Prof. Dr. Alfred Toth

Trajektische Differentiation der ontischen Randrelation

1. Zwei mal vier bifunktorielle Produkte (vgl. Toth 2025a, b)

(a.b), (c.d) =

1. (a.c), (b.d) | 2. (d.b), (c.a)

3. (b.c), (a.d) | 4. (d.a), (c.b)

5. (a.d), (b.c) | 6. (c.b), (d.a)

7. (b.d), (a.c) | 8. (c.a), (d.b)

2. Im folgenden zeigen wir die obigen 8 Möglichkeiten, die Randrelation

R* = (A, R, I)

(A = Außen, R = Rand, I = Innen)

abzuleiten. Dafür stehe exemplarisch

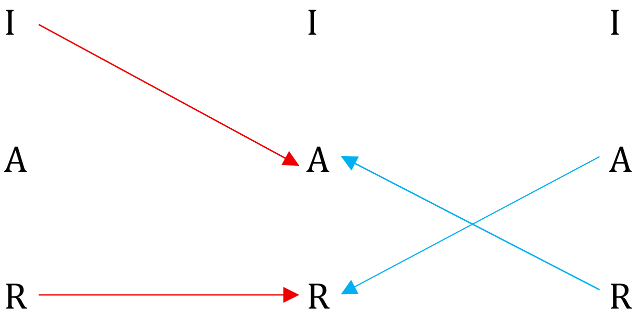
R* = (I.R, A.R, R.A)

2.1. Methode 1

(I.R, A.R, R.A)' = ((I.A, R.R), (A.R, R.A))

((I.A, R.R), (A.R, R.A))' = ((I.R, A.R), (A.R, R.A))

((I.R, A.R), (A.R, R.A))' = ((I.A, R.R), (A.R, R.A)) #

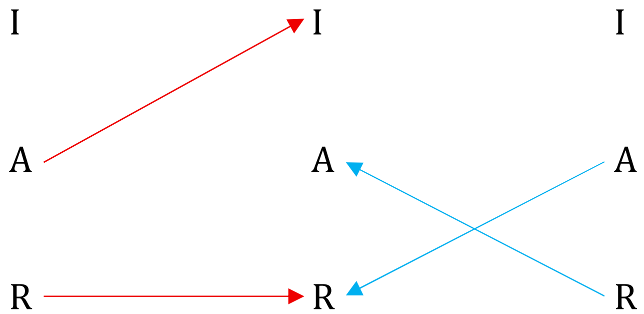


2.2. Methode 2

(I.R, A.R, R.A)' = ((R.R, A.I), (A.R, R.A))

((R.R, A.I), (A.R, R.A))' = ((I.R, A.R), (A.R, R.A))

((I.R, A.R), (A.R, R.A))' = ((R.R, A.I), (A.R, R.A)) #



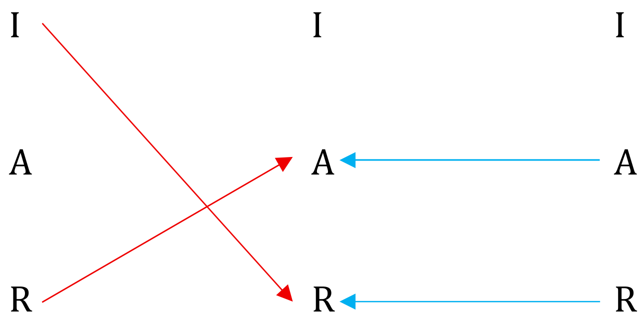
2.3. Methode 3

(I.R, A.R, R.A)' = ((R.A, I.R), (R.R, A.A))

((R.A, I.R), (R.R, A.A))' = ((A.I, R.R), (R.A, R.A))

((A.I, R.R), (R.A, R.A))' = ((I.R, A.R), (A.R, R.A))

((I.R, A.R), (A.R, R.A))' = ((R.A, I.R), (R.R, A.A)) #



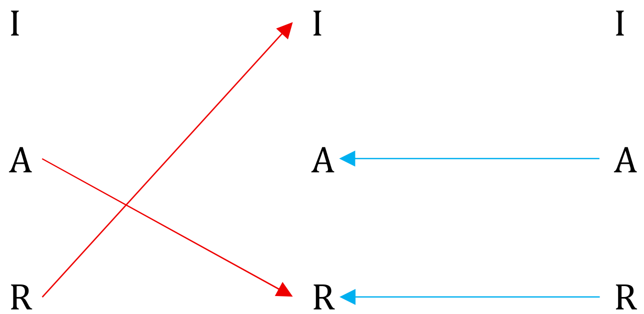
2.4. Methode 4

(I.R, A.R, R.A)' = ((R.I, A.R), (A.A, R.R))

