

Prof. Dr. Alfred Toth

Nachbarschaften regulärer und irregulärer semiotischer Systeme und ihrer Umgebungen

1. Diese Untersuchung schließt unmittelbar an Toth (2013a) an. Wie bereits in Toth (2013b) ausgeführt, korrespondiert der systemtheoretische Umgebungsoperator U mit dem semiotischen Dualisationsoperator (vgl. Bense 1975, S. 100 ff.), für den bekanntlich gilt

$$\times(ZTh) = RTh$$

$$\times(RTh) = ZTh$$

und also

$$\times\times(ZTh) = RTh.$$

Für den in Toth (2013c) eingeführten Nachbarschaftsoperator N gilt somit, daß er in den beiden folgenden Formen auftreten kann

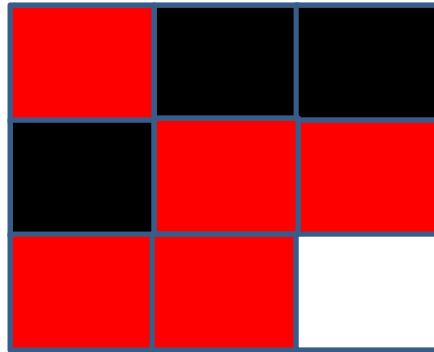
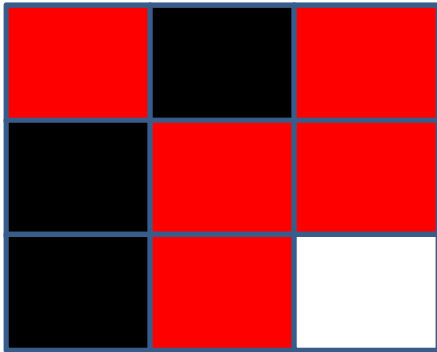
$$N(ZTh) = N(\times(RTh))$$

$$N(RTh) = N(\times(ZTh)).$$

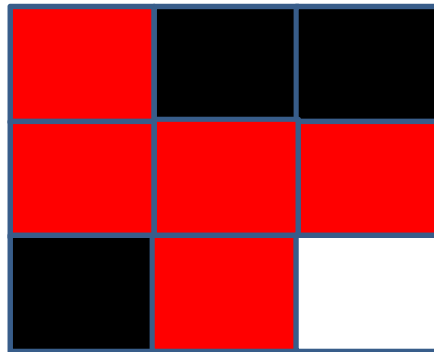
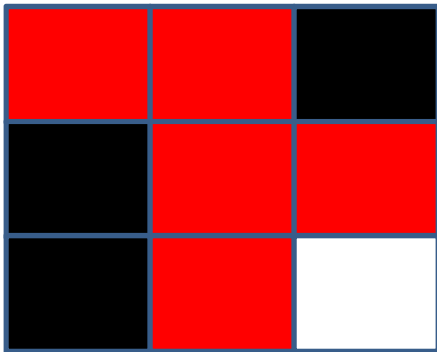
In den folgenden Matrizen werden die semiotischen Subrelationen der regulären und irregulären Dualsysteme schwarz und ihre Nachbarschaften rot markiert. Irreguläre Dualsysteme sind wiederum durch Asterisk gekennzeichnet.

