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Grundlegung einer polykontexturalen Semiotik

Tucson, AZ, 2019

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Vorwort

> Dem Menschen, der die Erfahrung macht, daß es intensivere und höhere Formen des geistigen Lebens gibt, als sie durch die humane Gestalt repräsentiert werden, bleibt nichts übrig, als aus der Menschheit zu desertieren. Denn es ist die kategorische Pflicht des Bewußtseins, in sich die höchste Form des Erlebens zu realisieren, deren es überhaupt fähig ist.
>
> Gotthard Günther (1952, S. 232)

Genauso wie die Mathematik, die an Schulen und Universitäten gelehrt wird, durch die 2-wertige aristotelische Logik und damit durch die drei Grundgesetze des Denkens, den Satz der Identität, den Satz vom Ausgeschlossenen Dritten und den Satz vom Verbotenen Widerspruch, als rein quantitatives System etabliert ist, ist es auch die von Peirce und Bense inaugurierte Theoretische Semiotik. Bedenkt man allerdings, daß zwar die Zahl tatsächlich eine Quantität ist, daß hingegen das Zeichen als ein Etwas definiert wird, das eine Relation von der Zahl zu Bedeutung und Sinn und damit zur Qualität eingeht, dann erhebt sich die Frage, ob es nicht viel sinnvoller sei, die Semiotik mittels der von Günther, Kronthaler und Kaehr inaugurierten qualitativen Mathematik zu redefinieren.

Als erster hatte diese durch die logische Zweiwertigkeit verursachte Differenz von Zahl und Zeichen Kronthaler formuliert: „Zeichen sind hier (mindestens) doppelt begrenzt: einmal durch ihre Materialität und Objekthaftigkeit, ferner durch das ihnen ewig transzendente Bezeichnete, das Objekt. Kenogramme (kenos = leer), Leer-schriften also, 'Leerzeichen', die von beliebigen Zeichen und Werten belegt werden können, Gestelle für Zeichen, unterliegen dieser doppelten Begrenzung nicht“ (1992, S. 292). Kronthaler schlägt dann anstelle des peirceschen triangulären Modells ein mäandrisches Zeichenmodell einer „abgeschlossen-offenen, ihre eigene Geortetheit mitreflektierenden Vierheit“ (ibd.) vor. Dabei blieb es allerdings vorerst.

Mein eigener, 2003 publizierter Versuch einer „Hochzeit von Semiotik und Struktur“ (einem Titel, der auf eine Bezeichnung Kronthalers zurückgeht) wollte, ausgehend von Kronthalers „Mathematik der Qualitäten“ (1986), die Kenogrammstrukturen und Morphogrammsequenzen für alle drei in der Polykontexturalitätstheorie unterschiedenen Zahlenarten, d.h. Proto-, Deutero- und Tritozahlen, als eine polykontexturale Semiotik etablieren, in der Überzeugung,

eine solche kreieren zu können, indem die bestehenden polykontexturalen Systeme einfach mit semiotischen statt mit logischen oder mathematischen Werten belegt werden.

Dieser Versuch muß aus heutiger Sicht als mißglückt bezeichnet werden. Erst die Weiterführung und rigorose Formalisierung der Polykontexturalitätstheorie durch Rudolf Kaehr (und besonders die enge Zusammenarbeit zwischen seinem und meinem Institut ab 2007) führte in einer langen Reihe von Jahren und durch zahlreiche publizierte Arbeiten schrittweise zur Konstruktion einer echten polykontexturalen Semiotik. Während sich jedoch Kaehr auf die Konexturierung der triadisch-trichotomischen (sowie logisch höherer) semiotischer Relationen beschränkte, hatte ich im Sinne, die alte Idee der Kreation einer morphogrammatischen Semiotik neu aufzunehmen. Leider kam der Durchbruch erst vor wenigen Monaten und fast drei Jahre nach dem Tode Kaehrs.

Im vorliegenden Buch wird eine polykontexturale Logik systematisch aufgebaut, von den Abbildungen der monokontexturalen Peanozahlen durch die Schadach-Definitionen auf die drei polykontexturalen Zahlen und unter Benutzung der Morphogrammatik von Kaehr und Mahler (1993) über die Theorie kategorientheoretischer Diamanten von Kaehr (2007) bis hin zu meinem erst jüngst geführten Beweis, daß eine dyadisch-trichotomische Semiotik für 3 Werte nur die Ebene der Proto- und Deuterozahlen und erst für 4 Werte die Ebene der Tritozahlen – und damit das vollständige morphogrammatische System erfüllt. Wesentlich ist, daß man Abschied nimmt vom kategorial definierten peirce-benseschen drittheitlichen Interpretantenbezug und daß man Zeichenkonnexe statt dessen durch topologische closures definiert. Dadurch wird es möglich, nicht nur 3- und 4-wertige, sondern auch höherwertige Semiotiken zu konstruieren, ohne an dem nun kategorial dyadischen Zeichenmodell zu rütteln. Als schöner *side effect* ergibt sich ferner die Isomorphie dieser neuen Zeichenrelation mit denjenigen, die den dyadischen Semiotiken, v.a. derjenigen de Saussures, zugrunde liegen.

Das vorliegende Buch, das kurz vor dem 1. Todestag meiner geliebten Frau Rose M. Davila († 6.5.2018) erscheint, stellt mein Lebenswerk dar. Es ist Rose in Liebe und Dankbarkeit gewidmet.

Tucson, AZ, 11.4.2019 Prof. Dr. Alfred Toth

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I. Die Abbildungen der Peanozahlen auf die polykontexturalen Zahlen

1. Seien A und B zwei nichtleere endliche Mengen

$A = (a_1, a_2, ..., a_n)$

$B = (b_1, b_2, ..., b_n)$.

B^A bezeichne die Menge aller Abbildungen μ von A auf B

$B^A = (\mu \mid \mu: A \rightarrow B)$.

Dann ist die Kardinalität von B^A

$\text{card } B^A = (\text{card } B)^{\text{card } A} = m^n$

2. Bezeichne $\backsim^p$ die Proto-Äquivalenz. Die Proto-Äquivalenz zweier Abbildungen μ_1 und μ_2 von B^A ist gegeben durch

DEFINITION 1: $\mu_1 \backsim^p \mu_2 \Leftrightarrow \text{card A/ker } \mu_1 = \text{card A/ker } \mu_2$.

Wie man leicht sieht, ist die Proto-Äquivalenz reflexiv, symmetrisch und transitiv. Damit wird B^A in paarweise disjunkte nichtleere Teilmengen partitioniert, deren Anzahl

$\text{card } B^A / \backsim^p = \min(\text{card A}, \text{card B})$

ist.

3. Bezeichne $\backsim^d$ die Deutero-Äquivalenz.

DEFINITION 2: $\mu_1 \backsim^d \mu_2 \Leftrightarrow \text{A/ker } \mu_1 \equiv \text{A/ker } \mu_2$.

Offensichtlich ist die Deutero-Äquivalenz ebenfalls reflexiv, symmetrisch und transitiv. Ihre Anzahl ist

$\text{card } B^A / \backsim^d = \sum_{k=1}^{M} P(n, k)$,

darin $M = \min(\text{card A}, \text{card B})$, $n = \text{card A}$, und $P(n, k) =$ Anzahl der Partitionen von n in k ganzzahlige Summanden ohne Berücksichtigung der Ordnung.

4. Bezeichne $\backsim^t$ die Trito-Äquivalenz.

DEFINITION 3: $\mu_1 \backsim^t \mu_2 \Leftrightarrow \text{A/ker } \mu_1 = \text{A/ker } \mu_2$,

