

Prof. Dr. Alfred Toth

## Raumsemiotik mit trajektischen Abbildungen

1. In Toth (2025) hatten wir das vollständige System der  $3^3 = 27$  ternären (triadisch-trichotomischen) semiotischen Relationen in Form von trajektischen Abbildungen der Form

$$T = (1, 2, 3) \mid (1, 2, 3) \text{ mit } \mid = R((1, 2, 3), (1, 2, 3))$$

dargestellt und die semiotischen Relationen nach dem Vorschlag Walthers für Zeichenklassen (vgl. Walther 1979, S. 79) in Kompositionen dyadischer Teilrelationen zerlegt

$$(3.x, 2.y, 1.z) = (3.x \rightarrow 2.y) \circ (2.y \rightarrow 1.z)$$

$$(z.1, y.2, x.3) = (z.1 \rightarrow y.2) \circ (y.2 \rightarrow x.3).$$

2. In der vorliegenden Arbeit benutzen wir die trajektische Abbildungstheorie als algebraische Grundlage der von Bense inaugurierten Raumsemiotik (vgl. Bense/Walther 1973, S. 80). Die raumsemiotische Relation ist definiert durch

$$RR = (2.1, 2.2, 2.3) \times DRR = (3.2, 2.2, 1.2),$$

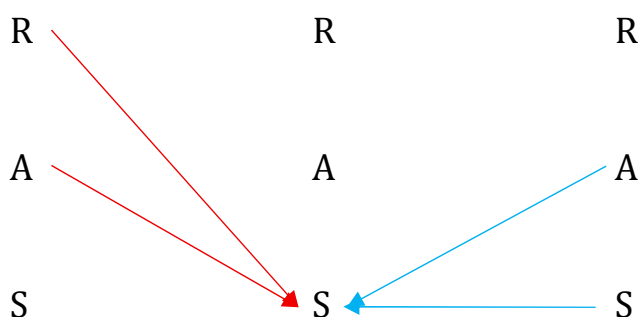
d.h. sie umfaßt die vollständige Primzeichenrelation  $P = (1, 2, 3)$  (vgl. Bense 1980). Im folgenden benutzen wir folgende Buchstabenkürzel:

$$(2.1) := S(\text{ystem}), (2.2) := A(\text{bbildung}), (2.3) := R(\text{epertoire})$$

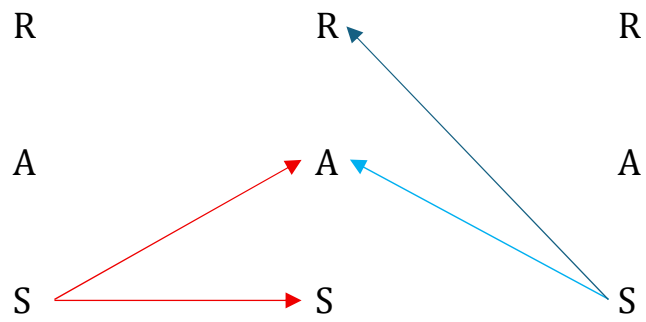
## 2. Raumsemiotische Relationen

### 1. Raumsemiotische Relation

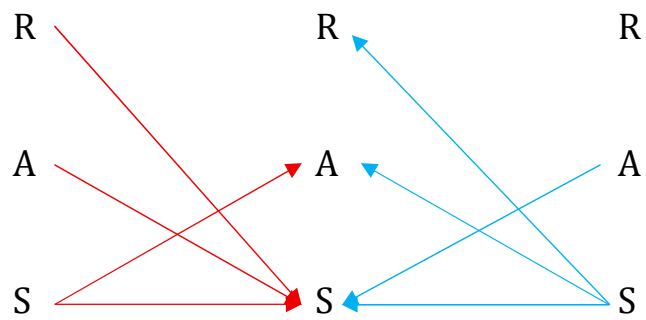
$$RR = (R.S, A.S, S.S)$$



DRR = (S.S, S.A, S.R)

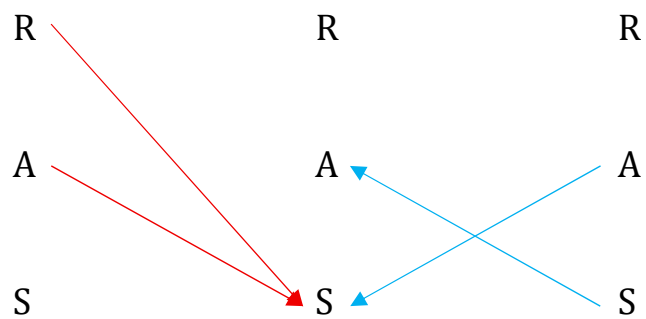


DS = [(R.S, A.S, S.S) × (S.S, S.A, S.R)]

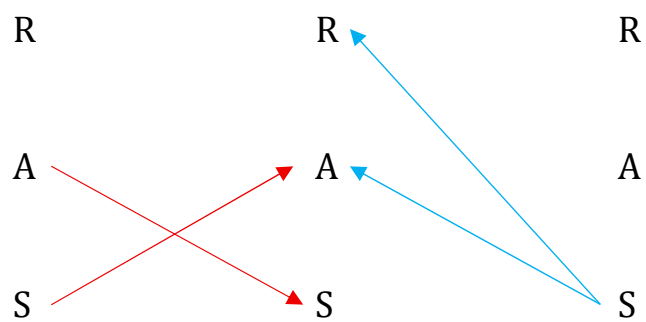


## 2. Raumsemiotische Relation

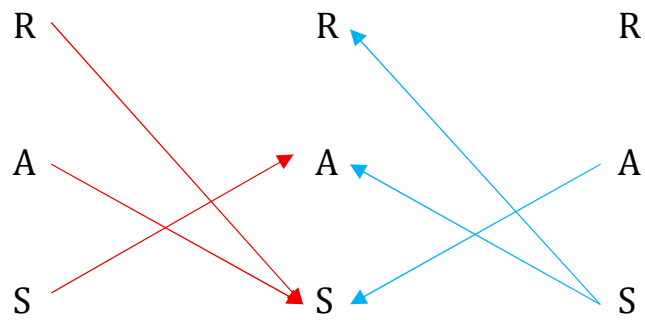
RR = (R.S, A.S, S.A)



DRR = (A.S, S.A, S.R)