$$2.1. DS = [(3.1, 2.1, 1.1) \times (1.1, 1.2, 1.3)]$$

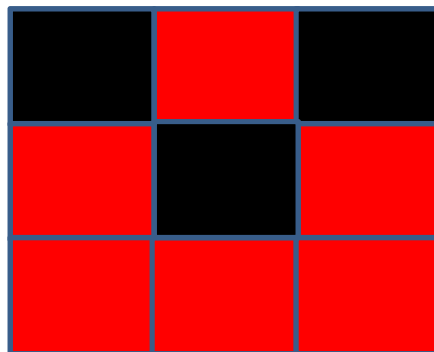
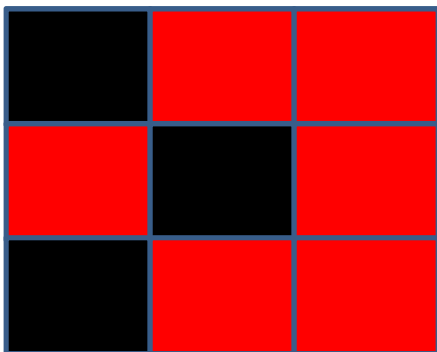
$$2.2. DS = [(3.1, 2.1, 1.2) \times (2.1, 1.2, 1.3)]$$



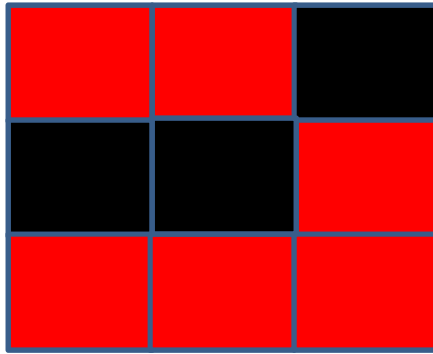
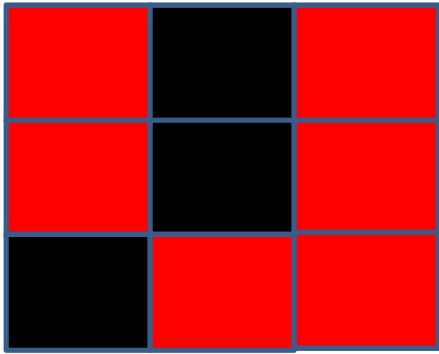
$$2.3. DS = [(3.1, 2.1, 1.3) \times (3.1, 1.2, 1.3)]$$



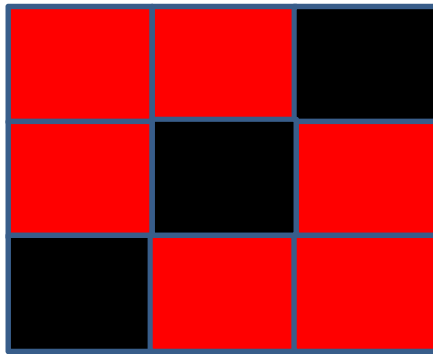
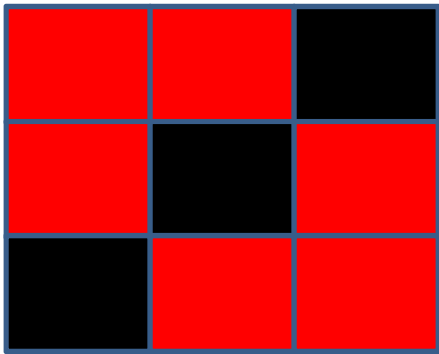
$$2.4. *DS = [(3.1, 2.2, 1.1) \times (1.1, 2.2, 1.3)]$$



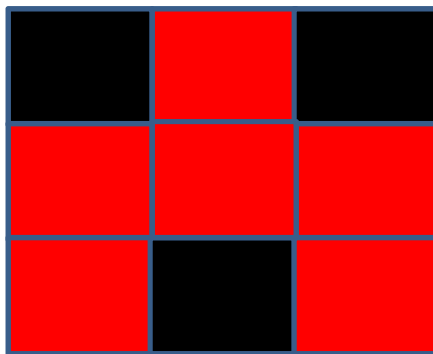
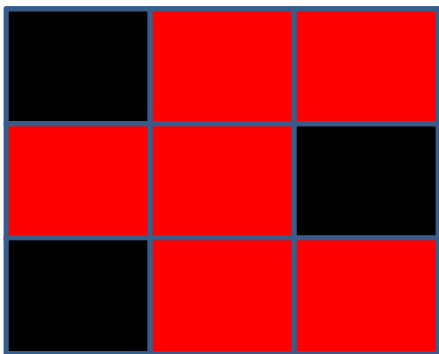
$$2.5. DS = [(3.1, 2.2, 1.2) \times (2.1, 2.2, 1.3)]$$