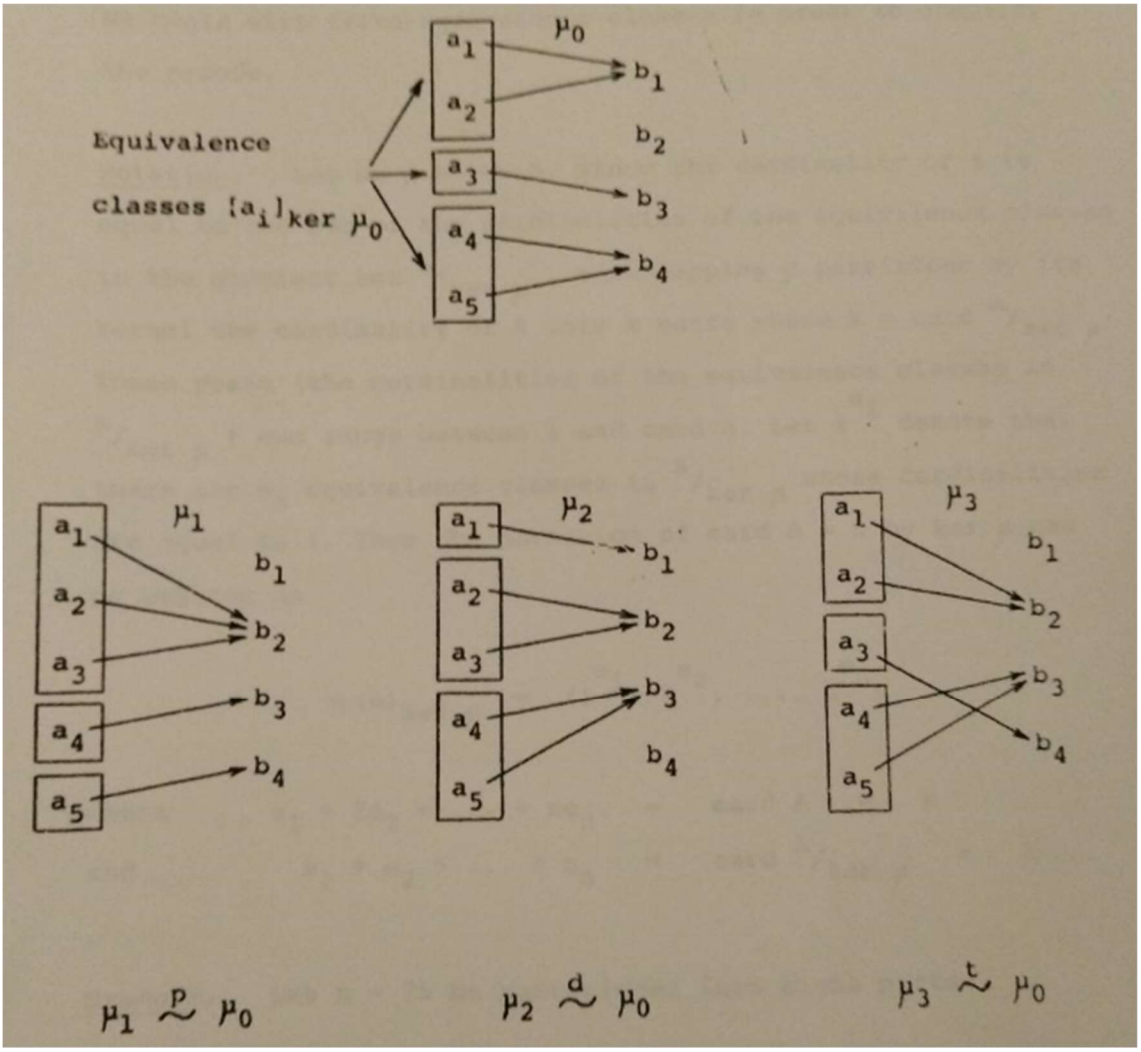
d.h. $(a_i)_{\ker \mu 1} = (a_i)_{\ker \mu 2}$ für alle $a_i \in A$.

Auch die Trito-Äquivalenz ist also reflexiv, symmetrisch und transitiv. Somit wird B^A in disjunkte Teilmengen partitioniert, deren Anzahl gegeben ist durch

$$\text{card } B^A / \backsim^t = \sum_{k=1}^{M} S(n,k),$$

darin M = min(card A, card B), n = card A, und S(n, k) = Anzahl der Möglichkeiten, eine Menge von n Elementen in k nichtleere Teilmengen zu partitionieren. S(n, k) sind also die Stirling-Zahlen 2. Art.

Informell ausgedrückt, werden also bei protoäquivalenten Zahlen nur die verschiedenen Symbole (Werte), bei deuteroäquivalenten Zahlen nur die verschiedenen und die gleichen Symbole (Werte), und bei tritoäquivalenten Zahlen die verschiedenen und die gleichen Symbole (Werte) sowie deren Ort berücksichtigt. Zur Illustration der durch die drei Definitionen erzeugten Schadach-Abbildungen sei die folgende Tafel aus Schadach (1967, S. 10) gegeben.



II. Voraussetzungen einer polykontexturalen Semiotik I

1. In Toth (2019a) hatten wir argumentiert, daß die Definition der drittheitlichen Trichotomie überflüssig und zudem inkonsistent ist, weil sie erstens die logische Subjektposition repräsentiert, aber von Peirce, Bense und Walther (1979) topologisch und logisch definiert wird. Zweitens weil der Zusammenhang von Zeichen ein Problem einer Zeichensyntax ist, aber keine Eigenschaft des Zeichens selbst (vgl. Klaus 1962). Bense selbst hatte das Zeichen wiederholt rein mathematisch definiert, so etwa kategorietheoretisch in (1979, S. 53 u. 67) oder zahlentheoretisch in (1981, S. 17 ff.). Drittens lassen sich die ersten zwei Trichotomien durch

(x.1): $Z = f(\Omega)$

(x.2): $Z = f(\omega, t)$

(x.3): $Z \neq f(\Omega)$

mit $x \in (1, 2)$ definieren, was jedoch für die dritte Trichotomie nicht möglich ist, da der Zusammenhang von Zeichen keine Funktion des Objektes, sondern eine solche einer Menge von Zeichen ist

$Z = f((Z))$.

Für den Trivialfall, daß die Menge aus dem Zeichen selbst besteht, gilt dann natürlich

$Z = f(Z)$.

Es genügt also völlig, von der semiotischen 2×3-Teilmatrix

	.1	.2	.3
1.	1.1	1.2	1.3
2.	2.1	2.2	2.3

auszugehen und jedes Subzeichen der Form

$S = (x.y)$

mit $x \in (1, 2)$ und $y \in (1, 2, 3)$

durch

$(x.1) = f(\Omega)$

$(x.2) = f(\omega, t)$

$(x.3) \neq f(\Omega)$

zu definieren. Ein offener Konnex kann dann definiert werden durch

(x.y),

ein abgeschlossener Konnex durch

(x.y] oder [x.y)

und ein vollständiger Konnex durch

[x.y].

2. Bekanntlich wurde die auf der 3 × 3-Matrix definierte triadisch-trichotomische Zeichenrelation Benses (vgl. Bense 1975, S. 37) als eine „verschachtelte Relation“ bzw. als eine „Relation über Relationen“ durch Bense (1979, S. 53 u. 67) wie folgt eingeführt

$Z^{3,3} = (M \to ((M \to O) \to (M \to O \to I)))$,

d.h. jede Teilrelation der Stufe $n = 1$ ist in den Teilrelationen der Stufen $n > 1$ eingebettet.

Gehen wir also aus von

$Z^{2,3} = ((w.x), (y.z))$

und setzen $(w.x) = A$ und $(y.z) = B$,

dann können wir auch die dyadisch-trichotomische Zeichenrelation als Relation über Relationen darstellen, und zwar auf 6-fache Weise

$Z^{2,3} = (A, B) = ((w.x), (y.z))$	keine Einbettung
$Z^{2,3} = ((A), B) = (((w.x)), (y.z))$	nur A links eingebettet
$Z^{2,3} = ((B), A) = (((y.z)), (w.x))$	nur B links eingebettet
$Z^{2,3} = (B, (A)) = ((y.z), ((w.x)))$	nur A rechts eingebettet
$Z^{2,3} = (A, (B)) = ((w.x), ((y.z)))$	nur B rechts eingebettet
$Z^{2,3} = ((A, B)) = (((w.x), (y.z)))$	A und B eingebettet

Damit haben wir außerdem eine Isomorphie zwischen der in Toth (2015) ebenfalls auf 6-fache Weise darstellbaren Logik L* und $Z^{2,3}$ gefunden. Will man nämlich die Reflexionsidentität der klassischen 2-wertigen aristotelischen Logik

L = (0, 1)

aufheben, ohne das Gesetz des Tertium non datur zu verletzen, so kann man dies durch Einführung eines Einbettungsoperators E mit

E: x → (x)

tun. Dadurch erhält man folgende Abbildung

L → L* = ((0, 1), ((0), 1), ((1), 0), (0, (1)), (1, (0)), ((0, 1))),

und damit

$Z^{2,3}$ ≅ L*.

