

$$\underline{h} \rtimes_{\infty} \underline{h} := \begin{cases} \underline{h} \times \underline{h} \xleftarrow{\mathfrak{b} = \mathfrak{F} \cup = \mathfrak{F} \mathfrak{r}} \underline{h} \\ \setminus \rtimes \mathfrak{b} = / \end{cases} \in \mathbb{K} \triangleleft \text{Lie}$$

$$\underline{h} \rtimes_{\infty} \underline{h} \rtimes \underline{h} \rtimes_{\infty} \underline{h} \xrightarrow{*} \underline{h} \rtimes_{\infty} \underline{h} \ni \mathfrak{b} \rtimes \mathfrak{c} = -\mathfrak{c} \rtimes \mathfrak{b}$$

$$\underline{\mathfrak{b}} \rtimes \underline{\mathfrak{c}} \rtimes \underline{\mathfrak{c}} + \underline{\mathfrak{c}} \rtimes \underline{\mathfrak{b}} \rtimes \underline{\mathfrak{b}} + \underline{\mathfrak{c}} \rtimes \underline{\mathfrak{b}} \rtimes \underline{\mathfrak{c}} = 0$$

$$\mathfrak{b} \rtimes \underline{\mathfrak{c}} = \underline{\mathfrak{c}} \rtimes \mathfrak{b} + \underline{\mathfrak{b}} \rtimes \underline{\mathfrak{c}}$$

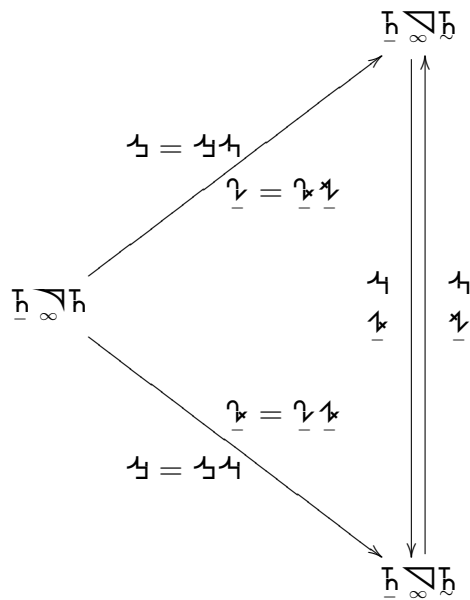
$$\underline{\mathfrak{c}} \rtimes \mathfrak{b} = \underline{\mathfrak{c}} \rtimes \mathfrak{b} - \underline{\mathfrak{b}} \rtimes \underline{\mathfrak{c}}$$

$$\underline{h} \rtimes_{\infty} \underline{h} \rtimes \underline{h} \xrightarrow{\text{Mod}} \underline{h} \rtimes_{\infty} \underline{h}$$

$$\underline{\mathfrak{c}} \rtimes_{\mathfrak{h}} := {}^h \mathfrak{c} \mathfrak{b}_{\mathfrak{h}}$$

$$\underline{\mathfrak{c}} \rtimes_{\mathfrak{h}} 1 = {}^h \mathfrak{c} \mathfrak{b}_{\mathfrak{h}} 1 \text{ Der}$$

