

Das wegtopologische System paariger kategorietheoretischer Vektoren

1. In Toth (2011a) hatten wir folgende Korrespondenzen zwischen Subzeichen als wegtopologischen Kategorien in der numerischen und der morphismischen Schreibung festgestellt:

$$\{(2.1)^{\leftarrow}, (2.2)^{\leftarrow}, (2.3)^{\leftarrow}\} \rightarrow \{\alpha^{\leftarrow}, \text{id}_2^{\leftarrow}, \beta\alpha^{\leftarrow}\}$$

$$\{(2.1)^{\downarrow}, (2.2)^{\downarrow}, (2.3)^{\downarrow}\} \rightarrow \{\alpha^{\downarrow}, \text{id}_2^{\downarrow}, \beta\alpha^{\downarrow}\}$$

$$\{(2.1)^{\rightarrow}, (2.2)^{\rightarrow}, (2.3)^{\rightarrow}\} \rightarrow \{\alpha^{\rightarrow}, \text{id}_2^{\rightarrow}, \beta\alpha^{\rightarrow}\}$$

2. Analog zur Pfeilgrammatik (Toth 2011b), wo wir von drei Richtungen ausgegangen waren, wollen wir hier exemplarisch das wegtopologische System paariger kategorietheoretischer Vektoren zusammenstellen:

| | α^{\leftarrow} | α^{\downarrow} | α^{\rightarrow} | id_2^{\leftarrow} | id_2^{\downarrow} | $\text{id}_2^{\rightarrow}$ | $\beta\alpha^{\leftarrow}$ | $\beta\alpha^{\downarrow}$ | $\beta\alpha^{\rightarrow}$ |
|-----------------------------|---|---|--|--|--|---|--|--|---|
| α^{\leftarrow} | $\alpha^{\leftarrow} \alpha^{\leftarrow}$ | $\alpha^{\leftarrow} \alpha^{\downarrow}$ | $\alpha^{\leftarrow} \alpha^{\rightarrow}$ | $\alpha^{\rightarrow} \text{id}_2^{\leftarrow}$ | $\alpha^{\leftarrow} \text{id}_2^{\downarrow}$ | $\alpha^{\leftarrow} \text{id}_2^{\rightarrow}$ | $\alpha^{\leftarrow} \beta\alpha^{\leftarrow}$ | $\alpha^{\leftarrow} \beta\alpha^{\downarrow}$ | $\alpha^{\leftarrow} \beta\alpha^{\rightarrow}$ |
| α^{\downarrow} | $\alpha^{\downarrow} \alpha^{\leftarrow}$ | $\alpha^{\downarrow} \alpha^{\downarrow}$ | $\alpha^{\downarrow} \alpha^{\rightarrow}$ | $\alpha^{\downarrow} \text{id}_2^{\leftarrow}$ | $\alpha^{\downarrow} \text{id}_2^{\downarrow}$ | $\alpha^{\downarrow} \text{id}_2^{\rightarrow}$ | $\alpha^{\downarrow} \beta\alpha^{\leftarrow}$ | $\alpha^{\downarrow} \beta\alpha^{\downarrow}$ | $\alpha^{\downarrow} \beta\alpha^{\rightarrow}$ |
| α^{\rightarrow} | $\alpha^{\rightarrow} \alpha^{\leftarrow}$ | $\alpha^{\rightarrow} \alpha^{\downarrow}$ | $\alpha^{\rightarrow} \alpha^{\rightarrow}$ | $\alpha^{\rightarrow} \text{id}_2^{\leftarrow}$ | $\alpha^{\rightarrow} \text{id}_2^{\downarrow}$ | $\alpha^{\rightarrow} \text{id}_2^{\rightarrow}$ | $\alpha^{\rightarrow} \beta\alpha^{\leftarrow}$ | $\alpha^{\rightarrow} \beta\alpha^{\downarrow}$ | $\alpha^{\rightarrow} \beta\alpha^{\rightarrow}$ |
| id_2^{\leftarrow} | $\text{id}_2^{\leftarrow} \alpha^{\leftarrow}$ | $\text{id}_2^{\leftarrow} \alpha^{\downarrow}$ | $\text{id}_2^{\leftarrow} \alpha^{\rightarrow}$ | $\text{id}_2^{\leftarrow} \text{id}_2^{\leftarrow}$ | $\text{id}_2^{\leftarrow} \text{id}_2^{\downarrow}$ | $\text{id}_2^{\leftarrow} \text{id}_2^{\rightarrow}$ | $\text{id}_2^{\leftarrow} \beta\alpha^{\leftarrow}$ | $\text{id}_2^{\leftarrow} \beta\alpha^{\downarrow}$ | $\text{id}_2^{\leftarrow} \beta\alpha^{\rightarrow}$ |
| id_2^{\downarrow} | $\text{id}_2^{\downarrow} \alpha^{\leftarrow}$ | $\text{id}_2^{\downarrow} \alpha^{\downarrow}$ | $\text{id}_2^{\downarrow} \alpha^{\rightarrow}$ | $\text{id}_2^{\downarrow} \text{id}_2^{\leftarrow}$ | $\text{id}_2^{\downarrow} \text{id}_2^{\downarrow}$ | $\text{id}_2^{\downarrow} \text{id}_2^{\rightarrow}$ | $\text{id}_2^{\downarrow} \beta\alpha$ | $\text{id}_2^{\downarrow} \beta\alpha^{\downarrow}$ | $\text{id}_2^{\downarrow} \beta\alpha^{\rightarrow}$ |
| $\text{id}_2^{\rightarrow}$ | $\text{id}_2^{\rightarrow} \alpha^{\leftarrow}$ | $\text{id}_2^{\rightarrow} \alpha^{\downarrow}$ | $\text{id}_2^{\rightarrow} \alpha^{\rightarrow}$ | $\text{id}_2^{\rightarrow} \text{id}_2^{\leftarrow}$ | $\text{id}_2^{\rightarrow} \text{id}_2^{\downarrow}$ | $\text{id}_2^{\rightarrow} \text{id}_2^{\rightarrow}$ | $\text{id}_2^{\rightarrow} \beta\alpha^{\leftarrow}$ | $\text{id}_2^{\rightarrow} \beta\alpha^{\downarrow}$ | $\text{id}_2^{\rightarrow} \beta\alpha^{\rightarrow}$ |
| $\beta\alpha^{\leftarrow}$ | $\beta\alpha^{\leftarrow} \alpha^{\leftarrow}$ | $\beta\alpha^{\leftarrow} \alpha^{\downarrow}$ | $\beta\alpha^{\leftarrow} \alpha^{\rightarrow}$ | $\beta\alpha^{\leftarrow} \text{id}_2^{\leftarrow}$ | $\beta\alpha^{\leftarrow} \text{id}_2^{\downarrow}$ | $\beta\alpha^{\leftarrow} \text{id}_2^{\rightarrow}$ | $\beta\alpha^{\leftarrow} \beta\alpha^{\leftarrow}$ | $\beta\alpha^{\leftarrow} \beta\alpha^{\downarrow}$ | $\beta\alpha^{\leftarrow} \beta\alpha^{\rightarrow}$ |
| $\beta\alpha^{\downarrow}$ | $\beta\alpha^{\downarrow} \alpha^{\leftarrow}$ | $\beta\alpha^{\downarrow} \alpha^{\downarrow}$ | $\beta\alpha^{\downarrow} \alpha^{\rightarrow}$ | $\beta\alpha^{\downarrow} \text{id}_2^{\leftarrow}$ | $\beta\alpha^{\downarrow} \text{id}_2^{\downarrow}$ | $\beta\alpha^{\downarrow} \text{id}_2^{\rightarrow}$ | $\beta\alpha^{\downarrow} \beta\alpha^{\leftarrow}$ | $\beta\alpha^{\downarrow} \beta\alpha^{\downarrow}$ | $\beta\alpha^{\downarrow} \beta\alpha^{\rightarrow}$ |
| $\beta\alpha^{\rightarrow}$ | $\beta\alpha^{\rightarrow} \alpha^{\leftarrow}$ | $\beta\alpha^{\rightarrow} \alpha^{\downarrow}$ | $\beta\alpha^{\rightarrow} \alpha^{\rightarrow}$ | $\beta\alpha^{\rightarrow} \text{id}_2^{\leftarrow}$ | $\beta\alpha^{\rightarrow} \text{id}_2^{\downarrow}$ | $\beta\alpha^{\rightarrow} \text{id}_2^{\rightarrow}$ | $\beta\alpha^{\rightarrow} \beta\alpha^{\leftarrow}$ | $\beta\alpha^{\rightarrow} \beta\alpha^{\downarrow}$ | $\beta\alpha^{\rightarrow} \beta\alpha^{\rightarrow}$ |

Tripel gibt es also $9^3 = 729$, und zwar für alle $(a,b) \in \{1, 2, 3\}$, d.h. 3 mal 729 = 2'187 semiotisch-wegtopologisch unterscheidbare Direktionale.

Bibliographie

Toth, Alfred, Wegtopologie als System gerichteter Morphismen. In: Electronic Journal for Mathematical Semiotics, 2011a

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6.2.2011