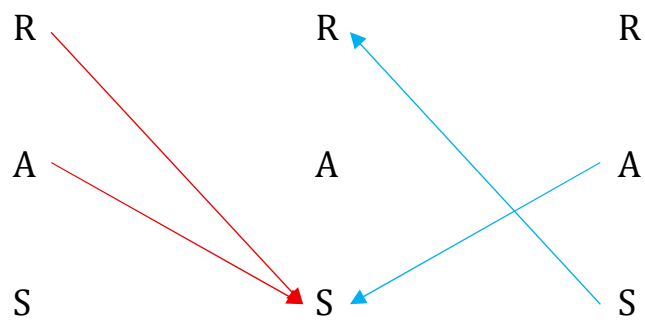


$$DS = [(R.S, A.S, S.A) \times (A.S, S.A, S.R)]$$

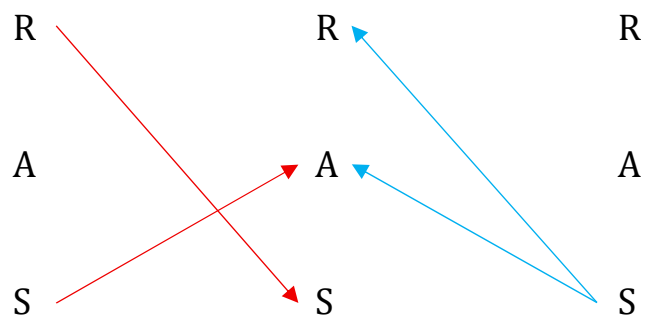


### 3. Raumsemiotische Relation

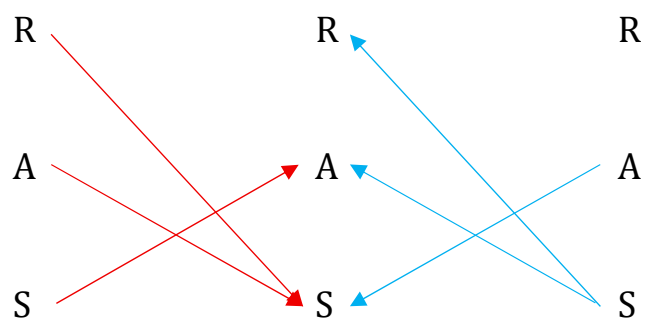
$$RR = (R.S, A.S, S.R)$$



$$DRR = (R.S, S.A, S.R)$$

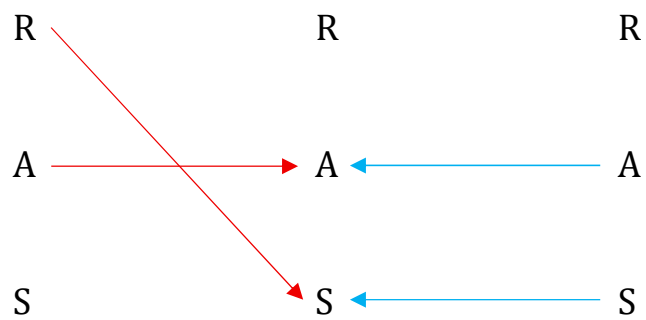


$$DS = [(R.S, A.S, S.R) \times (R.S, S.A, S.R)]$$

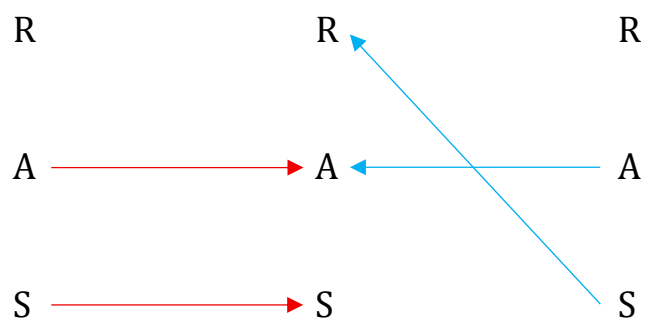


#### 4. Raumsemiotische Relation

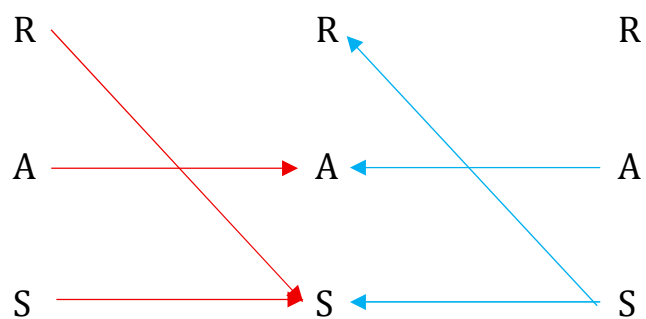
$$RR = (R.S, A.A, S.S)$$



$$DRR = (S.S, A.A, S.R)$$

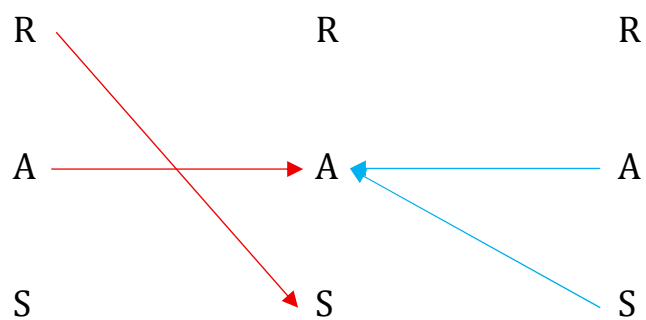


$$DS = [(R.S, A.A, S.S) \times (S.S, A.A, S.R)]$$

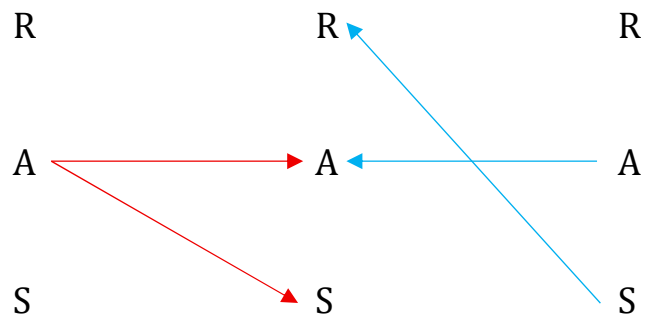


#### 5. Raumsemiotische Relation

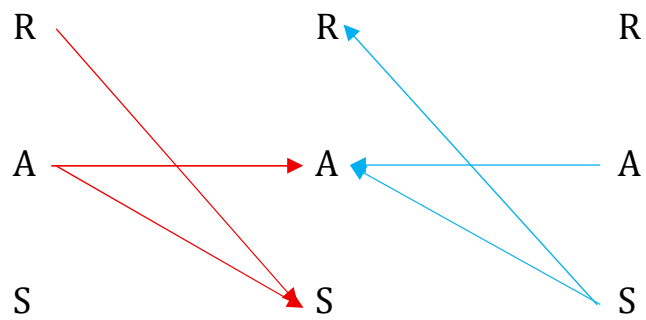
$$RR = (R.S, A.A, S.A)$$



DRR = (A.S, A.A, S.R)

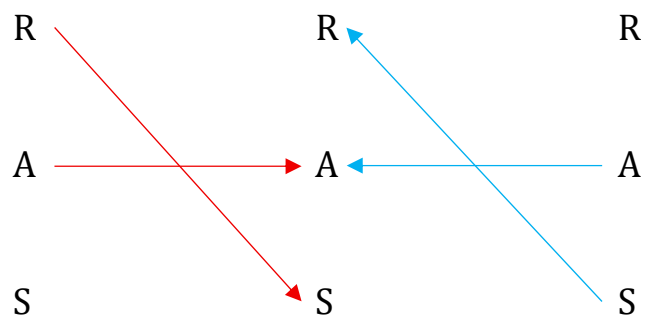


DS = [(R.S, A.A, S.A) × (A.S, A.A, S.R)]