Die 36 möglichen dyadisch-trichotomischen semiotischen Relationen

(1.1, 2.1)	(1.1, 2.1]	[1.1, 2.1)	[1.1, 2.1]
(1.1, 2.2)	(1.1, 2.2]	[1.1, 2.2)	[1.1, 2.2]
(1.1, 2.3)	(1.1, 2.3]	[1.1, 2.3)	[1.1, 2.3]
(1.2, 2.1)	(1.2, 2.1]	[1.2, 2.1)	[1.2, 2.1]
(1.2, 2.2)	(1.2, 2.2]	[1.2, 2.2)	[1.2, 2.2]
(1.2, 2.3)	(1.2, 2.3]	[1.2, 2.3)	[1.2, 2.3]
(1.3, 2.1)	(1.3, 2.1]	[1.3, 2.1)	[1.3, 2.1]
(1.3, 2.2)	(1.3, 2.2]	[1.3, 2.2)	[1.3, 2.2]
(1.3, 2.3)	(1.3, 2.3]	[1.3, 2.3)	[1.3, 2.3]

müssen somit je 6-fach ausdifferenziert werden. Dadurch erhält man also 6 mal 36 = 216 durch E differenzierbare topologische semiotische Relationen

(1.1, 2.1)	((1.1), 2.1)	(1.1, (2.1))	((2.1), 1.1)	(2.1, (1.1))	((2.1, 1.1))
(1.1, 2.1]	((1.1), 2.1]	(1.1, (2.1)]	((2.1), 1.1]	(2.1, (1.1)]	((1.1, 2.1)]
[1.1, 2.1)	[(1.1), 2.1)	[1.1, (2.1))	[(2.1), 1.1)	[2.1, (1.1))	[(1.1, 2.1))

[1.1, 2.1]	[(1.1), 2.1]	[1.1, (2.1)]	[(2.1), 1.1]	[2.1, (1.1)]	[(1.1, 2.1)]
(1.1, 2.2)	((1.1), 2.2)	(1.1, (2.2))	((2.2), 1.1)	(2.2, (1.1))	((1.1, 2.2))
(1.1, 2.2]	((1.1), 2.2]	(1.1, (2.2)]	((2.2), 1.1]	(2.2, (1.1)]	((1.1, 2.2)]
[1.1, 2.2)	[(1.1), 2.2)	[1.1, (2.2))	[(2.2), 1.1)	[2.2, (1.1))	[(1.1, 2.2))
[1.1, 2.2]	[(1.1), 2.2]	[1.1, (2.2)]	[(2.2), 1.1]	[2.2, (1.1)]	[(1.1, 2.2)]
(1.1, 2.3)	((1.1), 2.3)	(1.1, (2.3))	((2.3), 1.1)	(2.3, (1.1))	((1.1, 2.3))
(1.1, 2.3]	((1.1), 2.3]	(1.1, (2.3)]	((2.3), 1.1]	(2.3, (1.1)]	((1.1, 2.3)]
[1.1, 2.3)	[(1.1), 2.3)	[1.1, (2.3))	[(2.3), 1.1)	[2.3, (1.1))	[(1.1, 2.3))
[1.1, 2.3]	[(1.1), 2.3]	[1.1, (2.3)]	[(2.3), 1.1]	[2.3, (1.1)]	[(1.1, 2.3)]
(1.2, 2.1)	((1.2), 2.1)	(1.2, (2.1))	((2.1), 1.2)	(2.1, (1.2))	((1.2, 2.1))
(1.2, 2.1]	((1.2), 2.1]	(1.2, (2.1)]	((2.1), 1.2]	(2.1, (1.2)]	((1.2, 2.1)]
[1.2, 2.1)	[(1.2), 2.1)	[1.2, (2.1))	[(2.1), 1.2)	[2.1, (1.2))	[(1.2, 2.1))
[1.2, 2.1]	[(1.2), 2.1]	[1.2, (2.1)]	[(2.1), 1.2]	[2.1, (1.2)]	[(1.2, 2.1)]
(1.2, 2.2)	((1.2), 2.2)	(1.2, (2.2))	((2.2), 1.2)	(2.2, (1.2))	((1.2, 2.2))
(1.2, 2.2]	((1.2), 2.2]	(1.2, (2.2)]	((1.2), 2.2]	(1.2, (2.2)]	((1.2, 2.2)]
[1.2, 2.2)	[(1.2), 2.2)	[1.2, (2.2))	[(2.2), 1.2)	[2.2, (1.2))	[(1.2, 2.2))
[1.2, 2.2]	[(1.2), 2.2]	[1.2, (2.2)]	[(2.2), 1.2]	[2.2, (1.2)]	[(1.2, 2.2)]
(1.2, 2.3)	((1.2), 2.3)	(1.2, (2.3))	((2.3), 1.2)	(2.3, (1.2))	((1.2, 2.3))
(1.2, 2.3]	((1.2), 2.3]	(1.2, (2.3)]	((2.3), 1.2]	(2.3, (1.2)]	((1.2, 2.3)]
[1.2, 2.3)	[(1.2), 2.3)	[1.2, (2.3))	[(2.3), 1.2)	[2.3, (1.2))	[(1.2, 2.3))
[1.2, 2.3]	[(1.2), 2.3]	[1.2, (2.3)]	[(2.3), 1.2]	[2.3, (1.2)]	[(1.2, 2.3)]
(1.3, 2.1)	((1.3), 2.1)	(1.3, (2.1))	((2.1), 1.3)	(2.1, (1.3))	((1.3, 2.1))
(1.3, 2.1]	((1.3), 2.1]	(1.3, (2.1)]	((2.1), 1.3]	(2.1, (1.3)]	((1.3, 2.1)]
[1.3, 2.1)	[(1.3), 2.1)	[1.3, (2.1))	[(2.1), 1.3)	[2.1, (1.3))	[(1.3, 2.1))
[1.3, 2.1]	[(1.3), 2.1]	[1.3, (2.1)]	[(2.1), 1.3]	[2.1, (1.3)]	[(1.3, 2.1)]

(1.3, 2.2)	((1.3), 2.2)	(1.3, (2.2))	((2.2), 1.3)	(2.2, (1.3))	((1.3, 2.2))
(1.3, 2.2]	((1.3), 2.2]	(1.3, (2.2)]	((2.2), 1.3]	(2.2, (1.3)]	((1.3, 2.2)]
[1.3, 2.2)	[(1.3), 2.2)	[1.3, (2.2))	[(2.2), 1.3)	[2.2, (1.3))	[(1.3, 2.2))
[1.3, 2.2]	[(1.3), 2.2]	[1.3, (2.2)]	[(2.2), 1.3]	[2.2, (1.3)]	[(1.3, 2.2)]
(1.3, 2.3)	((1.3), 2.3)	(1.3, (2.3))	((2.3), 1.3)	(2.3, (1.3))	((1.3, 2.3))
(1.3, 2.3]	((1.3), 2.3]	(1.3, (2.3)]	((2.3), 1.3]	(2.3, (1.3)]	((1.3, 2.3)]
[1.3, 2.3)	[(1.3), 2.3)	[1.3, (2.3))	[(2.3), 1.3)	[2.3, (1.3))	[(1.3, 2.3))
[1.3, 2.3]	[(1.3), 2.3]	[1.3, (2.3)]	[(2.3), 1.3]	[2.3, (1.3)]	[(1.3, 2.3)].

Ferner enthält die bensesche 3 × 3-Matrix bekanntlich in den Zeilen die Triaden und in den Spalten die Trichotomien

	.1	.2	.3
1.	1.1	1.2	1.3
2.	2.1	2.2	2.3
3.	3.1	3.2	3.3.

Da es sich hier um eine quadratische Matrix handelt, ist natürlich n = m.

Dagegen ist die in Toth (2019b) eingeführte dyadisch-trichotomische Matrix eine 2 × 3-Matrix, bei der also n ≠ m gilt

	.1	.2	.3
1.	1.1	1.2	1.3
2.	2.1	2.2	2.3.

Während also die bensesche Zeichenrelation durch

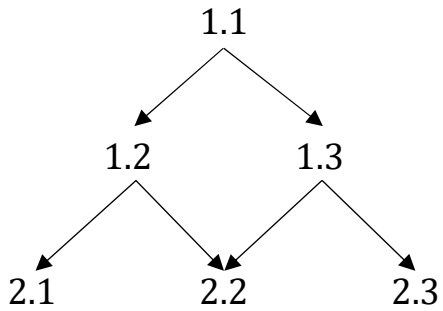
$Z^{3,3} = (3.x, 2.y, 1.z)$

mit x, y, z ∈ (1, 2, 3) definiert ist, ist unsere Zeichenrelation durch

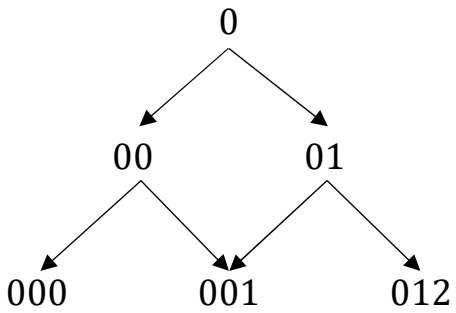
$Z^{2,3} = ((w.x), (y.z))$

mit w, y ∈ (1, 2), aber x, z ∈ (1, 2, 3) definiert.

