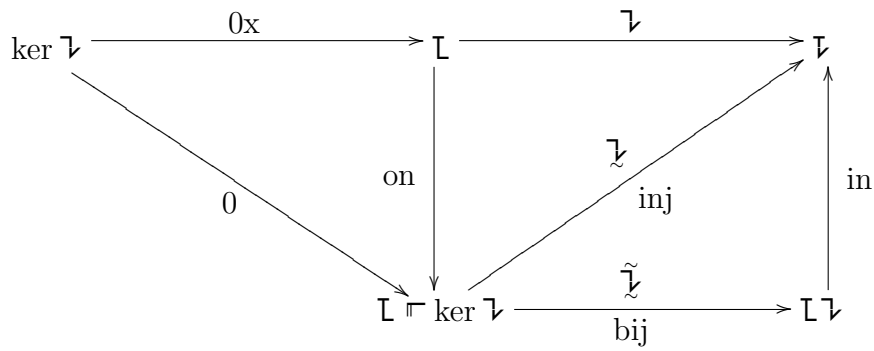


$$\begin{aligned}
L \simeq t &\Leftrightarrow t - L \in \ker \gamma \\
L + \ker \gamma &= \frac{L + t}{t \in \ker \gamma} = \ker \gamma + L \\
\overline{L + \ker \gamma} \oplus \overline{t + \ker \gamma} &= \overline{L + t} + \ker \gamma \\
L \cap \ker \gamma &= \frac{L + \ker \gamma}{L \in L} \\
\overline{L + \ker \gamma} \tilde{\gamma} &= L \gamma
\end{aligned}$$



$$\text{well-def : } L \simeq t \Rightarrow t - L \in \ker \gamma$$

$$\Rightarrow L \gamma = \acute{0} + L \gamma = \overline{t - L} \gamma + L \gamma = \overline{t - L + L} \gamma = \overline{t + L - L} \gamma = \overline{t + \acute{0}} \gamma = t \gamma$$

$$\gamma \text{ hom : } \overline{L + \ker \gamma} \oplus \overline{t + \ker \gamma} \tilde{\gamma} = \overline{L + t + \ker \gamma} \tilde{\gamma} = \overline{L + t} \gamma = L \gamma + t \gamma = \overline{L + \ker \gamma} \tilde{\gamma} + \overline{t + \ker \gamma} \tilde{\gamma}$$

$$\begin{aligned}
\gamma \text{ inj : } \overline{L + \ker \gamma} \tilde{\gamma} &= \overline{t + \ker \gamma} \tilde{\gamma} \Rightarrow L \gamma = t \gamma \Rightarrow \overline{t - L} \gamma = t \gamma - L \gamma = L \gamma - L \gamma = \acute{0} \\
&\Rightarrow t - L \in \ker \gamma \Rightarrow L \simeq t \Rightarrow L + \ker \gamma = t + \ker \gamma
\end{aligned}$$

$$\tilde{\gamma} \text{ bij : } \nu \in L \gamma \Rightarrow \bigvee_L \nu = L \gamma = \overline{L + \ker \gamma} \tilde{\gamma} \Rightarrow \nu \in \overline{L \cap \ker \gamma} \tilde{\gamma}$$