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Decompositions of semiotic matrices

1. In possibly one of the most intelligent books that has ever been written, in Rudolf Kaehr's "Skizze eines Gewebes rechnender Räume in denkender Leere", we read: "In trans-computationalen Systemen gibt es eine Vielheit von gleichen und selbigen Systemen, die Übergänge verschiedenster Ursprünge realisieren und die in verschiedene Emanationen engebettet sind. In einem klassischen binären System gehört jeder binäre Teilgraph als Teil zum System. M.a.W., ein Teilsystem lässt sich nicht von anderen Teilsystemen absondern oder isolieren. Deswegen nicht, weil es letztlich einen mit anderen Teilsystemen gemeinsamen Anfang hat (...). In polykontexturalen Systemen gibt es eine Vielheit selbiger und gleicher, doch nicht identischer Teilsysteme, die sich nicht mehr unter einem gemeinsamen binären Anfang subsumieren lassen (Kaehr 2004, pp. 141 s.).

Especially for semiotics, Kaehr (2009) has shown some decompositions of matrices by starting with contextuated sub-signs.

2. Let us first introduce a new semiotic 4×4 matrix (tetradic-trichotomic)

0.1	0.2	03	0.4
11	12	11	14
2.1	2.2	2.3	2.3
3..1	3.2	3.3	3.4

We can now decompose this matrix to its part-matices:

0.1	0.2	0.2	0.3	0.3	0.4
1.1	1.2	1.2	1.3	1.3	1.4
0.1	0.3	0.1	0.4	0.2	0.4
1.1	1.3	1.1	1.4	1.2	1.4
1.1	1.2	1.2	1.3	13	1.4
2.2	2.3	2.2	2.3	2.2	2.43
1.1	1.3	1.1	1.4	1.2	1.4
2.1	1.3	2.1	2.4	2.2	2.4
2.1	2.2	2.2	2.3	2.3	2.4
3.1	3.2	3.2	3.3	3.3	3.4
2.1	2.3	2.1	2.4	2.2	2.4
3.1	1.3	3.1	2.4	3.2	3.4
0.1	0.2	0.2	0.3	0.3	0.4
2.1	2.2	2.2	2.3	2.3	2.4
0.1	0.3	0.1	0.4	0.2	0.4
2.1	1.3	2.1	2.4	2.2	2.4

0.1	0.2	0.2	0.3	0.3	0.4
3.1	3.2	3.2	3.3	3.3	3.4

0.1	0.3	0.1	0.4	0.2	0.4
3.1	3.3	3.1	3.4	3.2	3.4

1.1	1.2	1.2	1.3	13	1.4
3.1	3.2	3.2	3.3	3.3	3.4

1.1	1.3	1.1	1.4	1.2	1.4
3.1	4.3	3.1	3.4	3.2	3.4
1.1	1.2	1.2	1.3	13	1.4

4.1	4.2	4.2	4.3	4.3	4.4

1.1	1.3	1.1	1.4	1.2	1.4
4.1	4.3	4.1	4.4	4.2	4.4

1.1	1.2	1.2	1.3	13	1.4
4.1	4.2	4.2	4.3	4.3	4.4

1.1	1.3	1.1	1.4	1.2	1.4
4.1	4.3	4.1	4.4	4.2	4.4

Hence, the above 4×4 matrix has 3 times 6 = 18 decompositional matrices.

3. Now let us have a look at the pre-semiotic tetradic trichotomic matrix introduced by Toth (2008):

$$\begin{pmatrix} 0.1 & 0.2 & 0.3 \\ 1.1 & 1.2 & 1.3 \\ 2.1 & 2.2 & 2.3 \\ 3.1 & 3.2 & 3.3 \end{pmatrix}$$

This matrix has the following 9 decompositions or part-matrices, respectively:

0.1	0.2	0.2	0.3	0.1	0.3
1.1	1.2	1.2	1.3	1.1	1.3
1.1	1.2	1.2	1.3	1.1	1.3
2.1	1.2	2.2	1.3	2.1	1.3
2.1	2.2	2.2	2.3	2.1	2.3
3.1	3.2	3.2	3.3	3.1	3.3

4. Finally, the usual 3×3 matrix has the following 6 decompositions:

$$\begin{pmatrix} 1.1 & 1.2 & 1.3 \\ 2.1 & 2.2 & 2.3 \\ 3.1 & 3.2 & 3.3 \end{pmatrix}$$

1.1	1.2	1.2	1.3	1.1	1.3
2.1	2.2	2.2	2.3	2.1	2.3

2.1	2.2	2.2	2.3	2.1	2.3
3.1	3.2	3.2	3.3	3.1	3.3

1.1	1.2	1.2	1.3	1.1	1.3
3.1	3.2	3.2	3.3	3.1	3.3

An interesting question – raised indirectly by Ditterich (1990), who considered the Saussurean dyadic sign relation a part-relation of the Peircean triadic sign relation, is: With which of the 18 + 9 + 6 = 31 dyadic pair relations ($^2R \subset {}^3R \subset {}^4R \subset ...$) is the Saussurean sign model identical? Since it is clear since Toth (1991) that the signifié is the media relation (M ≡ .1.), with which fundamental category corresponds the "image acoustique"? With (O ≡ .2.) – clearly no. With (I ≡ .3.) – most probably no. Therefore, the image acoustique is a semiosis (O → I ≡ .2. → .3.). Therefore, we can reconstruct the Saussurean sign relation as

$$SSR = \{<x, y> \mid x \in \{(1.1), (1.2), (1.3)\}, y = (2.3)\},$$

in enumerating form:

$$\begin{pmatrix} 1.1 & 1.2 \\ 2.2 & 2.3 \end{pmatrix} \begin{pmatrix} 1.2 & 1.3 \\ 2.2 & 2.3 \end{pmatrix} \begin{pmatrix} 1.1 & 1.3 \\ 2.2 & 2.3 \end{pmatrix},$$

from which the following dyadic sign relations can be constructed:

(1.1, 1.1)	(1.2, 1.2)	(1.1, 1.1)
(1.1, 1.2)	(1.2, 1.3)	(1.1, 1.3)
(1.1, 2.2)	(1.2, 2.2)	(1.1, 2.2)
(1.1, 2.3)	(1.2, 2.3)	(1.1, 2.3)
(1.2, 1.2)	(1.3, 1.3)	(1.3, 1.3)
(1.2, 2.2)	(1.3, 2.2)	(1.3, 2.2)
(1.2, 2.3)	(1.3, 2.3)	(1.3, 2.3)

(2.2, 2.2)	(2.2, 2.2)	(2.2, 2.2)
(2.2, 2.3)	(2.2, 2.3)	(2.2, 2.3)
(2.3, 2.3)	(2.3, 2.3)	(2.3, 2.3),

thus 10 "sign classes" each (and via dualization 10 corresponding "reality thematics".

Bibliography

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