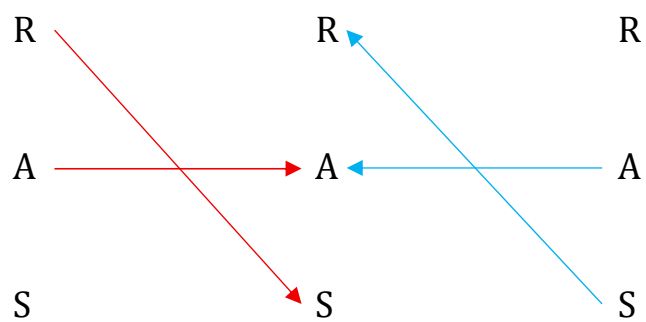


## 6. Raumsemiotische Relation

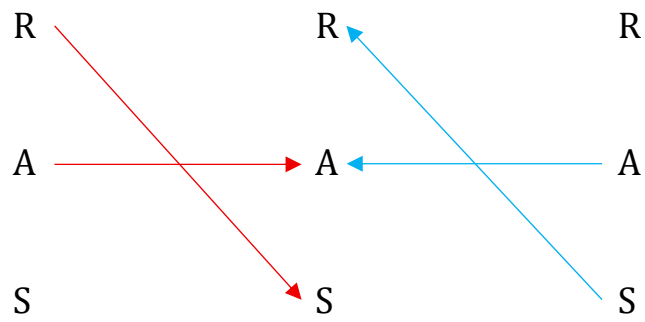
RR = (R.S, A.A, S.R)



DRR = (R.S, A.A, S.R)

