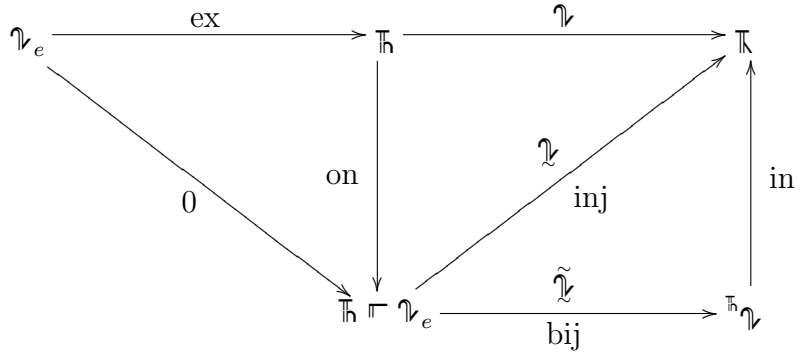
$$\mathbb{h} \exists \mathbb{h} \Leftrightarrow \mathbb{h}^{-} * \mathbb{h} \in \ker \mathbb{y} \Leftrightarrow \mathbb{h} * \mathbb{h}^{-} \in \ker \mathbb{y}$$

$$\mathbb{h} * \ker \mathbb{y} = \frac{\mathbb{h} * g}{g \in \ker \mathbb{y}} = \ker \mathbb{y} * \mathbb{h}$$

$$\overbrace{\mathbb{h} * \ker \mathbb{y}} \oplus \overbrace{\mathbb{h} * \ker \mathbb{y}} = \underbrace{\mathbb{h} * \mathbb{h}} * \ker \mathbb{y}$$

$$\mathbb{H} \sqcap \ker \mathbb{y} = \begin{cases} \mathbb{h} * \ker \mathbb{y} \\ \mathbb{h} \in \mathbb{H} \mathbb{y} \end{cases}$$

$${}^{\mathbb{h}} \divideontimes \mathbb{y}_e \tilde{\mathbb{y}} = {}^{\mathbb{h}} \mathbb{y}$$



well-def : $\mathbb{h} \exists \mathbb{h} \Longrightarrow \mathbb{h}^{-} * \mathbb{h} \in \ker \mathbb{y} \Longrightarrow \mathbb{h} \mathbb{y} = \underbrace{\mathbb{h} \mathbb{y}} \acute{*} \acute{e} = \underbrace{\mathbb{h} \mathbb{y}} \acute{*} \overbrace{\mathbb{h}^{-} * \mathbb{h}} \mathbb{y}$

$$= \overbrace{\mathbb{h} * \underbrace{\mathbb{h}^{-} * \mathbb{h}}} \mathbb{y} = \overbrace{\underbrace{\mathbb{h} * \mathbb{h}^{-}} * \mathbb{h}} \mathbb{y} = \overbrace{e * \mathbb{h}} \mathbb{y} = \mathbb{h} \mathbb{y}$$

$\tilde{\mathbb{y}}$ hom : $\overbrace{\underbrace{\mathbb{h} * \ker \mathbb{y}} \oplus \underbrace{\mathbb{h} * \ker \mathbb{y}}} \tilde{\mathbb{y}} = \overbrace{\underbrace{\mathbb{h} * \mathbb{h}} * \ker \mathbb{y}} \tilde{\mathbb{y}} = \overbrace{\mathbb{h} * \mathbb{h}} \mathbb{y} = \overbrace{\mathbb{h} \mathbb{y}} \acute{*} \overbrace{\mathbb{h} \mathbb{y}} = \overbrace{\underbrace{\mathbb{h} * \ker \mathbb{y}} \tilde{\mathbb{y}}} \acute{*} \overbrace{\underbrace{\mathbb{h} * \ker \mathbb{y}} \tilde{\mathbb{y}}}$

$\tilde{\mathbb{y}}$ inj : $\overbrace{\mathbb{h} * \ker \mathbb{y}} \tilde{\mathbb{y}} = \overbrace{\mathbb{h} * \ker \mathbb{y}} \tilde{\mathbb{y}} \Longrightarrow \mathbb{h} \mathbb{y} = \mathbb{h} \mathbb{y} \Longrightarrow \overbrace{\mathbb{h}^{-} * \mathbb{h}} \mathbb{y} = \overbrace{\mathbb{h}^{-} \mathbb{y}} \acute{*} \overbrace{\mathbb{h} \mathbb{y}}$

$$= \overbrace{\mathbb{h} \mathbb{y}}^{-} \acute{*} \overbrace{\mathbb{h} \mathbb{y}} = \overbrace{\mathbb{h} \mathbb{y}}^{-} \acute{*} \overbrace{\mathbb{h} \mathbb{y}} = \acute{e} \Longrightarrow \mathbb{h}^{-} * \mathbb{h} \in \ker \mathbb{y} \Longrightarrow \mathbb{h} \exists \mathbb{h} \Longrightarrow \mathbb{h} * \ker \mathbb{y} = \mathbb{h} * \ker \mathbb{y}$$

$\tilde{\tilde{\mathbb{y}}}$ bij : $\acute{\mathbb{h}} \in {}^{\mathbb{h}} \mathbb{y} \Longrightarrow \bigvee_{\mathbb{h}}^{\mathbb{h}} \acute{\mathbb{h}} = \mathbb{h} \mathbb{y} = \underbrace{\mathbb{h} * \ker \mathbb{y}} \tilde{\mathbb{y}} \Longrightarrow \acute{\mathbb{h}} \in {}^{\mathbb{h} \sqcap \ker \mathbb{y}} \tilde{\mathbb{y}}$