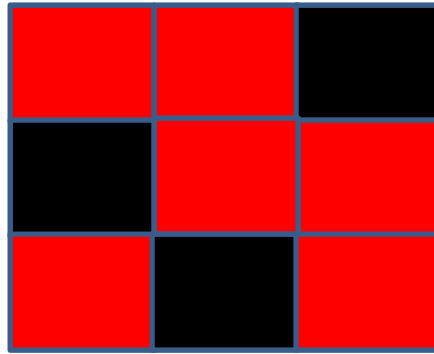
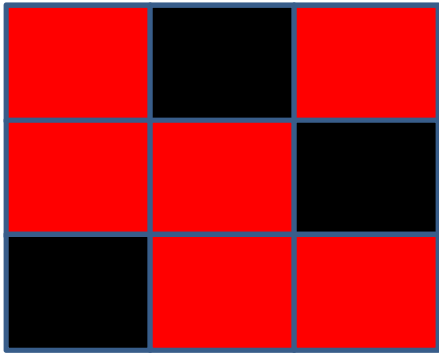
$$2.6. DS = [(3.1, 2.2, 1.3) \times (3.1, 2.2, 1.3)]$$



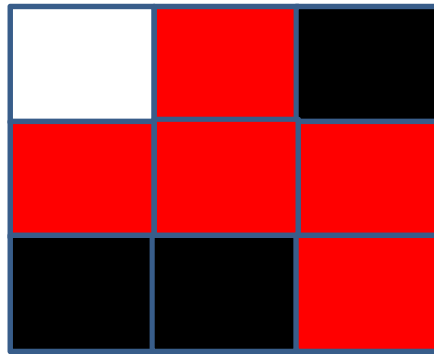
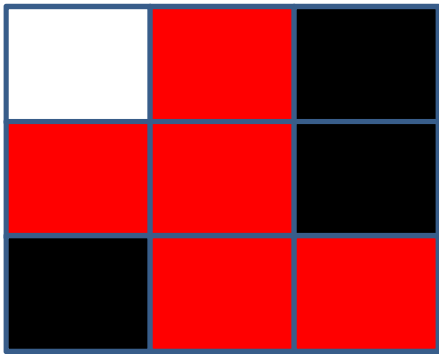
$$2.7. *DS = [(3.1, 2.3, 1.1) \times (1.1, 3.2, 1.3)]$$



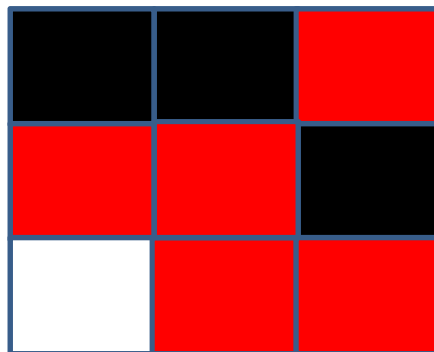
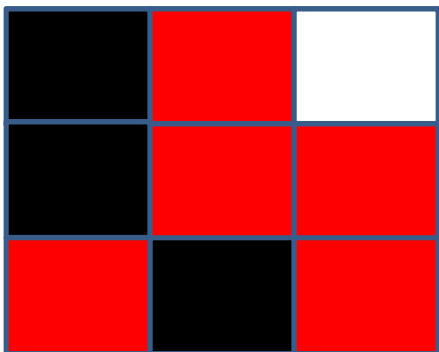
$$2.8. *DS = [(3.1, 2.3, 1.2) \times (2.1, 3.2, 1.3)]$$