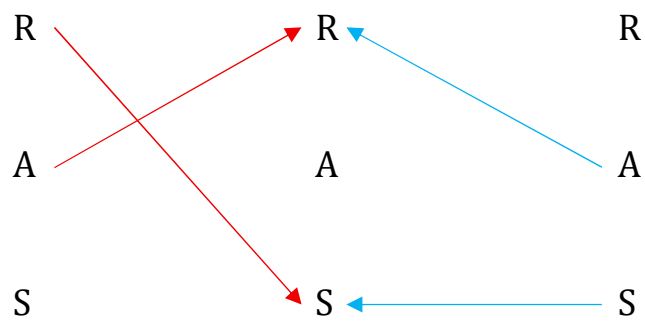


$$DS = [(R.S, A.A, S.R) \times (R.S, A.A, S.R)]$$

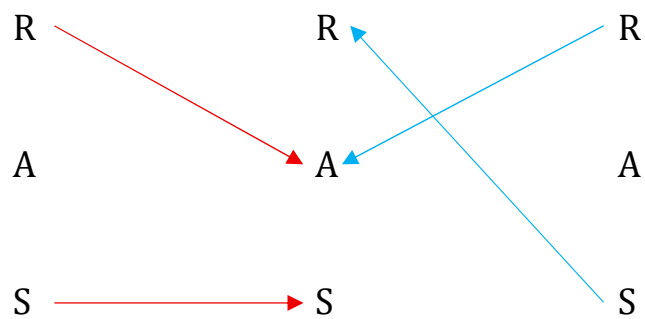


## 7. Raumsemiotische Relation

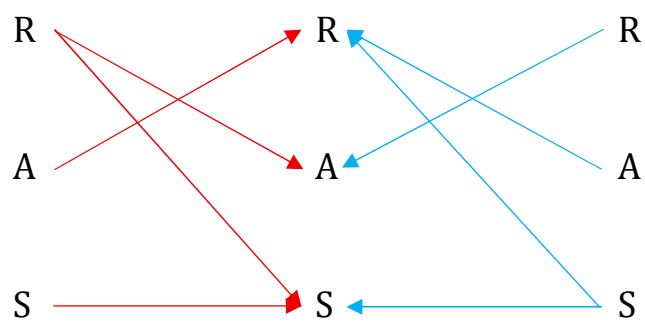
$$RR = (R.S, A.R, S.S)$$



$$DRR = (S.S, R.A, S.R)$$

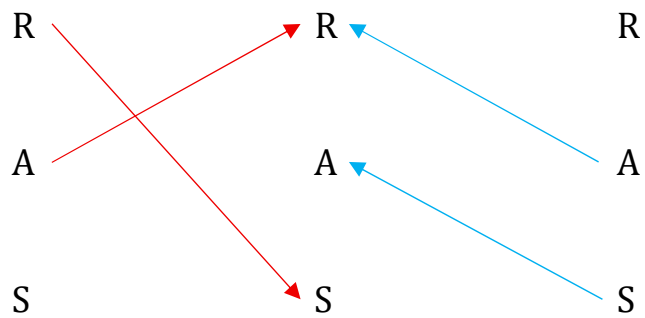


$$DS = [(R.S, A.R, S.S) \times (S.S, R.A, S.R)]$$

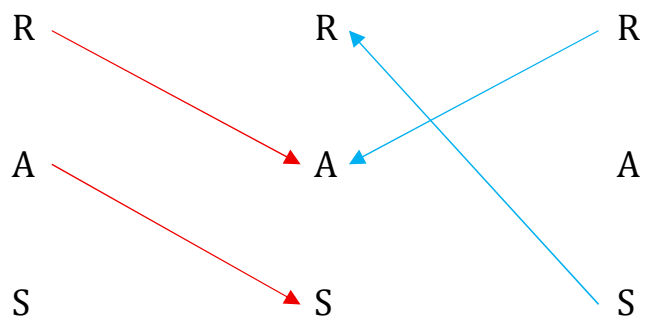


## 8. Raumsemiotische Relation

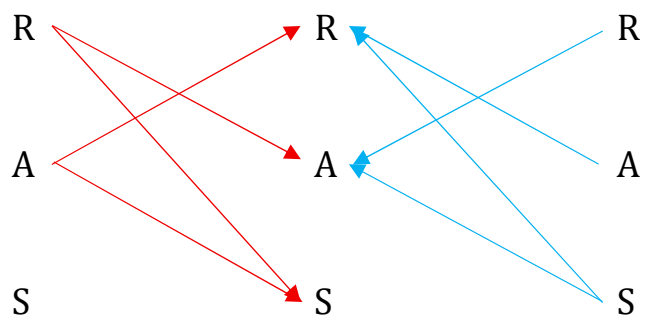
$$RR = (R.S, A.R, S.A)$$



$$DRR = (A.S, R.A, S.R)$$

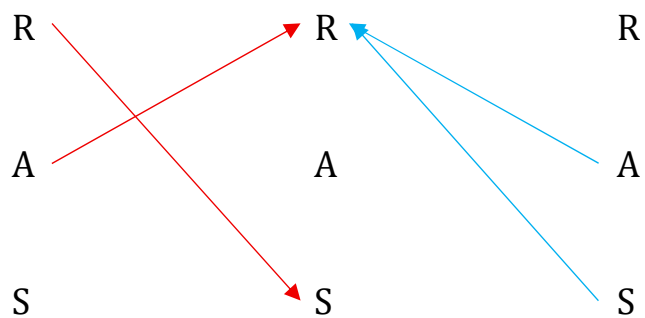


$$DS = [(R.S, A.R, S.A) \times (A.S, R.A, S.R)]$$

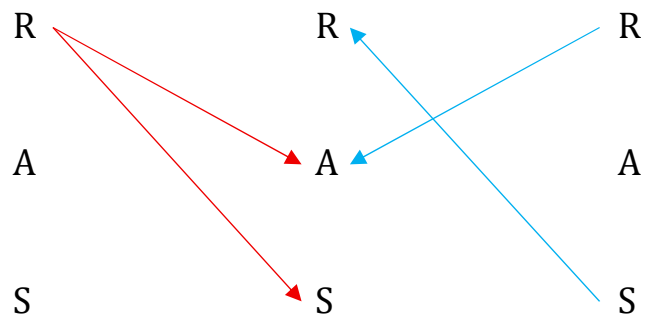


## 9. Raumsemiotische Relation

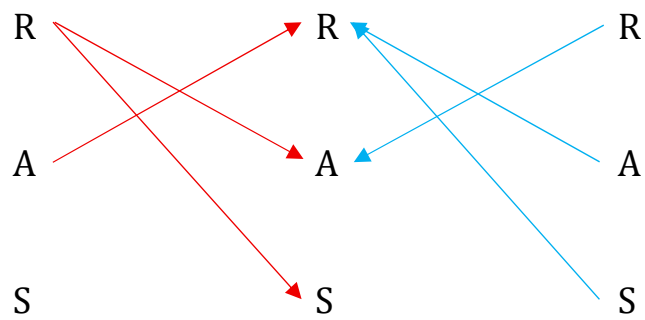
$$RR = (R.S, A.R, S.R)$$



DRR = (R.S, R.A, S.R)

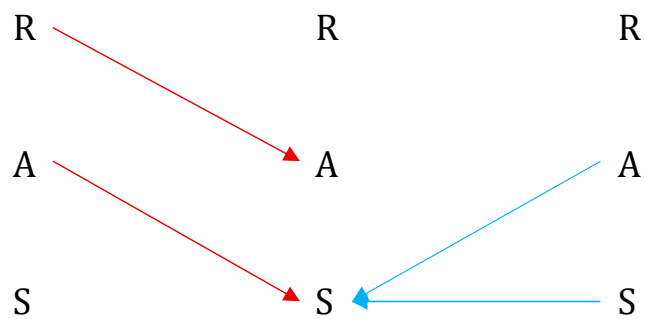


DS = [(R.S, A.R, S.R) × (R.S, R.A, S.R)]

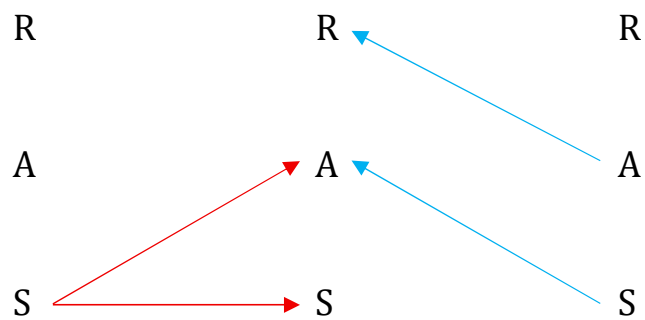


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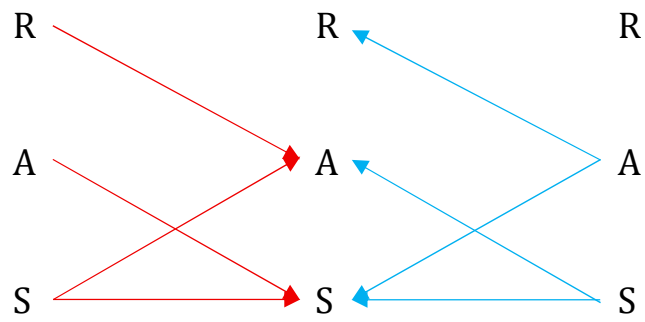
RR = (R.A, A.S, S.S)



DRR = (S.S, S.A, A.R)

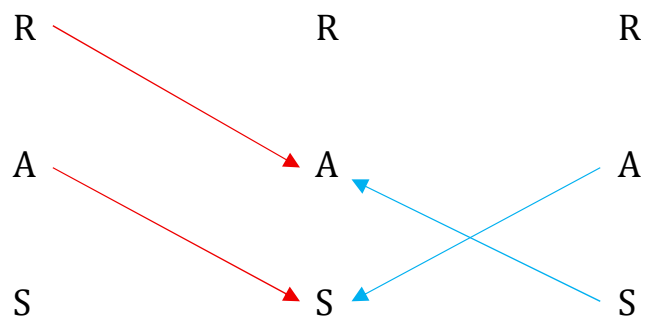


$$DS = [(R.A, A.S, S.S) \times (S.S, S.A, A.R)]$$

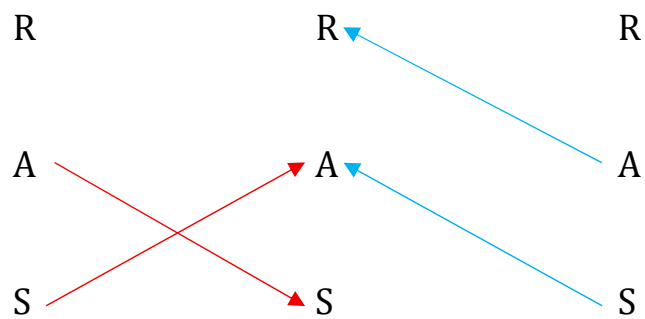


## 11. Raumsemiotische Relation

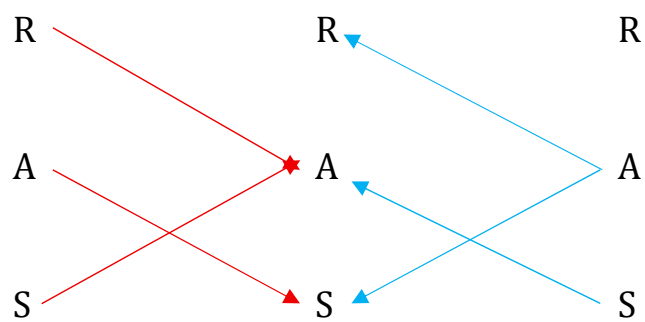
$$RR = (R.A, A.S, S.A)$$



$$DRR = (A.S, S.A, A.R)$$

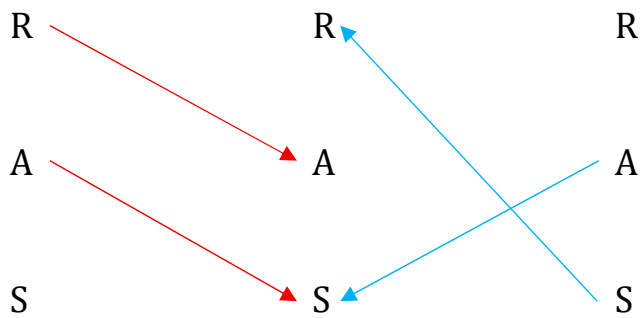


$$DS = [(R.A, A.S, S.A) \times (A.S, S.A, A.R)]$$

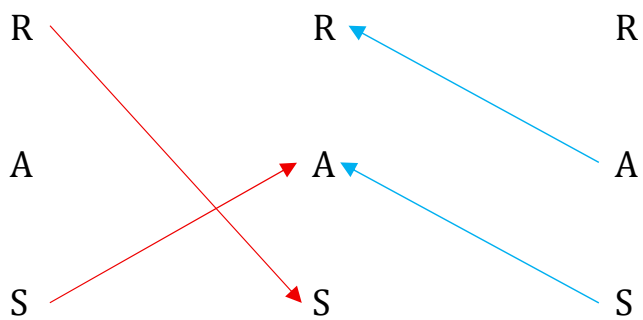


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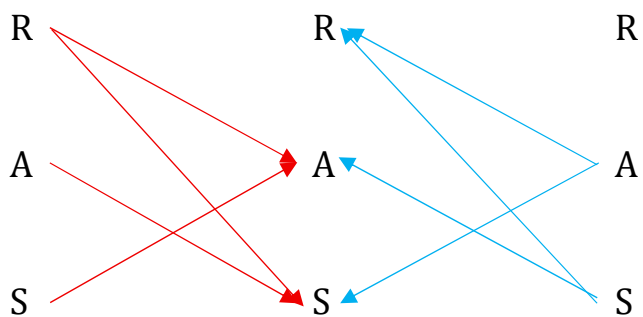
$$RR = (R.A, A.S, S.R)$$