3. Wie in Toth (2019c) gezeigt wurde, kann man die Subzeichen der 2 × 3-Matrix in einer Pseudo-Proto-Darstellung wie folgt anordnen



Dagegen ist die echte Proto- und die ihr gleiche Deutero-Darstellung für die Kontexturen K = 1 bis K = 3



Dadurch sind wir erstmals in der Geschichte der polykontexturalen Semiotik, die mit Kronthaler (1992) und Toth (2003) begonnen hatte, imstande, die 6 Subzeichen von $Z^{2,3}$ einer (bijektiven) Kenose zu unterziehen, denn aus der Äquivalenz der Pseudo-Proto-Deutero-Struktur von $Z^{2,3}$ und der Proto-Deutero-Struktur von K =1 bis K = 3 folgt

(1.1) ↔ 0

(1.2) ↔ 00

(1.3) ↔ 01

(2.1) ↔ 000

(2.2) ↔ 001

(2.3) ↔ 012.

Was die dyadische Form-Inhalts (FI)-Differenz von $Z^{2,3}$ – wie aller dyadischen Zeichenrelationen - betrifft, so können wir die obigen umkehrbar eindeutigen Zuordnungen weiter wie folgt kategorisieren

(1.1) ↔ 0 F ∪ I

(1.2) ↔ 00 ⎫
(1.3) → 01 ⎭ F

(2.1) ↔ 000 ⎫
(2.2) ↔ 001 ⎬ I
(2.3) ↔ 012. ⎭

Da wir in Toth (2019d) angedeutet hatten, daß man eine polykontexturale Semiotik konstruieren kann, stellen wir also fest, daß beim Übergang von der reinen Quantität der Bense-Semiotik zur Quali-Quantität der polykontexturalen Semiotik die Spalten für jede Zeile wachsen, d.h. statt -tomien haben wir in den entsprechenden Matrizen Kontexturen, d.h. Längen von Kenofolgen.

	Proto-Semiotik	Deutero-Semiotik	Trito-Semiotik
K = 1	⟨ 0 ⟩	⟨ 0 ⟩	⟨ 0 ⟩
K = 2	$\begin{pmatrix} 00 \\ 001 \end{pmatrix}$	$\begin{pmatrix} 00 \\ 01 \end{pmatrix}$	$\begin{pmatrix} 00 \\ 01 \end{pmatrix}$
K = 3	$\begin{pmatrix} 000 \\ 001 \\ — \\ — \\ 012 \end{pmatrix}$	$\begin{pmatrix} 000 \\ 001 \\ — \\ — \\ 012 \end{pmatrix}$	$\begin{pmatrix} 000 \\ 001 \\ 010 \\ 011 \\ 012 \end{pmatrix}$

Die Striche deuten hier die *qualitative gaps* zwischen den Proto-, Deutero- und Tritozahlen an (vgl. Toth 2019e, f). Da bei den Protozahlen nur die verschiedenen Zahlen, bei den Deuterozahlen die verschiedenen und die gleichen sowie bei den Tritozahlen zusätzlich die Orte relevant sind, findet also eine graduelle Ausdifferenzierung zwischen den drei polykontexturalen Zahlen statt:

Peanozahlen — monokontextural

↓ (*qualitative jump*)

Protozahlen

↓

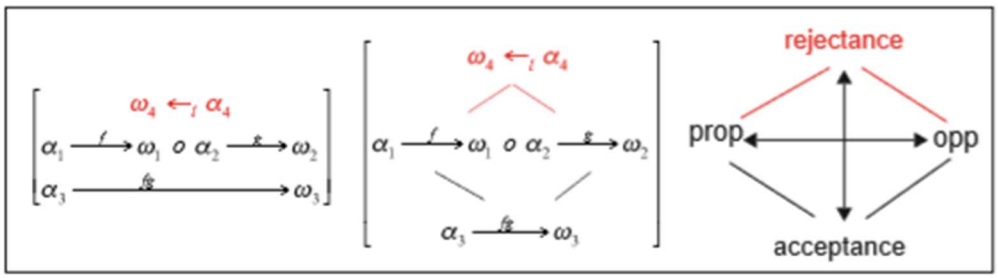
Deuterozahlen — polykontextural

↓

Tritozahlen

4. Kaehr (2007, S. 19) führte polykontexturale Kategorien, von ihm als „diamonds“ bezeichnet, zunächst anhand eines konkreten Beispieles ein

und gab hernach die drei folgenden äquivalenten kategorietheoretischen und logischen Modelle.



Wenn wir wiederum von der Definition des dyadisch-trichotomischen Zeichenmodelles ausgehen

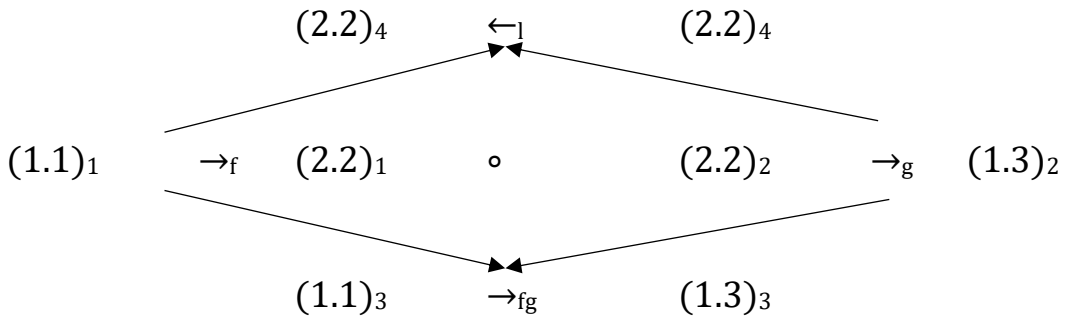
$Z^{2,3} = ((w.x), (y.z))$

mit w, y ∈ (1, 2) und x, z ∈ (1, 2, 3),

dann bekommen wir z.B. für

$Z_i^{2,3} \circ Z_{(i+1)}^{2,3} =$

$((1.1, 2.2)) \circ ((2.2), (1.3)) =$



d.h. es gilt

$(2.2)_1 \neq (2.2)_2$

und

$(1.1)_3 \rightarrow_{fg} (1.3)_3 \neq ((1.1)_3 \rightarrow_{gf} (1.3)_3)^\circ$,

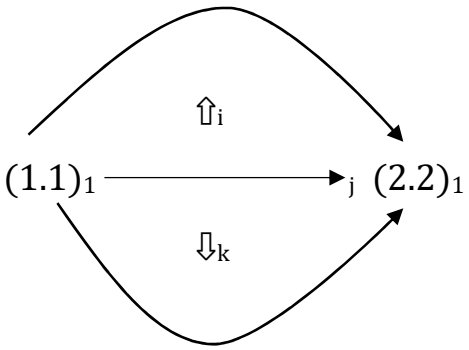
da

$((1.1)_3 \rightarrow_{gf} (1.3)_3)^\circ = (2.2)_4 \leftarrow_l (2.2)_4$.

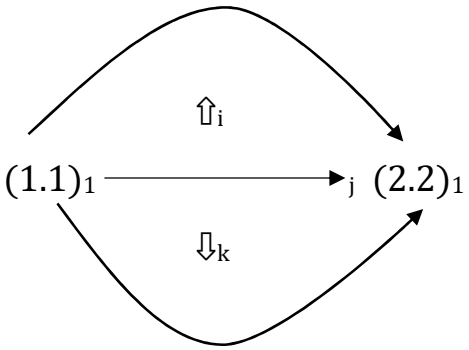
Eine zusätzliche Möglichkeit bietet hier die Theorie der n-Kategorien (vgl. Leinster 2003). Man kann nämlich nicht nur Subzeichen, sondern auch Primzeichen aufeinander abbilden.

In Falle der Abbildung homogener Zeichenwerte werden triadische Hauptwerte auf triadische Hauptwerte und trichotomische Stellenwerte auf trichotomische Stellenwerte abgebildet

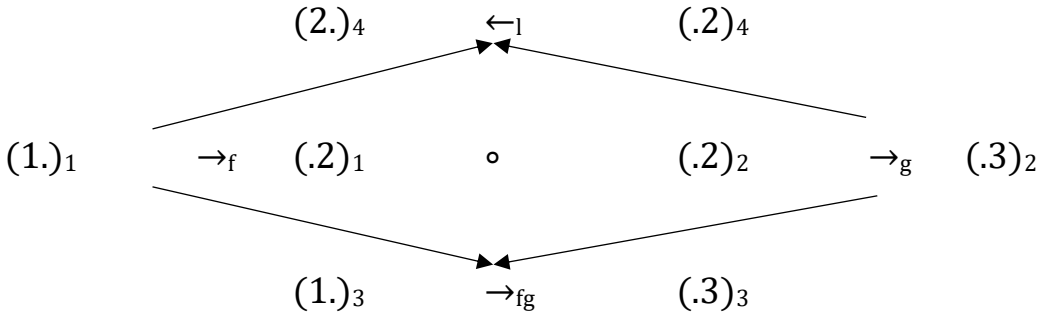
.



