

$$\underline{\text{H-L}} \binom{\mathbb{N}}{\mathcal{V}} \cap \underline{\text{L-H}} \binom{\mathbb{N}}{\mathcal{U}} = \emptyset$$

$$\underline{\text{L-H}} \binom{\mathbb{N}}{\mathcal{U}} \cap \underline{\text{H-L}} \binom{\mathbb{N}}{\mathcal{V}} = \emptyset$$

$$\zeta \bigvee_h^{\text{H-L}} \bigvee_k^{\text{L-H}} h \binom{m}{\mathcal{V}} = k \binom{n}{\mathcal{U}} = k \binom{n}{\mathcal{V}}$$

$$\begin{cases} m \leq n & \xRightarrow[\text{inj}]{} h = k \binom{n-m}{\mathcal{V}} = k \binom{n-m}{\mathcal{U}} \in \text{L} \zeta \\ m > n & \xRightarrow[\text{inj}]{} k = h \binom{m-n}{\mathcal{V}} = h \binom{m-n-1}{\mathcal{U}} \mathcal{V} \xRightarrow[\text{inj}]{} h = h \binom{m-n-1}{\mathcal{U}} \mathcal{V} \in \text{H} \zeta \end{cases}$$

$$\underline{\text{H-L}} \binom{\mathbb{N}}{\mathcal{V}} \xrightarrow[\text{bij}]{} \underline{\text{H-L}} \binom{\mathbb{N}}{\mathcal{V}} \mathcal{V}$$

$$\underline{\text{L-H}} \binom{\mathbb{N}}{\mathcal{U}} \mathcal{U} \xleftarrow[\text{bij}]{} \underline{\text{L-H}} \binom{\mathbb{N}}{\mathcal{U}}$$

$$\begin{array}{c} \mathcal{H} \subseteq \mathcal{K} \subseteq \mathcal{H} \xrightarrow{\text{inj}} \mathcal{K} \supseteq \mathcal{K} \supseteq \mathcal{K} \subseteq \mathcal{H} \\ \text{inj} \\ \mathcal{H} \xleftarrow{\text{inj}} \end{array}$$

$$\mathcal{K} \cap \mathcal{H} = \mathcal{K}$$

$$\mathcal{K} \cap \mathcal{H} = \mathcal{K}$$

$$\Rightarrow \mathcal{H} \subseteq \mathcal{K} \cup \mathcal{K} \xrightarrow{\text{bij}} \mathcal{K} \subseteq \mathcal{K} \cup \mathcal{K}$$

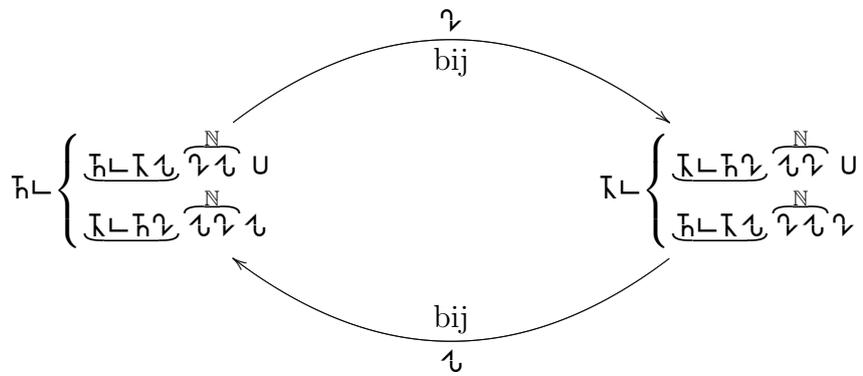
$$h \in \mathcal{K} \cup \mathcal{K} \Rightarrow \begin{cases} h \in \mathcal{K} & \Rightarrow h \in \mathcal{K} \\ h \in \mathcal{K} & \Rightarrow h \in \mathcal{K} \cap \mathcal{H} = \mathcal{K} \Rightarrow h \in \mathcal{K} \end{cases}$$

$$\Rightarrow h \in \mathcal{K} \cup \mathcal{K} \Rightarrow \mathcal{H} \subseteq \mathcal{K} \cup \mathcal{K}$$

$$k \in \mathcal{K} \cup \mathcal{K} \subseteq \mathcal{K} \subseteq \mathcal{H} \Rightarrow \bigvee_h k = h$$

$$\nexists h \in \mathcal{K} \cup \mathcal{K} \Rightarrow \begin{cases} h \in \mathcal{K} & \Rightarrow k = h \in \mathcal{K} \\ h \in \mathcal{K} & \Rightarrow k = h \in \mathcal{K} \cap \mathcal{H} \subseteq \mathcal{K} \end{cases}$$

$$\Rightarrow k \in \mathcal{K} \cup \mathcal{K} \Rightarrow h \in \mathcal{H} \subseteq \mathcal{K} \cup \mathcal{K}$$



$$hLk1 \subset \overline{hLk1}^{(N)} r1$$

$$\overline{kLh2}^{(N)} r1 \supset kLh2$$

$$\overline{hLk1}^{(N)} r1 r1 = \overline{hLk1}^{(N)} r1 \cap k1$$

$$\overline{kLh2}^{(N)} r1 r1 = \overline{kLh2}^{(N)} r1 \cap h2$$

$$h2 \in \overline{kLh2}^{(N)} r1 \Rightarrow \bigvee_k^{\overline{kLh2}} h2 = k \overline{r1}^n \underset{k \notin h2}{\Rightarrow} n > 0 \Rightarrow h2 = k \overline{r1}^{n-1} r1 \in \overline{kLh2}^{(N)} r1 r1$$