((R.I, A.R), (A.A, R.R))' = ((R.R, A.I), (R.A, R.A))

((R.R, A.I), (R.A, R.A))' = ((I.R, A.R), (A.R, R.A))

((I.R, A.R), (A.R, R.A))' = ((R.I, A.R), (A.A, R.R)) #



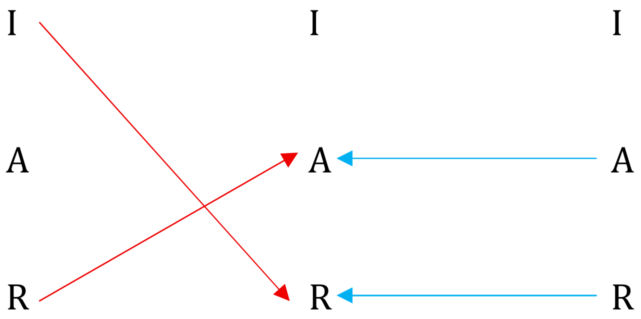
2.5. Methode 5

(I.R, A.R, R.A)' = ((I.R, R.A), (A.A, R.R))

((I.R, R.A), (A.A, R.R))' = ((I.A, R.R), (A.R, A.R))

((I.A, R.R), (A.R, A.R))' = ((I.R, A.R), (A.R, R.A))

((I.R, A.R), (A.R, R.A))' = ((I.R, R.A), (A.A, R.R)) ⋕



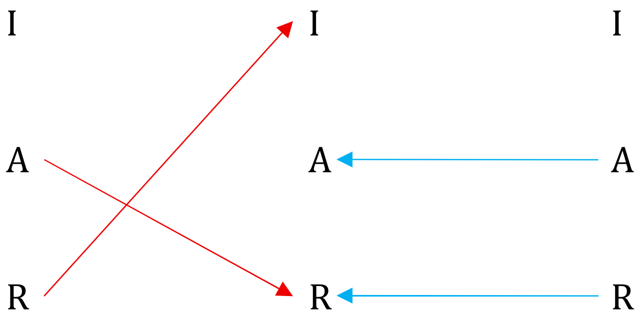
2.6. Methode 6

(I.R, A.R, R.A)' = ((A.R, R.I), (R.R, A.A))

((A.R, R.I), (R.R, A.A))' = ((R.R, I.A), (A.R, A.R))

((R.R, I.A), (A.R, A.R))' = ((I.R, A.R), (A.R, R.A))

((I.R, A.R), (A.R, R.A))' = ((A.R, R.I), (R.R, A.A)) ⋕



2.7 Methode 7

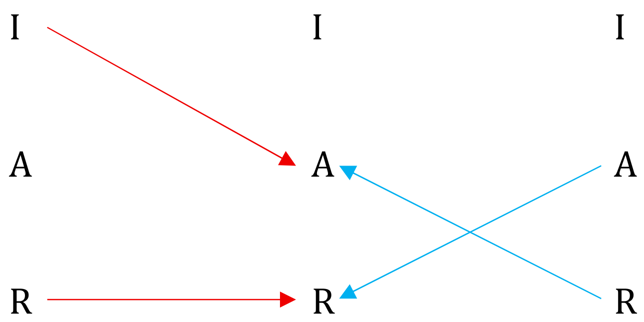
(I.R, A.R, R.A)' = ((R.R, I.A), (R.A, A.R))

((R.R, I.A), (R.A, A.R))' = ((R.A, R.I), (A.R, R.A))

((R.A, R.I), (A.R, R.A))' = ((A.I, R.R), (R.A, A.R))

((A.I, R.R), (R.A, A.R))' = ((I.R, A.R), (A.R, R.A))

((I.R, A.R), (A.R, R.A))' = ((R.R, I.A), (R.A, A.R)) ⋕



2.8. Methode 8

(a.b), (c.d) = 8. (c.a), (d.b)