Im Falle der Abbildung heterogener Zeichenwerte werden triadische Hauptwerte auf trichotomische Stellenwerte und umgekehrt abgebildet, d.h. Haupt- und Stellenwerte sind chiastisch.



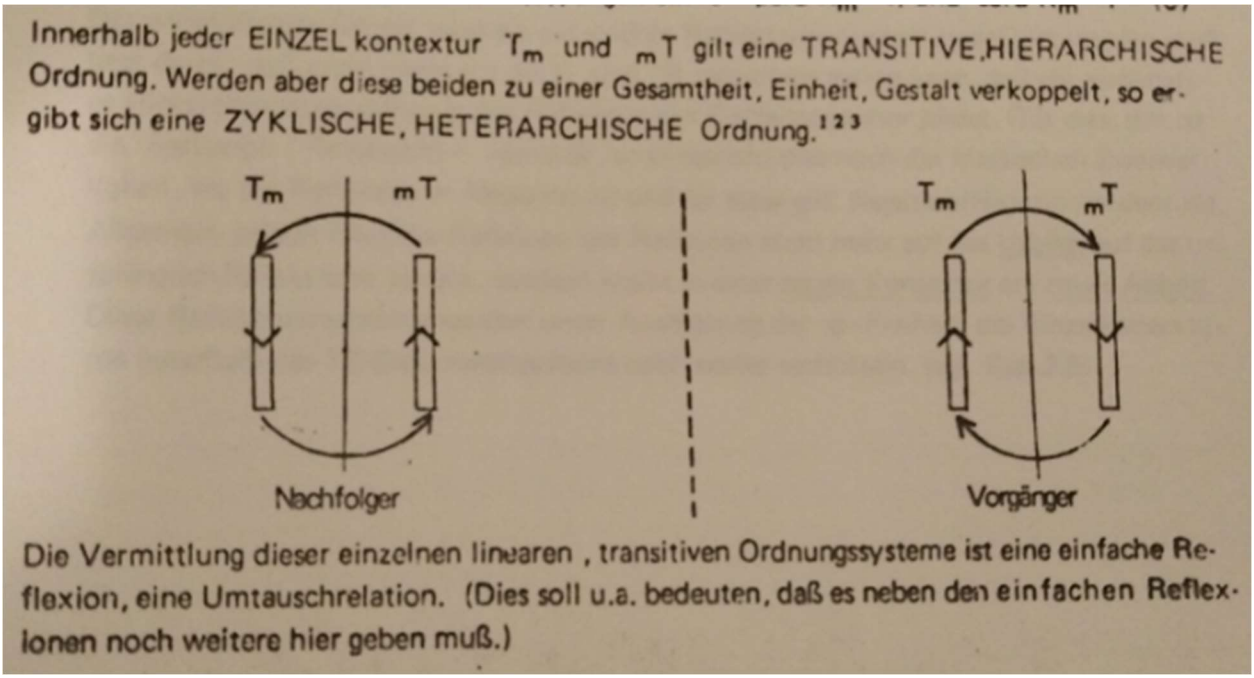
In diesem Falle sieht der zugrunde liegende n=1-kategoriale Diamant also z.B. wie folgt aus



=

(1.2) ∘ (2.3) = ((1.2), (2.3)).

5. Auf die Existenz von Paaren von reflektorischen Systemen, die wir im folgenden mit R und R* bezeichnen, hatte bereits Kronthaler (1986, S. 48) hingewiesen.



Deshalb stellen wir das vollständige System der 18 Teilsysteme der 3-wertigen proto- und deuteroäquivalenten polykontexturalen Semiotik auf der Basis der dyadisch-trichotomischen topologischen Zeichenrelation $Z^{2,3} = ((w.x), (y.z))$ als Paare von R : R*-Systemen dar (vgl. Toth 2010g).

III. Kenogrammatisches System der proto- und deuteroäquivalenten Semiotik

1. (1.1, 2.1)-System

1.1. R-System

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1.2. R*-System

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2. (1.1, 2.2)-System

2.1. R-System

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2.2. R*-System

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(○○△)(○]	((○○△))(○]	(○○△)((○)]	((○))(○○△]	(○)((○○△)]	((○○△))((○)]
(○○△)[○)	((○○△))[○)	(○○△)[(○))	((○))[○○△)	(○)[(○○△))	((○○△))[(○))
(○○△)[○]	((○○△))[○]	(○○△)[(○)]	((○))[○○△]	(○)[(○○△)]	((○○△))[(○)]

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3. (1.1, 2.3)-System

3.1. R-System

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3.2. R*-System

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4. (1.2, 2.1)-System

4.1. R-System

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4.2. R*-System

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5. (1.2, 2.2)-System

5.1. R*-System

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5.2. R*-System

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6. (1.2, 2.3)-System

6.1. R-System

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6.2. R*-System

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7. (1.3, 2.1)-System

7.1. R-System

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7.2. R*-System

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8. (1.3, 2.2)-System

8.1. R-System

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8.2. R*-System

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9. (1.3, 2.3)-System

9.1. R-System

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9.2. R*-System

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IV. System der proto- und deuteroäquivalenten zellulären Automaten

§ 1 von Kronthalers einleitenden "Prolegomena mathematico-logico-philosophica" lautet: "Die Mathematik der Qualitäten ist eine Mathematik von/für lebende(n) Systeme" (1986, S. 7). Dagegen hängt die quantitative mathematische Form "mit dem Ende des organischen Lebens, mit der Erscheinung seines anorganischen Restes, des Leichnams, zusammen" (Kronthaler 1986, S. 81). Wie bereits Kaehr (2011) in seiner ersten Arbeit zu polykontexturalen zellulären Automaten (CA) festgestellt hatte, haben diese eine ganz andere Gestalt als diejenigen, die auf Conway zurückgehen (vgl. Gardner 1970). Dies trifft in Sonderheit zu auf die polykontexturalsemiotischen CA, die auf der dyadisch-trichotomischen topologischen Zeichenrelaiton $ZR^{2,3}$ basieren. Für die 3-wertige Semiotik werden sie im folgenden in der Ordnung der Kenogrammsequenzen präsentiert (vgl. Toth 2019h, i).

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5. (1.2, 2.2)-System

5.1. R*-System

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5.2. R*-System

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6. (1.2, 2.3)-System

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6.6.2. R*-System

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6.7. (1.3, 2.1)-System

6.7.1. R-System

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6.8. (1.3, 2.2)-System

6.8.1. R-System

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6.9. (1.3, 2.3)-System

6.9.1. R-System

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V. Voraussetzungen einer polykontexturalen Semiotik II

Wie wir in den vorangehenden Kapiteln gesehen haben, erfüllt eine 3-wertige dyadisch-trichotomische Semiotik nur die Proto- und die Deutero-Äquivalenz. In den folgenden Kapiteln zeigen wir, daß erst eine 4-wertige dyadisch-trichotomische Semiotik die Trito-Äquivalenz und damit das vollständige polykontexturale System einer qualitativen Mathematik erfüllt.

1. Proto-, Deutero- und Tritoäquivalenz für K = 4

	0000	0000	0000
	0001	0001	0001
	—	—	0010
	—	0011	0011
	0012	0012	0012
	—	—	0100
	—	—	0101
	—	—	0102
	—	—	0110
	—	—	0111
	—	—	0112
	—	—	0120
	—	—	0121
	—	—	0122
K = 4	0123	0123	0123

Wir gehen also aus von der triadisch-tetratomischen Zeichenrelation

$Z^{2,4} = ((w.x), (y.z))$

mit

w, y ∈ (1, 2)

und

x, z ∈ (0, 1, 2, 3).

Wie man sieht, ist

$Z^{2,3} \subset Z^{2,4}$.

Entsprechend ist die Matrix von $Z^{2,4}$ eine Teilmatrix der Matrix von $Z^{2,3}$

	.0	.1	.2	.3
1.	1.0	1.1	1.2	1.3
2.	2.0	2.1	2.2	2.3 .