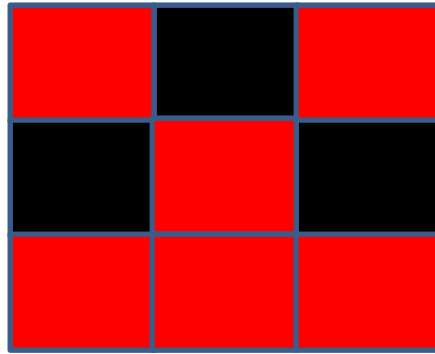
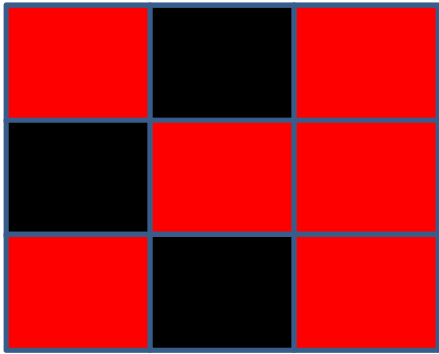
$$2.9. DS = [(3.1, 2.3, 1.3) \times (3.1, 3.2, 1.3)]$$



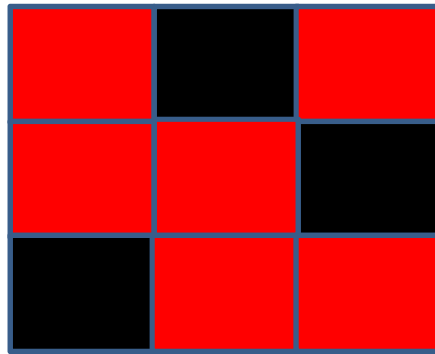
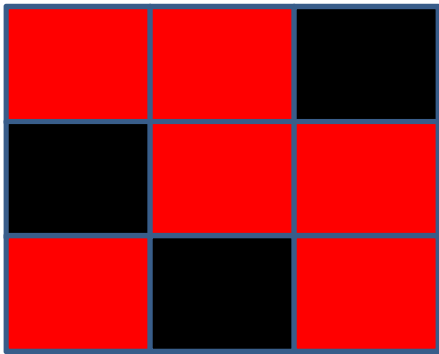
$$2.10. *DS = [(3.2, 2.1, 1.1) \times (1.1, 1.2, 2.3)]$$



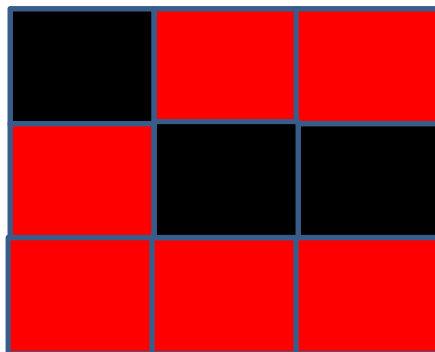
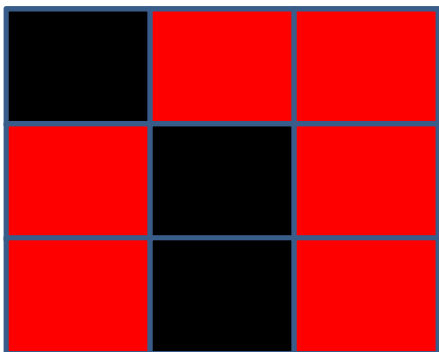
$$2.11. *DS = [(3.2, 2.1, 1.2) \times (2.1, 1.2, 2.3)]$$