$$DRR = (R.S, S.A, A.R)$$

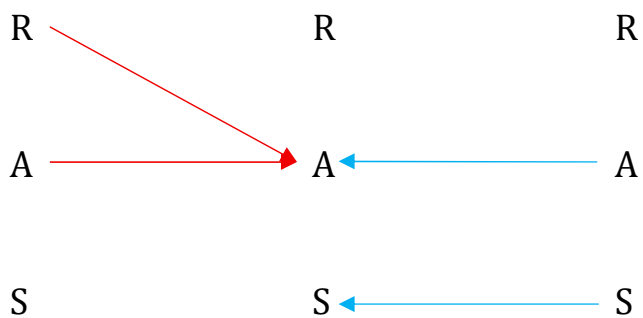


$$DS = [(R.A, A.S, S.R) \times (R.S, S.A, A.R)]$$

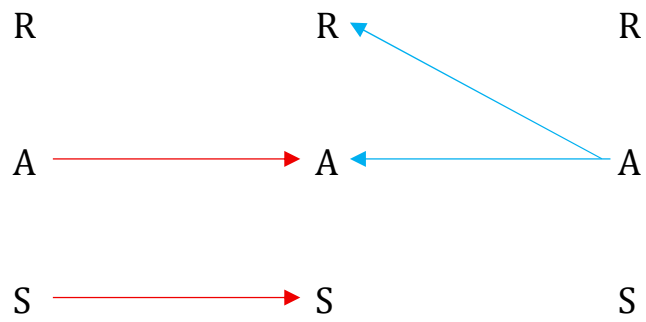


## 13. Raumsemiotische Relation

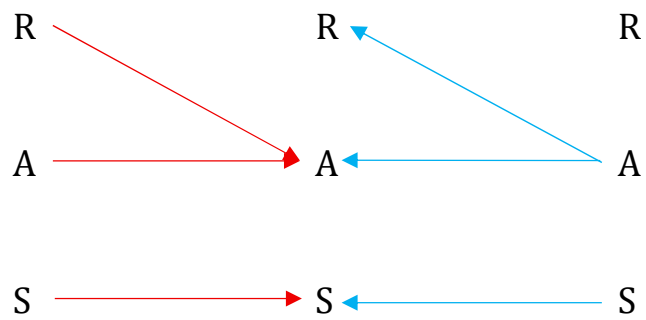
$$RR = (R.A, A.A, S.S)$$



DRR = (S.S, A.A, A.R)

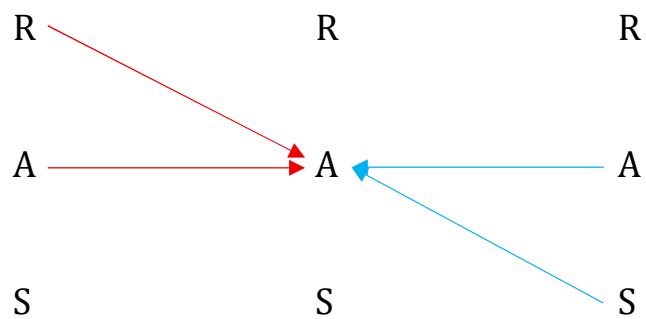


DS = [(R.A, A.A, S.S) × (S.S, A.A, A.R)]

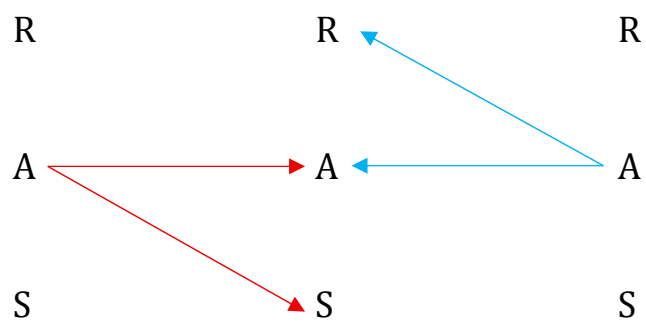


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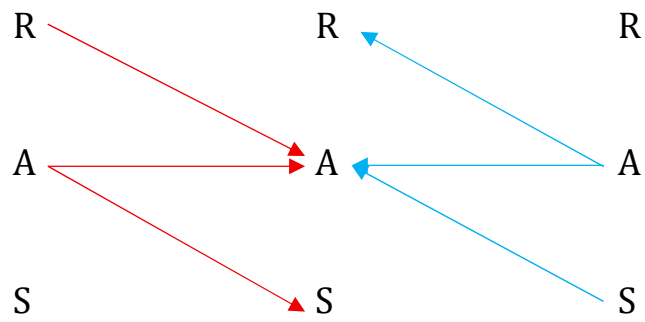
RR = (R.A, A.A, S.A)



DRR = (A.S, A.A, A.R)