Damit ergeben sich 16 mal $4 = 64$ topologische dyadisch-tetratomische semiotische Relationen

(1.0, 2.0)	(1.0, 2.0]	[1.0, 2.0)	[1.0, 2.0]
(1.0, 2.1)	(1.0, 2.1]	[1.0, 2.1)	[1.0, 2.1]
(1.0, 2.2)	(1.0, 2.2]	[1.0, 2.2)	[1.0, 2.2]
(1.0, 2.3)	(1.1, 2.3]	[1.1, 2.3)	[1.1, 2.3]
(1.1, 2.0)	(1.1, 2.0]	[1.1, 2.0)	[1.1, 2.0]
(1.1, 2.1)	(1.1, 2.1]	[1.1, 2.1)	[1.1, 2.1]
(1.1, 2.2)	(1.1, 2.2]	[1.1, 2.2)	[1.1, 2.2]
(1.1, 2.3)	(1.1, 2.3]	[1.1, 2.3)	[1.1, 2.3]
(1.2, 2.0)	(1.2, 2.0]	[1.2, 2.0)	[1.2, 2.0]
(1.2, 2.1)	(1.2, 2.1]	[1.2, 2.1)	[1.2, 2.1]
(1.2, 2.2)	(1.2, 2.2]	[1.2, 2.2)	[1.2, 2.2]
(1.2, 2.3)	(1.2, 2.3]	[1.2, 2.3)	[1.2, 2.3]
(1.3, 2.0)	(1.3, 2.0]	[1.3, 2.0)	[1.3, 2.0]
(1.3, 2.1)	(1.3, 2.1]	[1.3, 2.1)	[1.3, 2.1]
(1.3, 2.2)	(1.3, 2.2]	[1.3, 2.2)	[1.3, 2.2]

(1.3, 2.3) (1.3, 2.3] [1.3, 2.3) [1.3, 2.3].

Da sich an den 6 Einbettungstypen durch die erhöhte semiotische Wertigkeit natürlich nichts ändert, bekommen wir 6 mal 64 = 384 durch E differenzierbare topologische semiotische Relationen

(1.0, 2.0)	((1.0), 2.0)	(1.0, (2.0))	((2.0), 1.0)	(2.0, (1.0))	((1.0, 2.0))
(1.0, 2.0]	((1.0), 2.0]	(1.0, (2.0)]	((2.0), 1.0]	(2.0, (1.0)]	((1.0, 2.0)]
[1.0, 2.0)	[(1.0), 2.0)	[1.0, (2.0))	[(2.0), 1.0)	[2.0, (1.0))	[(1.0, 2.0))
[1.0, 2.0]	[(1.0), 2.0]	[1.0, (2.0)]	[(2.0), 1.0]	[2.0, (1.0)]	[(1.0, 2.0)]
(1.0, 2.1)	((1.0), 2.1)	(1.0, (2.1))	((2.1), 1.0)	(2.1, (1.0))	((2.0, 1.1))
(1.0, 2.1]	((1.0), 2.1]	(1.0, (2.1)]	((2.1), 1.0]	(2.1, (1.0)]	((1.0, 2.1)]
[1.0, 2.1)	[(1.0), 2.1)	[1.0, (2.1))	[(2.1), 1.0)	[2.1, (1.0))	[(1.0, 2.1))
[1.0, 2.1]	[(1.0), 2.1]	[1.0, (2.1)]	[(2.1), 1.0]	[2.1, (1.0)]	[(1.0, 2.1)]
(1.0, 2.2)	((1.0), 2.2)	(1.0, (2.2))	((2.2), 1.0)	(2.2, (1.0))	((1.0, 2.2))
(1.0, 2.2]	((1.0), 2.2]	(1.0, (2.2)]	((2.2), 1.0]	(2.2, (1.0)]	((1.0, 2.2)]
[1.1, 2.2)	[(1.0), 2.2)	[1.0, (2.2))	[(2.2), 1.0)	[2.2, (1.0))	[(1.0, 2.2))
[1.0, 2.2]	[(1.0), 2.2]	[1.0, (2.2)]	[(2.2), 1.0]	[2.2, (1.0)]	[(1.0, 2.2)]
(1.0, 2.3)	((1.0), 2.3)	(1.0, (2.3))	((2.3), 1.0)	(2.3, (1.0))	((1.0, 2.3))
(1.0, 2.3]	((1.0), 2.3]	(1.0, (2.3)]	((2.3), 1.0]	(2.3, (1.0)]	((1.0, 2.3)]
[1.0, 2.3)	[(1.0), 2.3)	[1.0, (2.3))	[(2.3), 1.0)	[2.3, (1.0))	[(1.0, 2.3))
[1.0, 2.3]	[(1.0), 2.3]	[1.0, (2.3)]	[(2.3), 1.0]	[2.3, (1.0)]	[(1.0, 2.3)]
(1.1, 2.0)	((1.1), 2.0)	(1.1, (2.0))	((2.0), 1.1)	(2.0, (1.1))	((1.1, 2.0))
(1.1, 2.0]	((1.1), 2.0]	(1.1, (2.0)]	((2.0), 1.1]	(2.0, (1.1)]	((1.1, 2.0)]
[1.1, 2.0)	[(1.1), 2.0)	[1.1, (2.0))	[(2.0), 1.1)	[2.0, (1.1))	[(1.1, 2.0))
[1.1, 2.0]	[(1.1), 2.0]	[1.1, (2.0)]	[(2.0), 1.1]	[2.0, (1.1)]	[(1.1, 2.0)]
(1.1, 2.1)	((1.1), 2.1)	(1.1, (2.1))	((2.1), 1.1)	(2.1, (1.1))	((2.1, 1.1))
(1.1, 2.1]	((1.1), 2.1]	(1.1, (2.1)]	((2.1), 1.1]	(2.1, (1.1)]	((1.1, 2.1)]

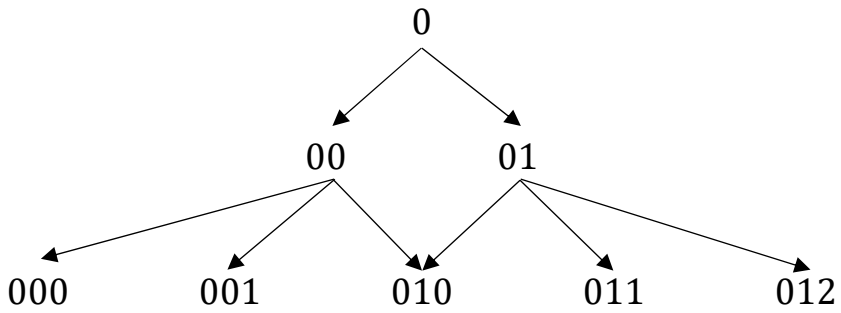
[1.1, 2.1)	[(1.1), 2.1)	[1.1, (2.1))	[(2.1), 1.1)	[2.1, (1.1))	[(1.1, 2.1))
[1.1, 2.1]	[(1.1), 2.1]	[1.1, (2.1)]	[(2.1), 1.1]	[2.1, (1.1)]	[(1.1, 2.1)]
(1.1, 2.2)	((1.1), 2.2)	(1.1, (2.2))	((2.2), 1.1)	(2.2, (1.1))	((1.1, 2.2))
(1.1, 2.2]	((1.1), 2.2]	(1.1, (2.2)]	((2.2), 1.1]	(2.2, (1.1)]	((1.1, 2.2)]
[1.1, 2.2)	[(1.1), 2.2)	[1.1, (2.2))	[(2.2), 1.1)	[2.2, (1.1))	[(1.1, 2.2))
[1.1, 2.2]	[(1.1), 2.2]	[1.1, (2.2)]	[(2.2), 1.1]	[2.2, (1.1)]	[(1.1, 2.2)]
(1.1, 2.3)	((1.1), 2.3)	(1.1, (2.3))	((2.3), 1.1)	(2.3, (1.1))	((1.1, 2.3))
(1.1, 2.3]	((1.1), 2.3]	(1.1, (2.3)]	((2.3), 1.1]	(2.3, (1.1)]	((1.1, 2.3)]
[1.1, 2.3)	[(1.1), 2.3)	[1.1, (2.3))	[(2.3), 1.1)	[2.3, (1.1))	[(1.1, 2.3))
[1.1, 2.3]	[(1.1), 2.3]	[1.1, (2.3)]	[(2.3), 1.1]	[2.3, (1.1)]	[(1.1, 2.3)]
(1.2, 2.0)	((1.2), 2.0)	(1.2, (2.0))	((2.0), 1.2)	(2.0, (1.2))	((1.2, 2.0))
(1.2, 2.0]	((1.2), 2.0]	(1.2, (2.0)]	((2.0), 1.2]	(2.0, (1.2)]	((1.2, 2.0)]
[1.2, 2.0)	[(1.2), 2.0)	[1.2, (2.0))	[(2.0), 1.2)	[2.0, (1.2))	[(1.2, 2.0))
[1.2, 2.0]	[(1.2), 2.0]	[1.2, (2.0)]	[(2.0), 1.2]	[2.0, (1.2)]	[(1.2, 2.0)]
(1.2, 2.1)	((1.2), 2.1)	(1.2, (2.1))	((2.1), 1.2)	(2.1, (1.2))	((1.2, 2.1))
(1.2, 2.1]	((1.2), 2.1]	(1.2, (2.1)]	((2.1), 1.2]	(2.1, (1.2)]	((1.2, 2.1)]
[1.2, 2.1)	[(1.2), 2.1)	[1.2, (2.1))	[(2.1), 1.2)	[2.1, (1.2))	[(1.2, 2.1))
[1.2, 2.1]	[(1.2), 2.1]	[1.2, (2.1)]	[(2.1), 1.2]	[2.1, (1.2)]	[(1.2, 2.1)]
(1.2, 2.2)	((1.2), 2.2)	(1.2, (2.2))	((2.2), 1.2)	(2.2, (1.2))	((1.2, 2.2))
(1.2, 2.2]	((1.2), 2.2]	(1.2, (2.2)]	((1.2), 2.2]	(1.2, (2.2)]	((1.2, 2.2)]
[1.2, 2.2)	[(1.2), 2.2)	[1.2, (2.2))	[(2.2), 1.2)	[2.2, (1.2))	[(1.2, 2.2))
[1.2, 2.2]	[(1.2), 2.2]	[1.2, (2.2)]	[(2.2), 1.2]	[2.2, (1.2)]	[(1.2, 2.2)]
(1.2, 2.3)	((1.2), 2.3)	(1.2, (2.3))	((2.3), 1.2)	(2.3, (1.2))	((1.2, 2.3))
(1.2, 2.3]	((1.2), 2.3]	(1.2, (2.3)]	((2.3), 1.2]	(2.3, (1.2)]	((1.2, 2.3)]
[1.2, 2.3)	[(1.2), 2.3)	[1.2, (2.3))	[(2.3), 1.2)	[2.3, (1.2))	[(1.2, 2.3))