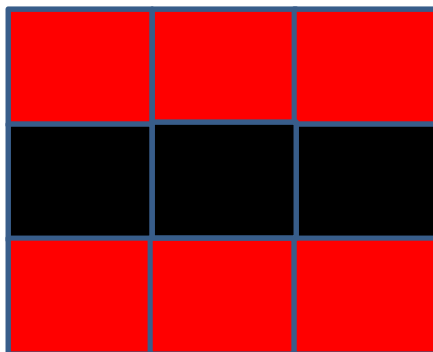
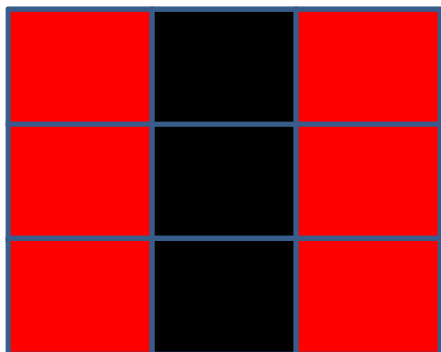
$$2.12. *DS = [(3.2, 2.1, 1.3) \times (3.1, 1.2, 2.3)]$$



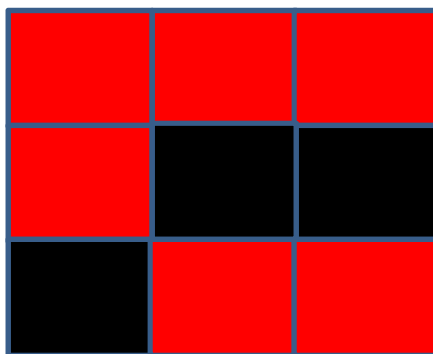
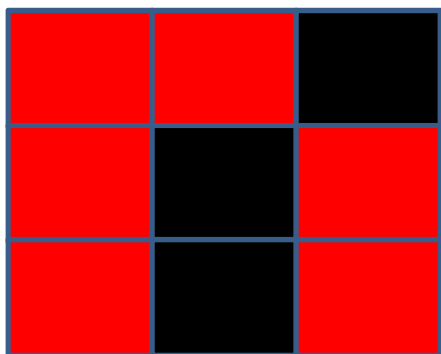
$$2.13. *DS = [(3.2, 2.2, 1.1) \times (1.1, 2.2, 2.3)]$$



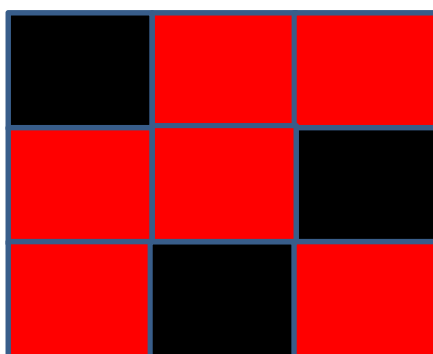
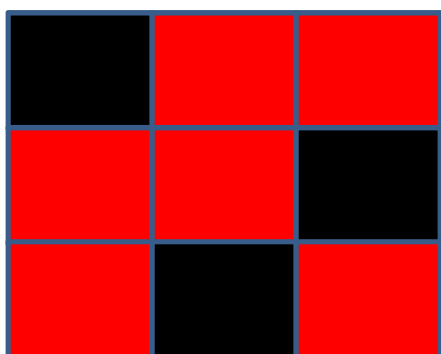
$$2.14. DS = [(3.2, 2.2, 1.2) \times (2.1, 2.2, 2.3)]$$



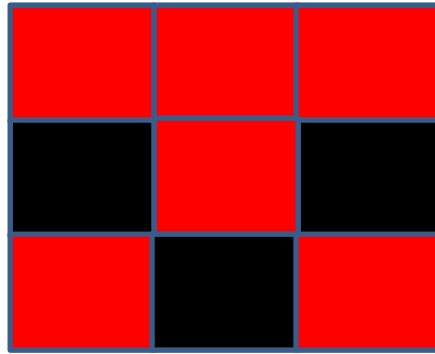
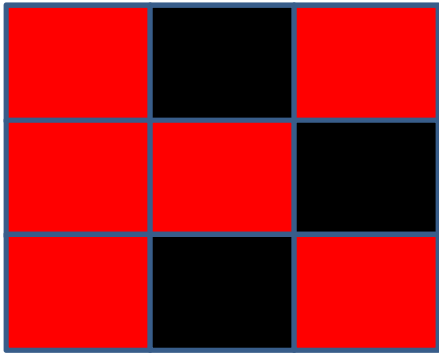
$$2.15. DS = [(3.2, 2.2, 1.3) \times (3.1, 2.2, 2.3)]$$