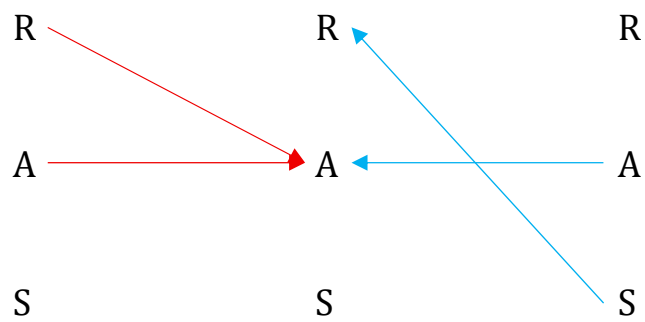


$$DS = [(R.A, A.A, S.A) \times (A.S, A.A, A.R)]$$

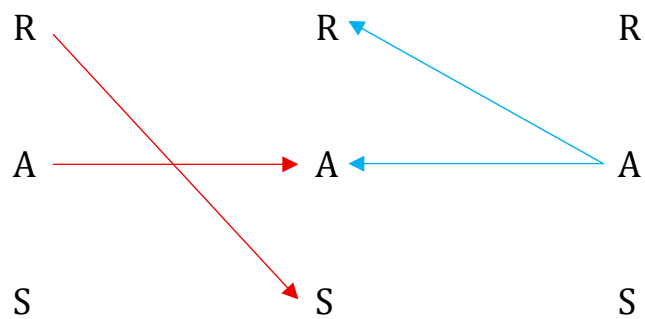


## 15. Raumsemiotische Relation

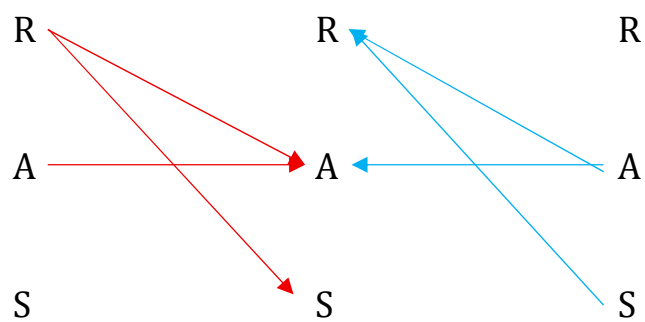
$$RR = (R.A, A.A, S.R)$$



$$DRR = (R.S, A.A, A.R)$$

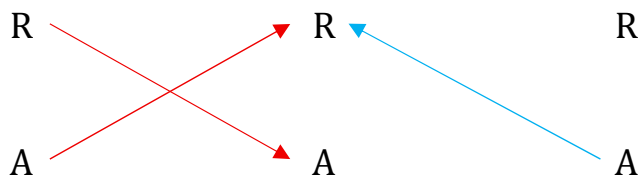


$$DS = [(R.A, A.A, S.R) \times (R.S, A.A, A.R)]$$

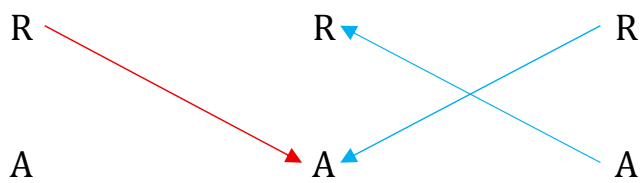


## 16. Raumsemiotische Relation

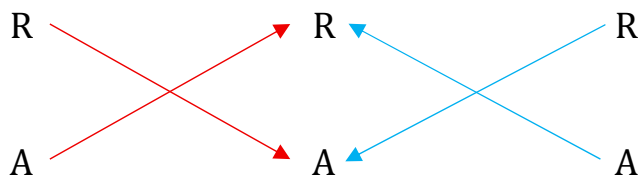
$$RR = (R.A, A.R, S.S)$$



$$DRR = (S.S, R.A, A.R)$$

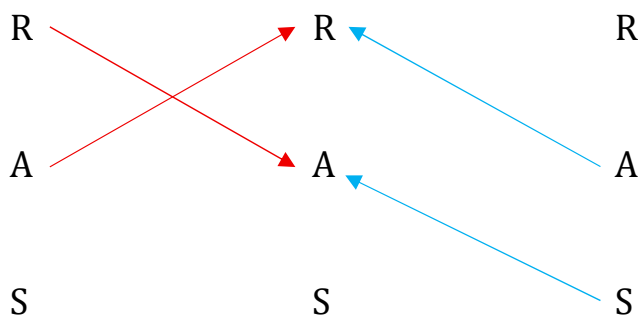


$$DS = [(R.A, A.R, S.S) \times (S.S, R.A, A.R)]$$

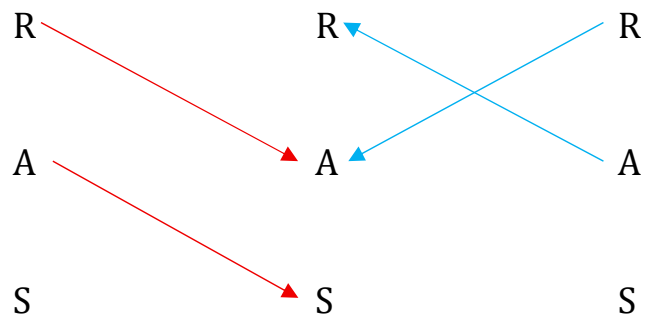


## 17. Raumsemiotische Relation

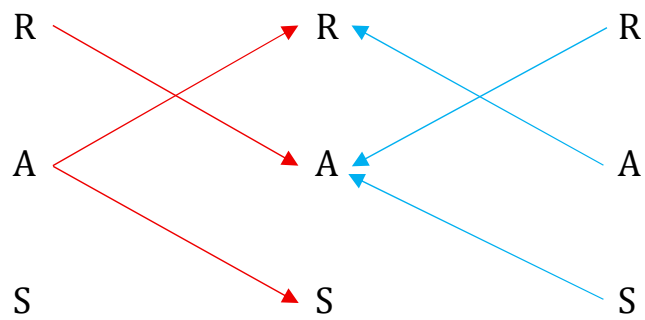
$$RR = (R.A, A.R, S.A)$$



DRR = (A.S, R.A, A.R)

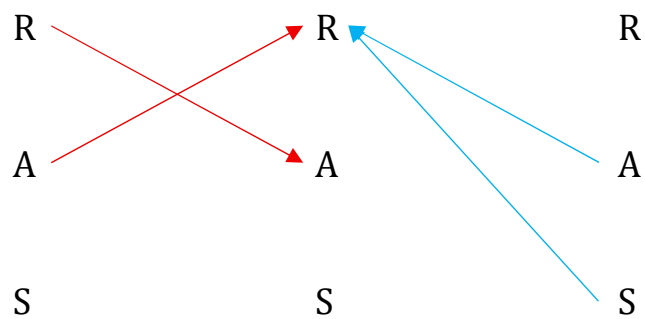


DS = [(R.A, A.R, S.A) × (A.S, R.A, A.R)]

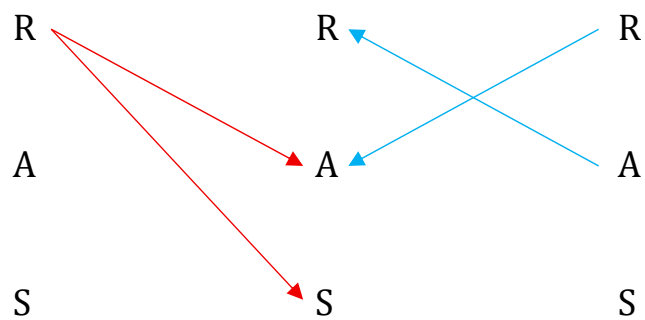


## 18. Raumsemiotische Relation

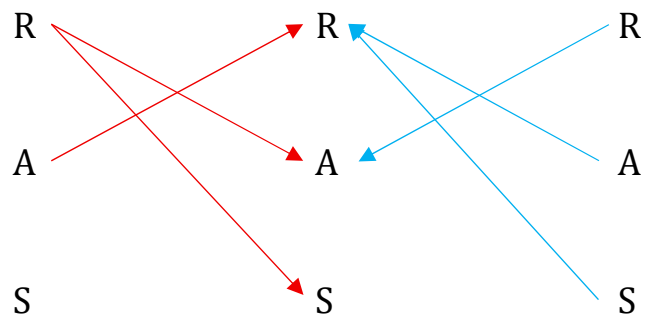
RR = (R.A, A.R, S.R)



DRR = (R.S, R.A, A.R)