[1.2, 2.3]	[(1.2), 2.3]	[1.2, (2.3)]	[(2.3), 1.2]	[2.3, (1.2)]	[(1.2, 2.3)]
(1.3, 2.0)	((1.3), 2.0)	(1.3, (2.0))	((2.1), 1.3)	(2.0, (1.3))	((1.3, 2.0))
(1.3, 2.0]	((1.3), 2.0]	(1.3, (2.0)]	((2.0), 1.3]	(2.0, (1.3)]	((1.3, 2.0)]
[1.3, 2.0)	[(1.3), 2.0)	[1.3, (2.0))	[(2.0), 1.3)	[2.0, (1.3))	[(1.3, 2.0))
[1.3, 2.0]	[(1.3), 2.0]	[1.3, (2.0)]	[(2.0), 1.3]	[2.0, (1.3)]	[(1.3, 2.0)]
(1.3, 2.1)	((1.3), 2.1)	(1.3, (2.1))	((2.1), 1.3)	(2.1, (1.3))	((1.3, 2.1))
(1.3, 2.1]	((1.3), 2.1]	(1.3, (2.1)]	((2.1), 1.3]	(2.1, (1.3)]	((1.3, 2.1)]
[1.3, 2.1)	[(1.3), 2.1)	[1.3, (2.1))	[(2.1), 1.3)	[2.1, (1.3))	[(1.3, 2.1))
[1.3, 2.1]	[(1.3), 2.1]	[1.3, (2.1)]	[(2.1), 1.3]	[2.1, (1.3)]	[(1.3, 2.1)]
(1.3, 2.2)	((1.3), 2.2)	(1.3, (2.2))	((2.2), 1.3)	(2.2, (1.3))	((1.3, 2.2))
(1.3, 2.2]	((1.3), 2.2]	(1.3, (2.2)]	((2.2), 1.3]	(2.2, (1.3)]	((1.3, 2.2)]
[1.3, 2.2)	[(1.3), 2.2)	[1.3, (2.2))	[(2.2), 1.3)	[2.2, (1.3))	[(1.3, 2.2))
[1.3, 2.2]	[(1.3), 2.2]	[1.3, (2.2)]	[(2.2), 1.3]	[2.2, (1.3)]	[(1.3, 2.2)]
(1.3, 2.3)	((1.3), 2.3)	(1.3, (2.3))	((2.3), 1.3)	(2.3, (1.3))	((1.3, 2.3))
(1.3, 2.3]	((1.3), 2.3]	(1.3, (2.3)]	((2.3), 1.3]	(2.3, (1.3)]	((1.3, 2.3)]
[1.3, 2.3)	[(1.3), 2.3)	[1.3, (2.3))	[(2.3), 1.3)	[2.3, (1.3))	[(1.3, 2.3))
[1.3, 2.3]	[(1.3), 2.3]	[1.3, (2.3)]	[(2.3), 1.3]	[2.3, (1.3)]	[(1.3, 2.3)].

Als nächstes bilden wir die 8 Subrelationen der Matrix von $ZR^{2,4}$

	.0	.1	.2	.3
1.	1.0	1.1	1.2	1.3
2.	2.0	2.1	2.2	2.3

für $K = 3$ zunächst auf das Vorgänger-Nachfolger-Stemma



und hernach in bijektiver Kenose auf die die Tritozahlen ab

(1.0) ↔ 0

(1.1) ↔ 00

(1.2) ↔ 01

(1.3) ↔ 000

(2.0) ↔ 001

(2.1) ↔ 010

(2.2) ↔ 011

(2.3) ↔ 012.

Allerdings stellt sich hier ein Problem, denn Proto- und Deuteroäquivalenz einerseits und Tritoäquivalenz andererseits der bijektiven Kenose sind nicht miteinander kompatibel:

Trito-Kenose	Proto- = Deutero-Kenose
(1.0) ↔ 0	—
(1.1) ↔ 00	(1.1) ↔ 0
(1.2) ↔ 01	(1.2) ↔ 00
(1.3) ↔ 000	(1.3) ↔ 01
(2.0) ↔ 001	—
(2.1) ↔ 010	(2.1) ↔ 000
(2.2) ↔ 011	(2.2) ↔ 001
(2.3) ↔ 012	(2.3) ↔ 012.

VI. Kenogrammatisches System der tritoäquivalenten Semiotik

1. (1.0, 2.0)-System

1.1. R-System

(○)(○○□) ((○))(○○□) (○)((○○□)) ((○○□))(○) (○○□)((○)) ((○))((○○□))
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1.2. R*-System

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2. (1.0, 2.1)-System

2.1. R-System

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2.2. R*-System

(○□○)(○)	((○□○))(○)	(○□○)((○))	((○))(○□○)	(○)((○□○))	((○□○))((○))
(○□○)(○]	((○□○))(○]	(○□○)((○)]	((○))(○□○]	(○)((○□○)]	((○□○))((○)]
(○□○)[○)	((○□○))[○)	(○□○)[(○))	((○))[○□○)	(○)[(○□○))	((○□○))[(○))
(○□○)[○]	((○□○))[○]	(○□○)[(○)]	((○))[○□○]	(○)[(○□○)]	((○□○))[(○)]

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(○□○](○]	((○□○)](○]	(○□○](○)]	((○)](○□○]	(○](○□○)]	(○□○](○)]
(○□○][○)	((○□○)][○)	(○□○][(○))	((○)][○□○)	(○][(○□○))	((○□○)][(○))
(○□○][○]	((○□○)][○]	(○□○][(○)]	((○)][○□○]	(○][(○□○)]	((○□○)][(○)]

[○□○)(○)	[(○□○))(○)	[○□○)((○))	[(○))(○□○)	[○)((○□○))	[(○□○))((○))
[○□○)(○]	[(○□○))(○]	[○□○)((○)]	[(○))(○□○]	[○)((○□○)]	[(○□○))((○)]
[○□○)[○)	[(○□○))[○)	[○□○)[(○))	[(○))[○□○)	[○)[(○□○))	[(○□○))[(○))
[○□○)[○]	[(○□○))[○]	[○□○)[(○)]	[(○))[○□○]	[○)[(○□○)]	[(○□○))[(○)]

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[○□○](○]	[(○□○)](○]	[○□○](○)]	[(○)](○□○]	[○](○□○)]	[(○□○)](○)]
[○□○][○)	[(○□○)][○)	[○□○][(○))	[(○)][○□○)	[○][(○□○))	[(○□○)][(○))
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3. (1.0, 2.2)-System

3.1. R-System

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(○][○□□)　((○)][○□□)　(○][(○□□))　((○□□)][○)　(○□□][(○))　((○)][(○□□))
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[○)[○□□)　[(○))[○□□)　[○)[(○□□))　[(○□□))[○)　[○□□)[(○))　[(○))[(○□□))
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3.2.R*-System