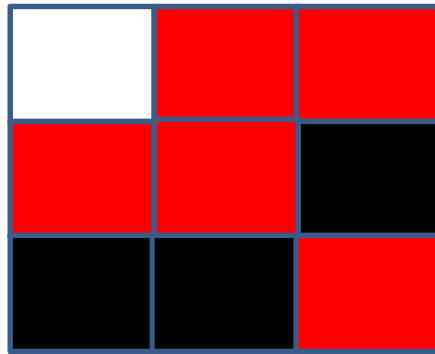
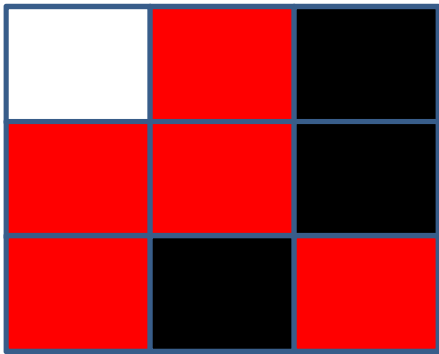
$$2.16. *DS = [(3.2, 2.3, 1.1) \times (1.1, 3.2, 2.3)]$$



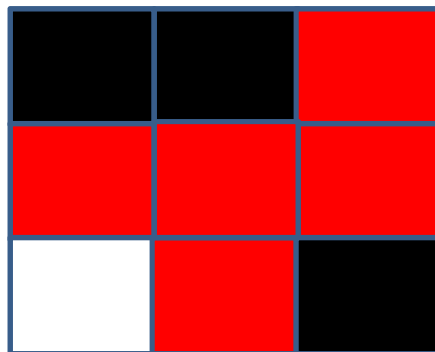
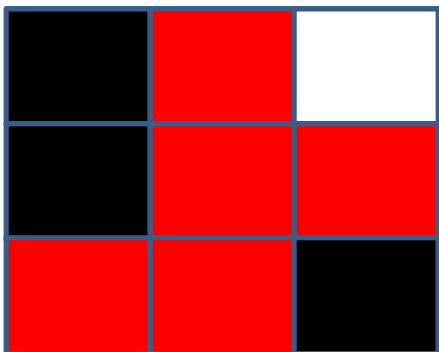
$$2.17. *DS = [(3.2, 2.3, 1.2) \times (2.1, 3.2, 2.3)]$$



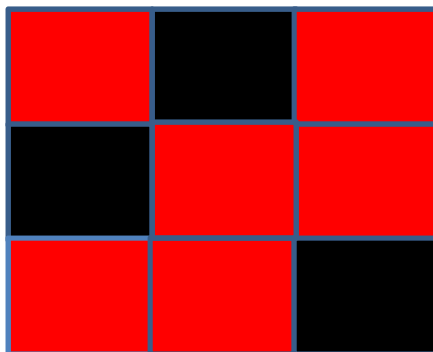
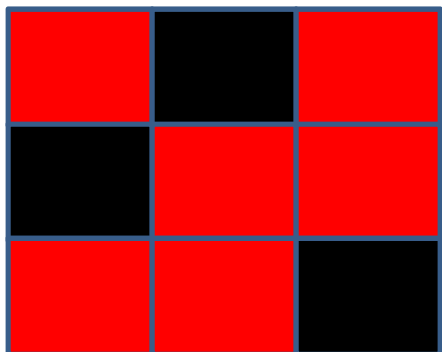
$$2.18. DS = [(3.2, 2.3, 1.3) \times (3.1, 3.2, 2.3)]$$



