \leftarrow 3.3 \qquad 2.3 \leftarrow 3.3,$$

die dann aber natürlich in die 10 Zeichenklassen unter Abschließung der Triaden durch den vollständigen Mittelbezug eingebettet werden können.

2. Benutzt man jedoch semiotische zelluläre Automaten (vgl. u.a. Toth 2018a, b), so ergeben sich ganz andere strukturelle Möglichkeiten, bi-signs auf kombinatorischem Wege zu erzeugen. Wir untersuchen im folgenden sowohl die triadisch-trichotomische als auch die tetradisch-tetratomische Semiotik.

2.1. Bi-signs bei $ZR^{3,3}$

$$\begin{array}{c} \blacksquare \blacksquare \blacksquare \equiv \blacksquare \blacksquare \blacksquare \end{array} \quad \text{bi-sign}$$

$$\begin{array}{c} \blacksquare \blacksquare \blacksquare \equiv \blacksquare \blacksquare \blacksquare \end{array}$$

$$\begin{array}{c} \blacksquare \blacksquare \blacksquare \equiv \blacksquare \blacksquare \blacksquare \end{array} \quad \text{bi-sign}$$

   $\equiv$    bi-sign

 $\equiv$ bi-sign

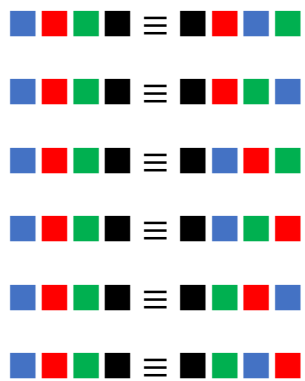
   $\equiv$    bi-sign

 $\equiv$  bi-sign

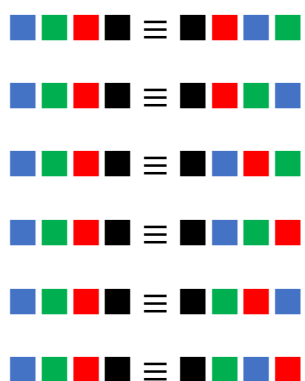
2.2. Bi-signs bei $ZR^{4,4}$

 bi-sign

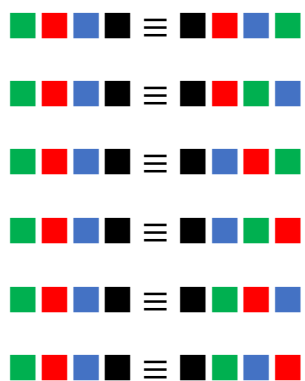
 bi-sign



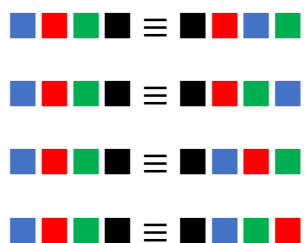
bi-sign



bi-sign



bi-sign

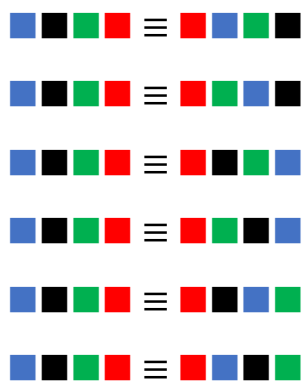


$$\begin{array}{l} \text{blue red green black} \equiv \text{black green red blue} \\ \text{blue red green black} \equiv \text{black green blue red} \end{array} \quad \text{bi-sign}$$

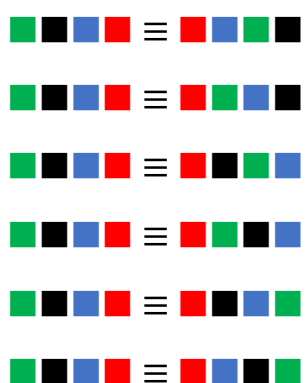
$$\begin{array}{l} \text{black green blue red} \equiv \text{red blue green black} \\ \text{black green blue red} \equiv \text{red green blue black} \\ \text{black green blue red} \equiv \text{red black green blue} \\ \text{black green blue red} \equiv \text{red green black blue} \\ \text{black green blue red} \equiv \text{red black blue green} \\ \text{black green blue red} \equiv \text{red blue black green} \end{array} \quad \text{bi-sign}$$

$$\begin{array}{l} \text{black blue green red} \equiv \text{red blue green black} \\ \text{black blue green red} \equiv \text{red green blue black} \\ \text{black blue green red} \equiv \text{red black green blue} \\ \text{black blue green red} \equiv \text{red green black blue} \\ \text{black blue green red} \equiv \text{red black blue green} \\ \text{black blue green red} \equiv \text{red blue black green} \end{array} \quad \text{bi-sign}$$

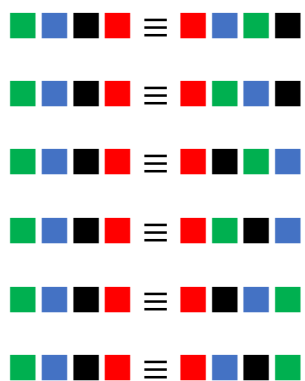
$$\begin{array}{l} \text{blue green black red} \equiv \text{red blue green black} \\ \text{blue green black red} \equiv \text{red green blue black} \\ \text{blue green black red} \equiv \text{red black green blue} \\ \text{blue green black red} \equiv \text{red green black blue} \\ \text{blue green black red} \equiv \text{red black blue green} \\ \text{blue green black red} \equiv \text{red blue black green} \end{array} \quad \text{bi-sign}$$