(○□□)(○)	((○□□))(○)	(○□□)((○))	((○))(○□□)	(○)((○□□))	((○□□))((○))
(○□□)(○]	((○□□))(○]	(○□□)((○)]	((○))(○□□]	(○)((○□□)]	((○□□))((○)]
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(○□□](○]	((○□□)](○]	(○□□](○)]	((○)](○□□]	(○](○□□)]	(○□□](○)]
(○□□][○)	((○□□)][○)	(○□□][(○))	((○)][○□□)	(○][(○□□))	((○□□)][(○))
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[○□□)(○)	[(○□□))(○)	[○□□)((○))	[(○))(○□□)	[○)((○□□))	[(○□□))((○))
[○□□)(○]	[(○□□))(○]	[○□□)((○)]	[(○))(○□□]	[○)((○□□)]	[(○□□))((○)]
[○□□)[○)	[(○□□))[○)	[○□□)[(○))	[(○))[○□□)	[○)[(○□□))	[(○□□))[(○))
[○□□)[○]	[(○□□))[○]	[○□□)[(○)]	[(○))[○□□]	[○)[(○□□)]	[(○□□))[(○)]

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4. (1.0, 2.3)-System

4.1. R-System

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4.2. R*-System

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5. (1.1, 2.0)-System

5.1. R-System

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5.2. R*-System

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6. (1.1, 2.1)-System

6.1. R-System

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6.2. R*-System

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7. (1.1, 2.2)-System

7.1. R-System

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7.2. R*-System

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8. (1.1, 2.3)-System

8.1. R-System

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8.2. R*-System

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9. (1.2, 2.0)-System

9.1. R-System

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9.2. R*-System

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10. (1.2, 2.1)-System

10.1. R-System

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10.2. R*-System

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11. (1.2, 2.2)-System

11.1. R-System

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11.2. R*-System

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12. (1.2, 2.3)-System

12.1. R-System

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12.2. R*-System

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13. (1.3, 2.0)-System

13.1. R-System

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13.2. R*-System

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14. (1.3, 2.1)-System

14.1. R-System

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14.2. R*-System

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15. (1.3, 2.2)-System

15.1. R-System

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15.2. R*-System

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16. (1.3, 2.3)-System

16.1. R-System

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16.2. R*-System

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VII. System der tritoäquivalenten zellulären Automaten

1. (1.0, 2.0)-System

1.1. R-System

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3. (1.0, 2.2)-System

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4. (1.0, 2.3)-System

4.1. R-System

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4.2. R*-System

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5. (1.1, 2.0)-System

5.1. R-System

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6. (1.1, 2.1)-System

6.1. R-System

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7. (1.1, 2.2)-System

7.1. R-System

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8. (1.1, 2.3)-System

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9. (1.2, 2.0)-System

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10. (1.2, 2.1)-System

10.1. R-System

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11. (1.2, 2.2)-System

11.1. R-System

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11.2. R*-System

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12. (1.2, 2.3)-System

12.1. R-System

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12.2. R*-System

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13. (1.3, 2.0)-System

13.1. R-System

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13.2. R*-System

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14. (1.3, 2.1)-System

14.1. R-System

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14.2. R*-System

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15. (1.3, 2.2)-System

15.1. R-System

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16. (1.3, 2.3)-System

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16.2. R*-System

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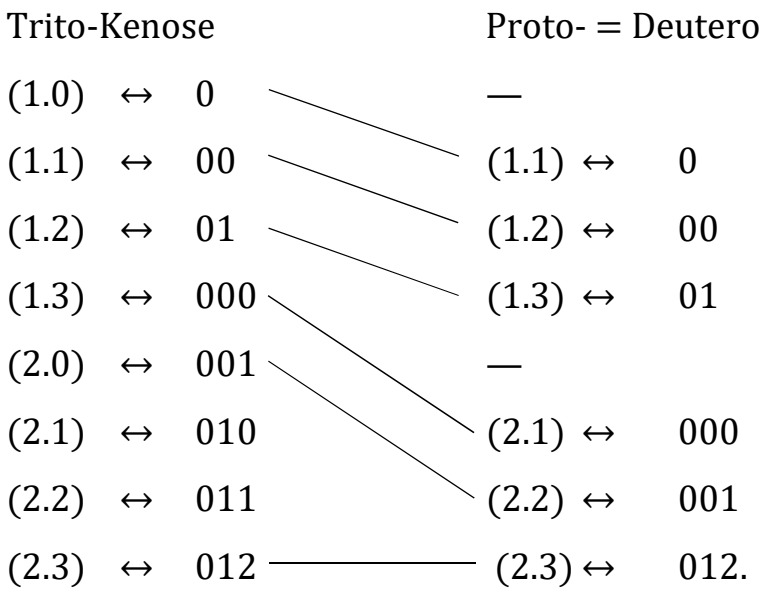
VIII. Ausblick: Höherwertige polykontexturale Semiotiken

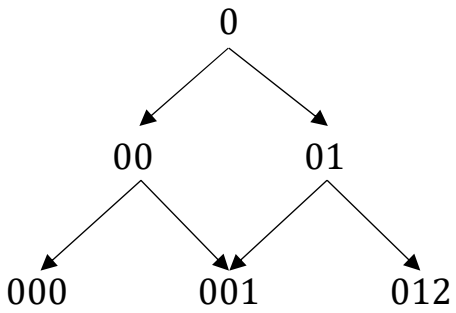
Wie wir bereits in Kap. 5 gezeigt hatten, stellt sich bei der in diesem Buche vollständig dargestellten polykontexturalen Semiotik das Problem, daß Proto- und Deuteroäquivalenz einerseits und Tritoäquivalenz andererseits der bijektiven Kenose sind nicht miteinander kompatibel sind



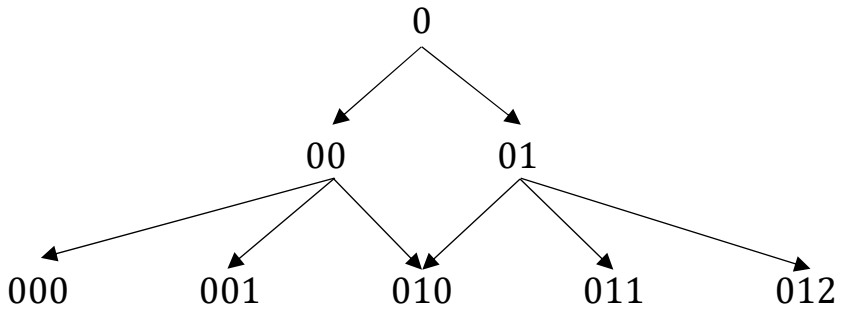
Ferner stellt sich ein noch viel bedeutenderes Problem, wenn man von 4-wertigen zu n-wertigen polykontexturalen Semiotik mit $n > 4$ übergehen möchte. Vergleichen wir hierzu die Anzahl der Proto-, Deutero- und Trito-Zahlen der ersten 4 Kontexturen

	Proto		Deutero		Trito	
K = 1	1	6	1	6	1	8
K = 2	2		2		2	
K = 3	3		3		5	
K = 4	4		5		15	

Während man also Proto- = Deutero-K = 3 durch das Stemma



und Trito-K = 3 durch das Stemma



darstellen kann, gibt es jedoch kein Stemma, durch das man Deutero-K = 4 und Trito-K = 4 darstellen kann, und zwar deswegen nicht, weil es keine Matrizen dazu gibt, mit denen ungeradzahlige Werte (also bei Deutero 5 und bei Trito 15) über der dyadischen Zeichenrelation

$Z^{2,n} = ((w.x), (y.z))$

(mit $n > 4$)

sinnvoll darstellbar, d.h. weder semiotisch ungesättigt noch übersättigt sind (vgl. dazu Toth 2008), vgl. etwa

für Deutero-K = 4

	0	1	2
1	1.0	1.1	2.2
2	2.0	2.1	?

(Hier muß irgendeine der 2 mal 3 = 6 Einträge leer sein, d.h. die Matrix ist untersättigt.)

für Trito-K = 4

	0	1	2	3	4
1	1.0	1.1	1.2	1.3	1.4
2	2.0	2.1	2.2	2.3	2.4
3	?	?	?	?	?

(Hier kommt der für $Z^{2,n}$ gerade nicht definierte dritte Wert wieder quasi durch die Hintertür herein, d.h. diese Matrix ist semiotisch übersättigt.)

Abschließend können wir also festhalten:

Eine polykontexturale Semiotik über $Z^{2,3}$ ist bis auf Proto- und Deuteroäquivalenz, eine polykontexturale Semiotik über $Z^{2,4}$ ist bis auf Trito-Äquivalenz konstruierbar. Allerdings gilt $Z^{2,3} \subset Z^{2,4}$ nicht, d.h. die 3-wertige Semiotik ist kein morphogrammatisches Fragment der 4-wertigen Semiotik. Ferner können Semiotiken für mehr als 4 Werte nicht über $Z^{2,n}$ dargestellt werden, da es keine Matrizen gibt, über denen die Anzahl der Werte von $K \geqq 4$ im Falle von Ungeradzahligkeit ohne Verletzung der semiotischen Sättigung darstellbar sind.

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