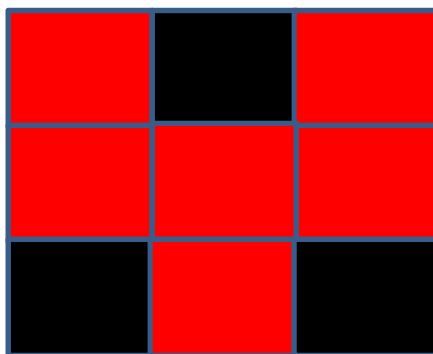
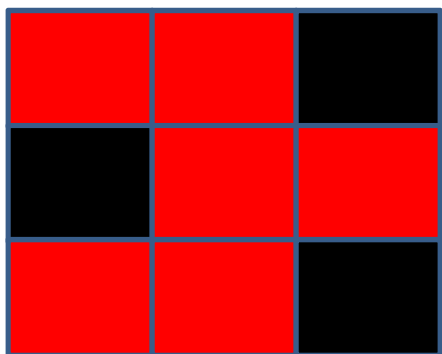
$$2.19. *DS = [(3.3, 2.1, 1.1) \times (1.1, 1.2, 3.3)]$$



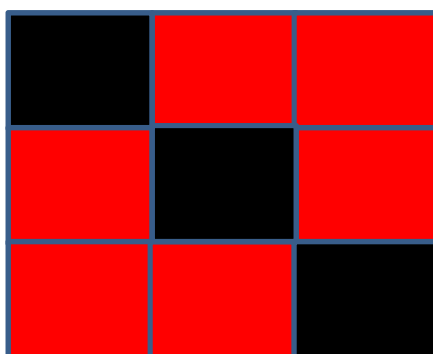
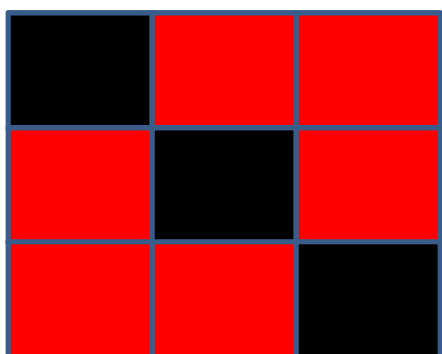
$$2.20. *DS = [(3.3, 2.1, 1.2) \times (2.1, 1.2, 3.3)]$$



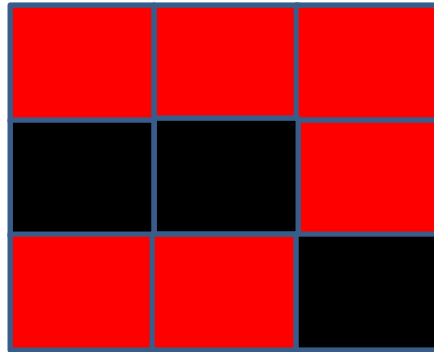
$$2.21. *DS = [(3.3, 2.1, 1.3) \times (3.1, 1.2, 3.3)]$$



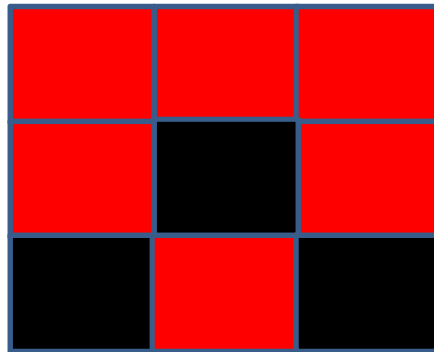
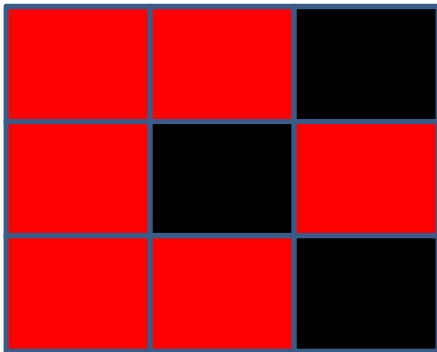
$$2.22. *DS = [(3.3, 2.2, 1.1) \times (1.1, 2.2, 3.3)]$$