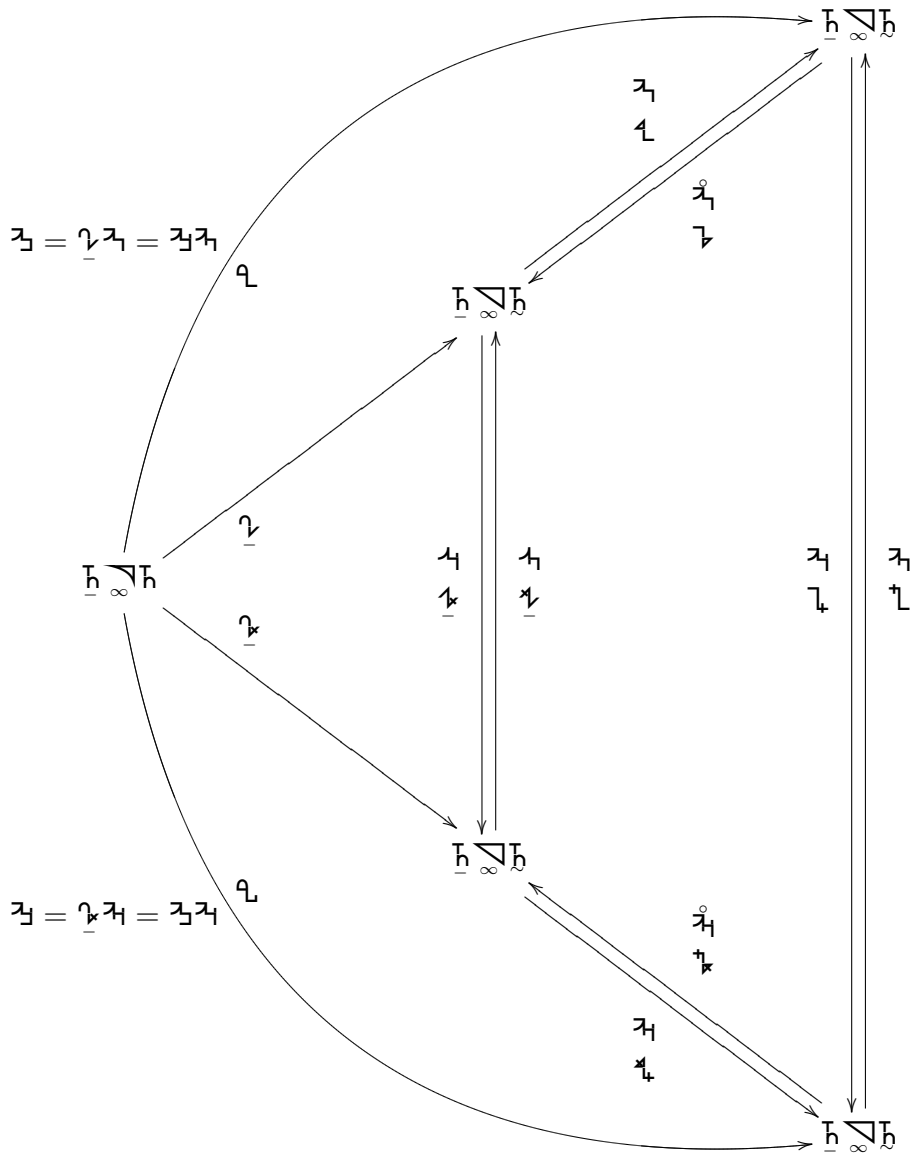
$$\underline{\mathfrak{c}} \rtimes_{\mathfrak{h}} \mathfrak{c} = \underline{\mathfrak{c}} \rtimes_{\mathfrak{h}} \mathfrak{c}$$



$$\mathfrak{b} = \underline{\mathfrak{c}} \rtimes \mathfrak{b}$$

$$U: \mathfrak{r} \text{ Karte } \mathfrak{b}_U = \sum_i \mathfrak{b} \rtimes \mathfrak{r}^i \frac{\partial}{\partial \mathfrak{r}^i} \underline{\mathfrak{b}} \rtimes \underline{\mathfrak{c}} \Big|_U = \sum_{ij} \mathfrak{b} \rtimes \mathfrak{r}^i \frac{\partial}{\partial \mathfrak{r}^i} \underline{\mathfrak{c}} \rtimes \mathfrak{r}^j \frac{\partial}{\partial \mathfrak{r}^j} - \underline{\mathfrak{c}} \rtimes \mathfrak{r}^i \frac{\partial}{\partial \mathfrak{r}^i} \mathfrak{b} \rtimes \mathfrak{r}^j \frac{\partial}{\partial \mathfrak{r}^j}$$