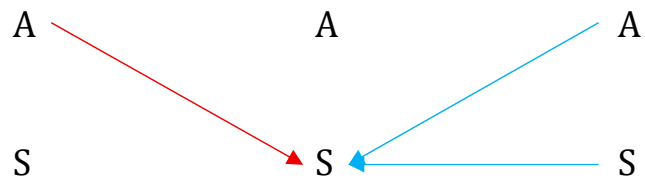


$$DS = [(R.A, A.R, S.R) \times (R.S, R.A, A.R)]$$

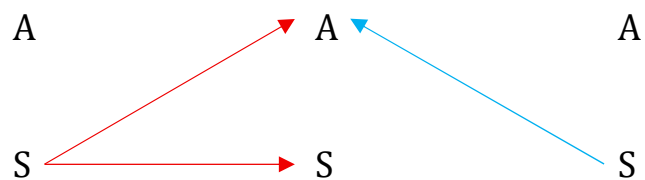


## 19. Raumsemiotische Relation

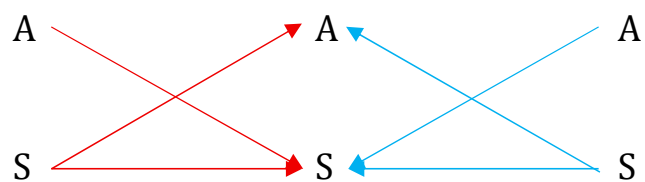
$$RR = (R.R, A.S, S.S)$$



$$DRR = (S.S, S.A, R.R)$$



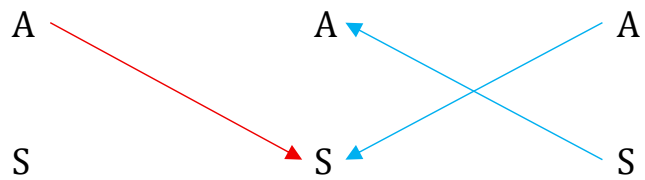
$$DS = [(R.R, A.S, S.S) \times (S.S, S.A, R.R)]$$



## 20. Raumsemiotische Relation

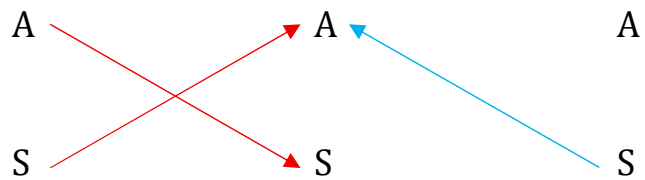
$$RR = (R.R, A.S, S.A)$$

R  $\xrightarrow{\text{red}}$  R R



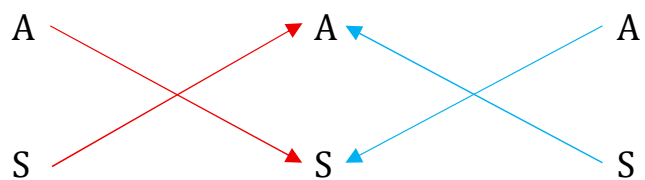
$$DRR = (A.S, S.A, R.R)$$

R R  $\xleftarrow{\text{blue}}$  R



$$DS = [(R.R, A.S, S.A) \times (A.S, S.A, R.R)]$$

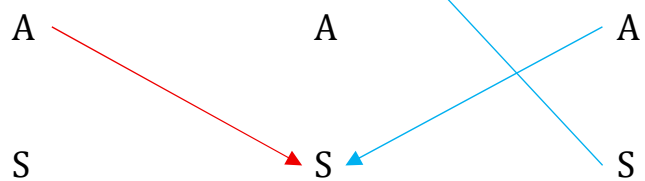
R  $\xrightarrow{\text{red}}$  R  $\xleftarrow{\text{blue}}$  R



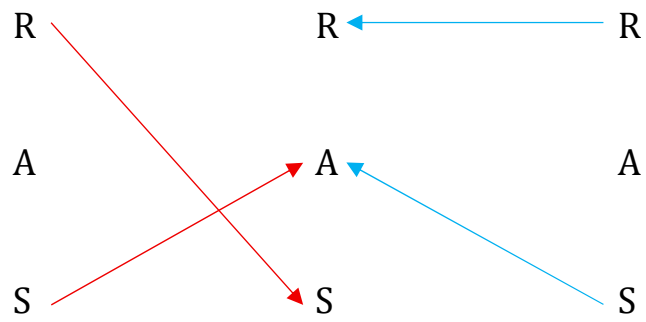
## 21. Raumsemiotische Relation

$$RR = (R.R, A.S, S.R)$$

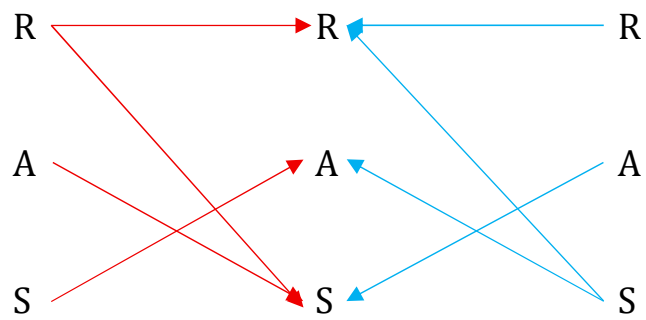
R  $\xrightarrow{\text{red}}$  R R



DRR = (R.S, S.A, R.R)

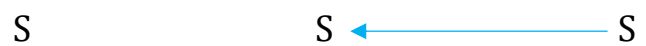


DS = [(R.R, A.S, S.R) × (R.S, S.A, R.R)]

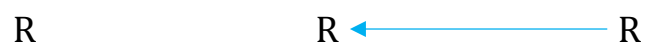


## 22. Raumsemiotische Relation

RR = (R.R, A.A, S.S)



DRR = (S.S, A.A, R.R)