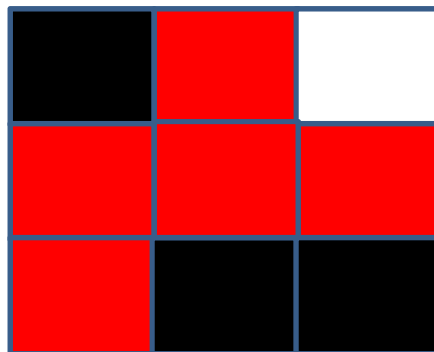
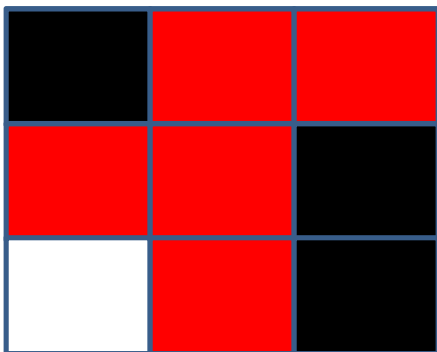
$$2.23. *DS = [(3.3, 2.2, 1.2) \times (2.1, 2.2, 3.3)]$$



$$2.24. *DS = [(3.3, 2.2, 1.3) \times (3.1, 2.2, 3.3)]$$



$$2.25. *DS = [(3.3, 2.3, 1.1) \times (1.1, 3.2, 3.3)]$$



$$2.26. *DS = [(3.3, 2.3, 1.2) \times (2.1, 3.2, 3.3)]$$

Red	Black	Red
Red	Red	Black
White	Red	Black

Red	Red	White
Black	Red	Red
Red	Black	Black

$$2.27. DS = [(3.3, 2.3, 1.3) \times (3.1, 3.2, 3.3)]$$

White	Red	Black
White	Red	Black
White	Red	Black

White	White	White
Red	Red	Red
Black	Black	Black

Wie man erkennt, gibt es in kleinen semiotischen Matrizen genau 3 Typen semiotischer Nachbarschaften, nämlich solche mit 0, 1 und 3 nichttrivialen Umgebungen von Nachbarschaften. 3 Umgebungen von Nachbarschaften weisen nur die 3 linearen semiotischen Relationen, die sog. Hauptzeichenklassen, auf. Von besonderem Interesse ist der Typus der semiotischen Relationen mit jeweils 1 nichttrivialen Umgebung von Nachbarschaften, denn er findet sich nur bei solchen Dualsystemen, die in ihren Trichotomien entweder verdoppelte Erst- oder Drittheit aufweisen. Bei diesen finden sich nämlich jeweils zwei Einträge für die entsprechenden Subrelationen entweder am linken oder am rechten Rand der Matrizen. Hier liegt ein noch genauer zu untersuchendes semiotisch-systemtheoretisch-topologisches Gesetz vor.

Literatur

Bense, Max, Semiotische Prozesse und Systeme. Baden-Baden 1975

Toth, Alfred, Strukturen regulärer und irregulärer Dualsysteme über der kleinen semiotischen Matrix. In: Electronic Journal for Mathematical Semiotics, 2013a

Toth, Alfred, Die Struktur der Umgebungstypen von Paaren dyadischer Subrelationen in der großen semiotischen Matrix. In: Electronic Journal for Mathematical Semiotics, 2013b

Toth, Alfred, Semiotische Grenzen, Ränder, Umgebungen und Nachbarschaften. In: Electronic Journal for Mathematical Semiotics, 2013c

6.1.2014