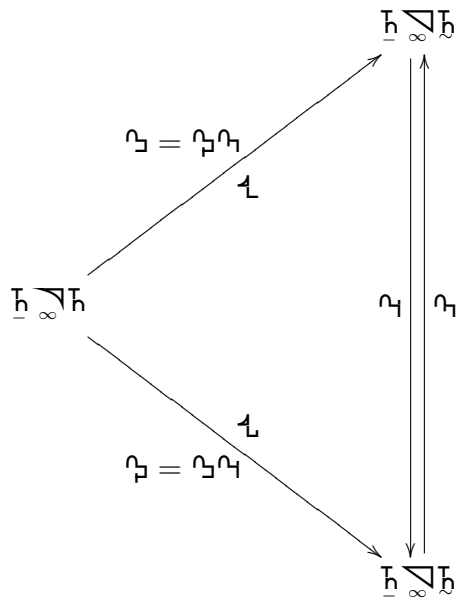
$$= \sum_j \underbrace{\sum_i b_{\kappa} \gamma^i \frac{\partial b_{\kappa} \gamma^j}{\partial \gamma^i} - b_{\kappa} \gamma^i \frac{\partial b_{\kappa} \gamma^j}{\partial \gamma^i}}_{\partial} \frac{\partial}{\partial \gamma^j}$$



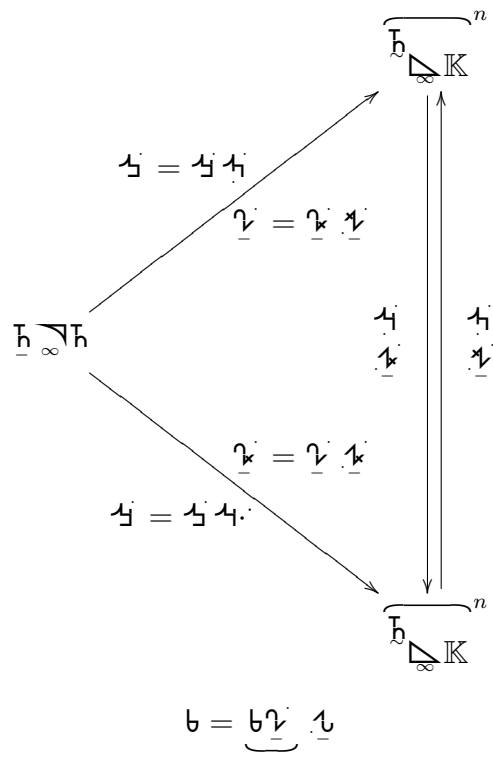
$$\begin{cases} b_{\kappa} = \underline{b_{\gamma}} \gamma \\ b_{\rho} = \underline{b_{\gamma}} \gamma \end{cases}$$