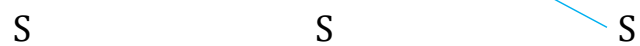


$$DS = [(R.R, A.A, S.S) \times (S.S, A.A, R.R)]$$



### 23. Raumsemiotische Relation

$$RR = (R.R, A.A, S.A)$$



$$DRR = (A.S, A.A, R.R)$$

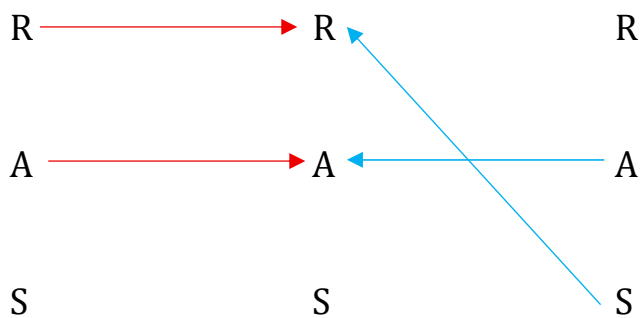


$$DS = [(R.R, A.A, S.A) \times (A.S, A.A, R.R)]$$

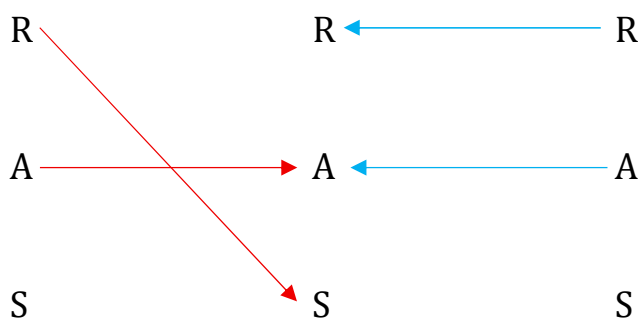


## 24. Raumsemiotische Relation

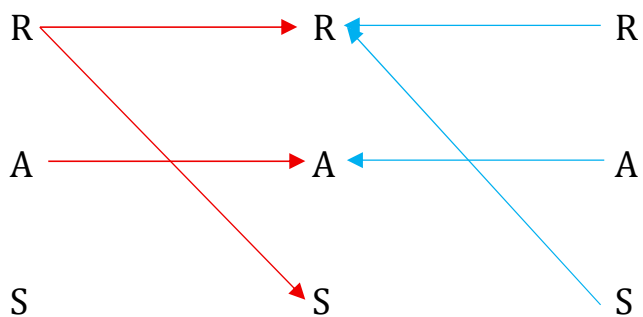
$RR = (R.R, A.A, S.R)$



$DRR = (R.S, A.A, R.R)$

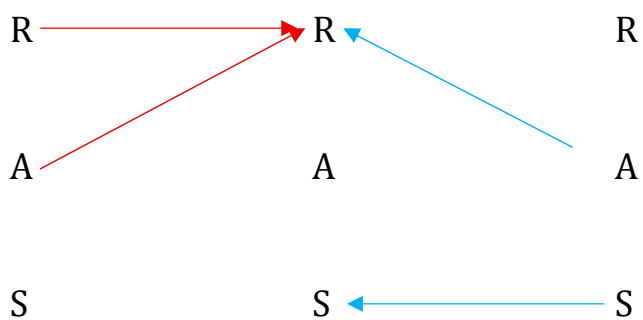


$DS = [(R.R, A.A, S.R) \times (R.S, A.A, R.R)]$

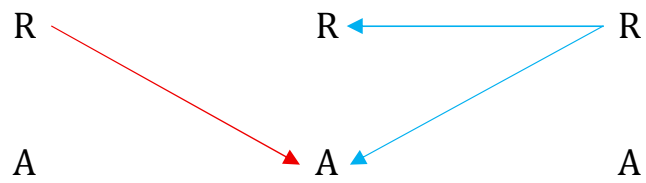


## 25. Raumsemiotische Relation

$RR = (R.R, A.R, S.S)$

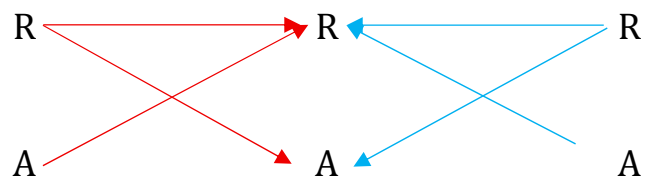


DRR = (S.S, R.A, R.R)



S  $\longrightarrow$  S

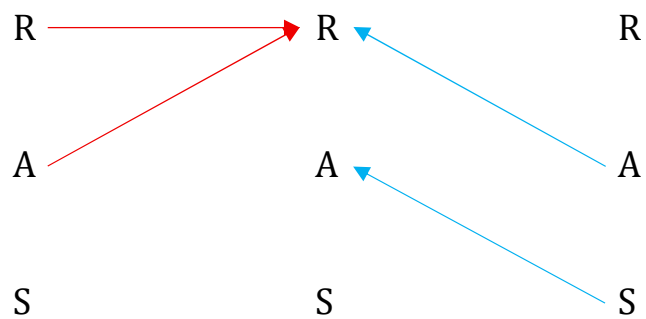
DS = [(R.R, A.R, S.S)  $\times$  (S.S, R.A, R.R)]



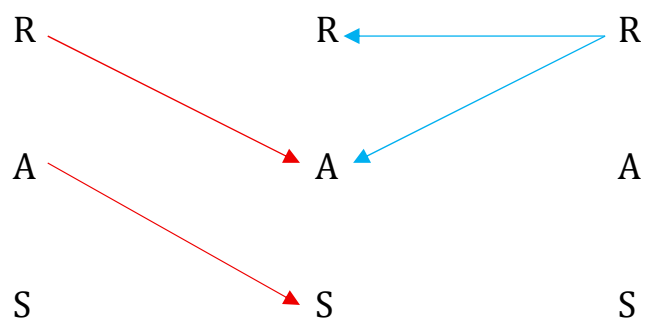
S  $\longrightarrow$  S

## 26. Raumsemiotische Relation

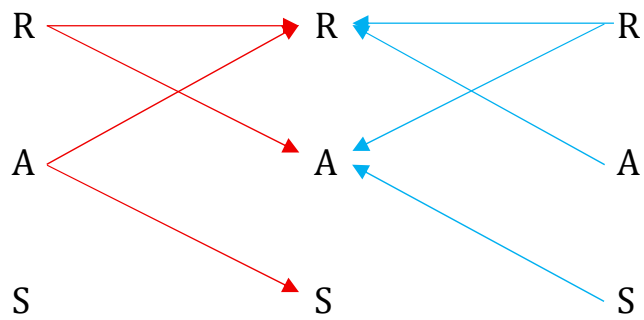
RR = (R.R, A.R, S.A)



DRR = (A.S, R.A, R.R)

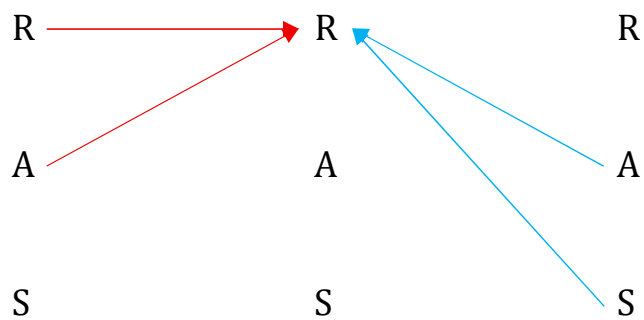


$$DS = [(R.R, A.R, S.A) \times (A.S, R.A, R.R)]$$

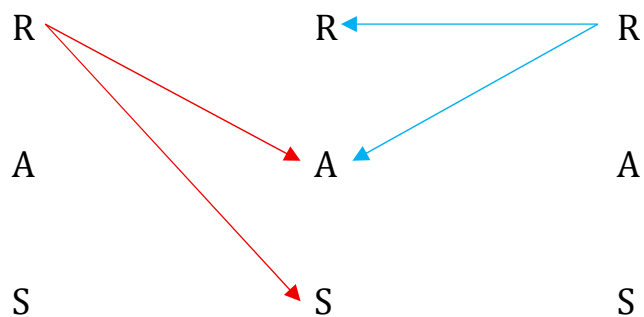


## 27. Raumsemiotische Relation

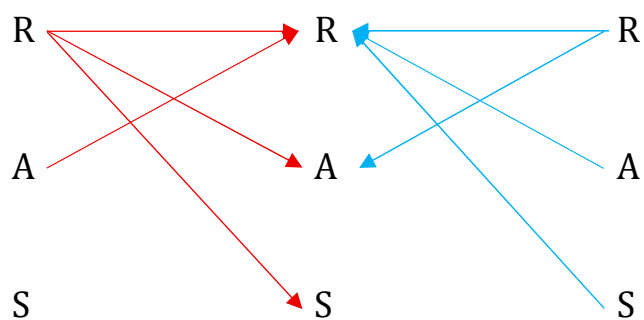
$$RR = (R.R, A.R, S.R)$$



$$DRR = (R.S, R.A, R.R)$$



$$DS = [(R.R, A.R, S.R) \times (R.S, R.A, R.R)]$$



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