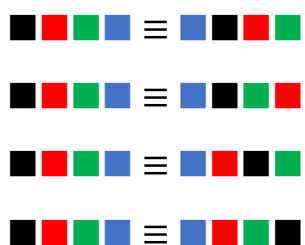
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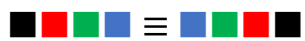
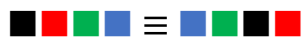


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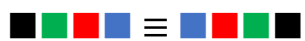
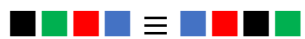
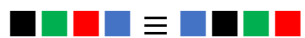
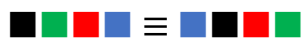


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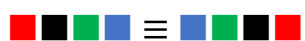
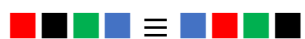
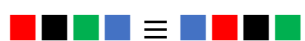
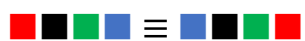
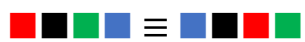
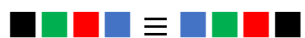
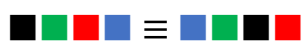




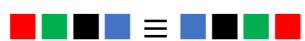
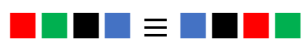
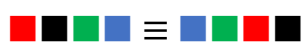
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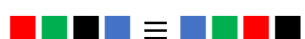
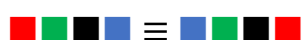
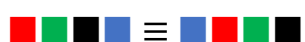
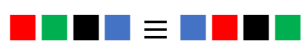
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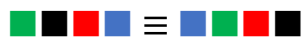
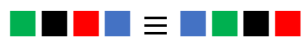
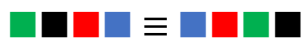
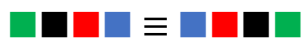
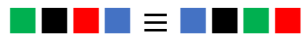
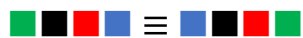


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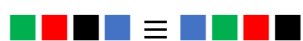
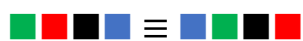
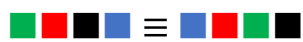
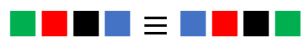
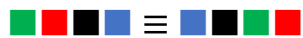
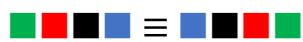


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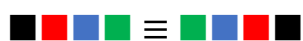
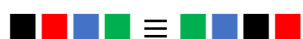
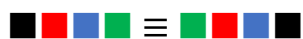
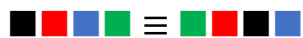
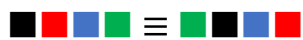
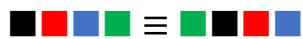




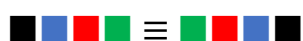
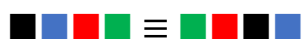
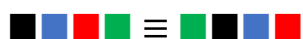
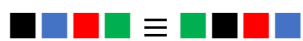
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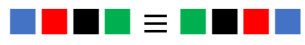
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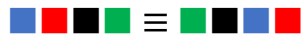


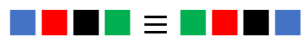
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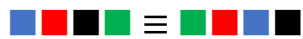


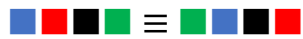
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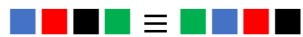

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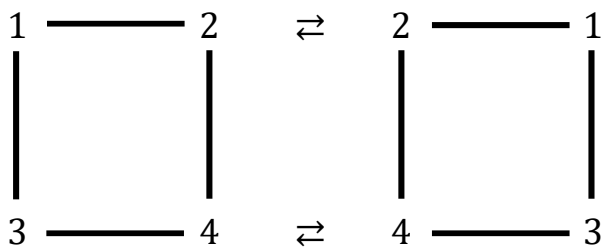




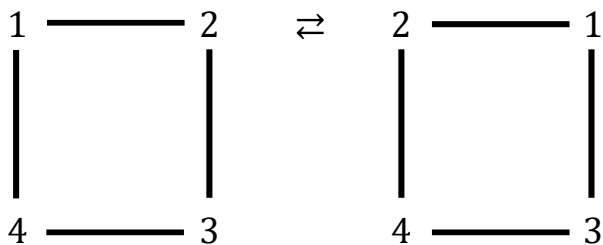




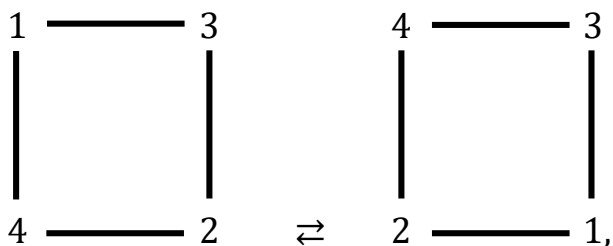
Das große Ungleichgewicht, das bei der tetradisch-tetratomischen Semiotik zwischen bi-signs und Nicht-bi-signs besteht, liegt natürlich daran, daß bei einem quadratischen statt einem triangulären Zeichenmodell jeweils verdoppelte Austauschrelationen der Form



für Reflexivität vorhanden sein müssen. Allerdings zerfällt ein Teil der Nicht-Bi-Signs in solcher der Form



oder



d.h. also mit einfacher statt doppelter Reflexivität. Hier sehe ich übrigens einen Weg zu den von Kaehr (2009) ebenfalls eingeführten textemes und ihrer Differenzierung zwischen homogenen und heterogenen textemes.

Literatur

Kaehr, Rudolf, XANADU's textemes. In: ThinkArt Lab (Glasgow), 2009

Toth, Alfred, Skizze einer semiotischen zellulären Automatentheorie. In: Electronic Journal for Mathematical Semiotics, 2018a

Toth, Alfred, Zelluläre Automaten permutationeller semiotischer Adjunktion. In: Electronic Journal for Mathematical Semiotics, 2018b

27.12.2018