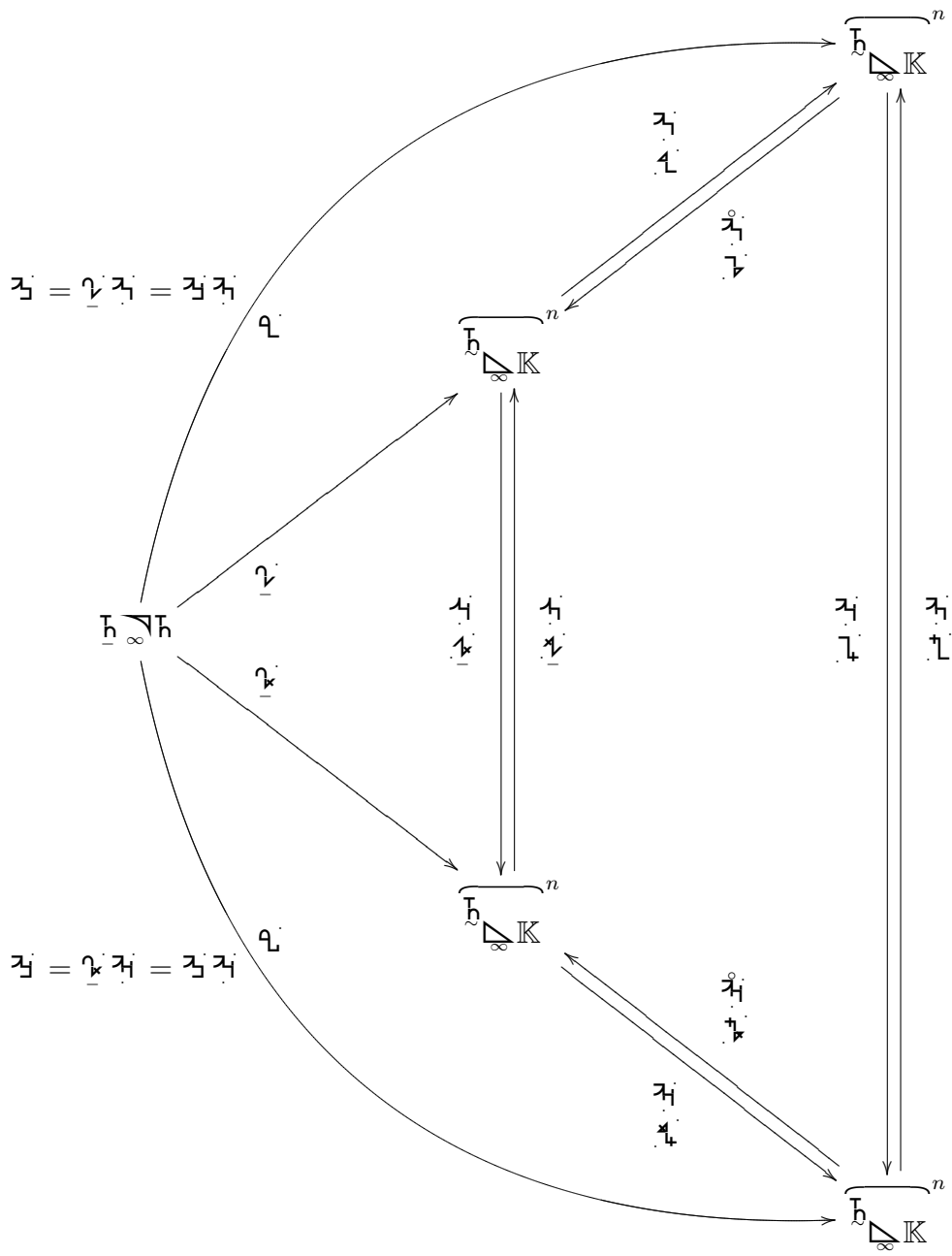
$$b_{\gamma} = \begin{cases} \underline{b_{\kappa}} \gamma \\ \underline{b_{\rho}} \gamma \end{cases}$$

$$b = \begin{cases} b_3 \tau \\ b_2 \tau \end{cases}$$



$$\begin{aligned}
 U: \tau \text{ Karte } b_U &= \sum_i b \times \tau^i \frac{\partial}{\partial \tau^i} \underbrace{b \times b'}_U = \sum_{ij} b \times \tau^i \frac{\partial}{\partial \tau^i} b \times \tau^j \frac{\partial}{\partial \tau^j} - b \times \tau^i \frac{\partial}{\partial \tau^i} b \times \tau^j \frac{\partial}{\partial \tau^j} \\
 &= \sum_j \underbrace{\sum_i b \times \tau^i \frac{\partial b \times \tau^j}{\partial \tau^i}} - b \times \tau^i \frac{\partial b \times \tau^j}{\partial \tau^i} \frac{\partial}{\partial \tau^j}
 \end{aligned}$$





$$\begin{cases} \underline{\gamma} \underline{\gamma} = \underline{\gamma} \underline{\gamma} \\ \underline{\gamma} \underline{\gamma} = \underline{\gamma} \underline{\gamma} \end{cases}$$

$$\underline{\gamma} = \begin{cases} \underline{\gamma} \underline{\gamma} \\ \underline{\gamma} \underline{\gamma} \end{cases}$$

$$b = \begin{cases} \underbrace{b_1}_{\mathcal{H}} \cdot \mathcal{H} \\ \underbrace{b_2}_{\mathcal{H}} \cdot \mathcal{H} \end{cases}$$