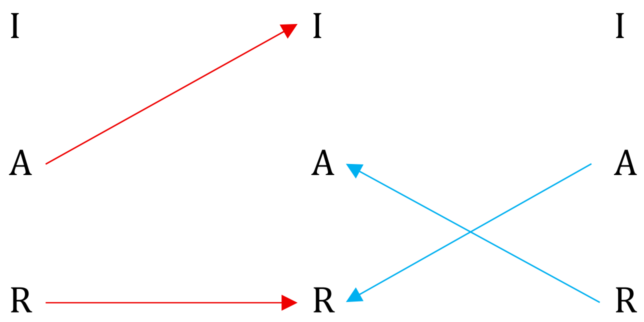
(I.R, A.R, R.A)' = ((A.I, R.R), (R.A, A.R))

((A.I, R.R), (R.A, A.R))' = ((R.A, R.I), (A.R, R.A))

((R.A, R.I), (A.R, R.A))' = ((R.R, I.A), (R.A, A.R))

((R.R, I.A), (R.A, A.R))' = ((I.R, A.R), (A.R, R.A))

((I.R, A.R), (A.R, R.A))' = ((A.I, R.R), (R.A, A.R)) ⧣

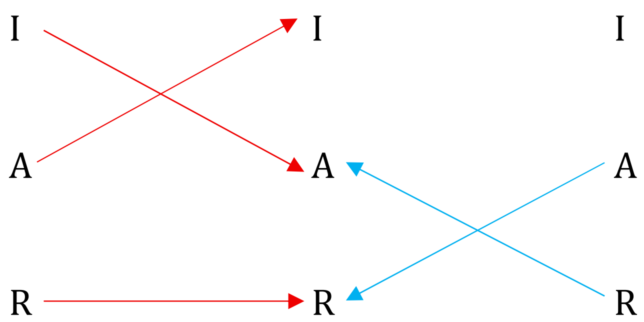


Es gilt:

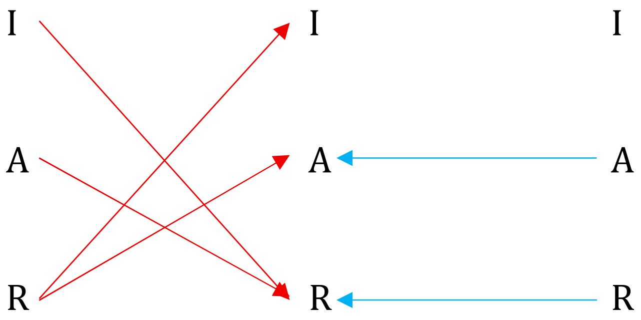
M1 = M7, M2 = M8, M3 = M5, M4 = M6.

3. Vereinigungsgraphen

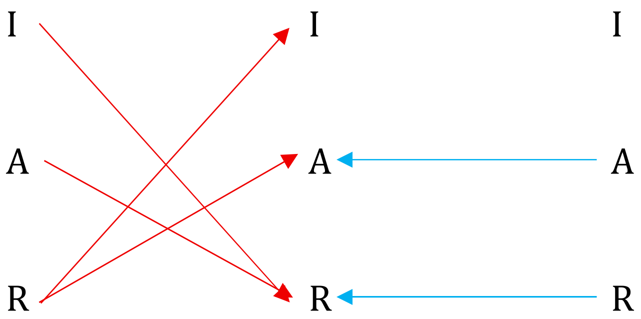
∪(M1, M2)



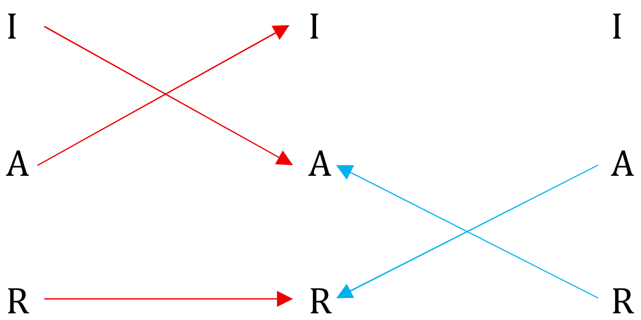
$\cup$(M3, M4)



$\cup$(M5, M6)



$\cup$(M7, M8)



Es gilt somit:

$\cup$(M1, M2) = $\cup$(M7, M8)

$\cup$(M3, M4) = $\cup$(M5, M6).

Die Vereinigungsgraphen jedes der vier Paare von bifunktoriellen Ableitungen lassen sich also auf nur zwei Paare zurückführen.

Literatur

Toth, Alfred, Semiotische Differentiation I-II. In: Electronic Journal for Mathematical Semiotics, 2025a

Toth, Alfred, Trajektionen semiotischer Differentiation. In: Electronic Journal for Mathematical Semiotics, 2025b

28.9.2025