Reversely $\langle\mu\rangle^*\{x\} \times^{\mathsf{FCD}} \langle\nu\rangle^*\{y\} = (\langle\mu\rangle^*\{x\} \times^{\mathsf{FCD}} \langle\nu\rangle^*\{y\}) \circ \uparrow e$ where $e$ is the identify element of $G$. □

PROPOSITION 1191. $\tau(y) = \operatorname{xlim}(\langle\mu\rangle^*\{x\} \times^{\mathsf{FCD}} \uparrow^{\operatorname{Base}(\operatorname{Ob}\nu)} \{y\})$ (for every $x$). Informally: Every $\tau(y)$ is a generalized limit of a constant funcoid.

PROOF.

$$\operatorname{xlim}(\langle\mu\rangle^*\{x\} \times^{\mathsf{FCD}} \uparrow^{\operatorname{Base}(\operatorname{Ob}\nu)} \{y\}) = \left\{ \frac{\nu \circ (\langle\mu\rangle^*\{x\} \times^{\mathsf{FCD}} \uparrow^{\operatorname{Base}(\operatorname{Ob}\nu)} \{y\}) \circ \uparrow r}{r \in G} \right\} = \left\{ \frac{(\langle\mu\rangle^*\{x\} \times^{\mathsf{FCD}} \langle\nu\rangle^*\{y\}) \circ \uparrow r}{r \in G} \right\} = \tau(y).$$

□

THEOREM 1192. If $f|_{\langle\mu\rangle^*\{x\}} \in \mathrm{C}(\mu;\nu)$ and $\langle\mu\rangle^*\{x\} \sqsupseteq \uparrow^{\operatorname{Ob}\mu} \{x\}$ then $\operatorname{xlim}_x f = \tau(fx)$.

PROOF. $f|_{\langle\mu\rangle^*\{x\}} \circ \mu \sqsubseteq \nu \circ f|_{\langle\mu\rangle^*\{x\}} \sqsubseteq \nu \circ f$; thus $\langle f\rangle\langle\mu\rangle^*\{x\} \sqsubseteq \langle\nu\rangle\langle f\rangle^*\{x\}$; consequently we have

$$\nu \sqsupseteq \langle\nu\rangle\langle f\rangle^*\{x\} \times^{\mathsf{FCD}} \langle\nu\rangle\langle f\rangle^*\{x\} \sqsupseteq \langle f\rangle\langle\mu\rangle^*\{x\} \times^{\mathsf{FCD}} \langle\nu\rangle\langle f\rangle^*\{x\}.$$

$$\nu \circ f|_{\langle\mu\rangle^*\{x\}} \sqsupseteq (\langle f\rangle\langle\mu\rangle^*\{x\} \times^{\mathsf{FCD}} \langle\nu\rangle\langle f\rangle^*\{x\}) \circ f|_{\langle\mu\rangle^*\{x\}} = (f|_{\langle\mu\rangle^*\{x\}})^{-1}\langle f\rangle\langle\mu\rangle^*\{x\} \times^{\mathsf{FCD}} \langle\nu\rangle\langle f\rangle^*\{x\} \sqsupseteq \left\langle \mathrm{id}^{\mathsf{FCD}}_{\operatorname{dom} f|_{\langle\mu\rangle^*\{x\}}} \right\rangle \langle\mu\rangle^*\{x\} \times^{\mathsf{FCD}} \langle\nu\rangle\langle f\rangle^*\{x\} \sqsupseteq \operatorname{dom} f|_{\langle\mu\rangle^*\{x\}} \times^{\mathsf{FCD}} \langle\nu\rangle\langle f\rangle^*\{x\} = \langle\mu\rangle^*\{x\} \times^{\mathsf{FCD}} \langle\nu\rangle\langle f\rangle^*\{x\}.$$

$\operatorname{im}(\nu \circ f|_{\langle\mu\rangle^*\{x\}}) = \langle\nu\rangle\langle f\rangle^*\{x\}$;

$$\nu \circ f|_{\langle\mu\rangle^*\{x\}} \sqsubseteq \langle\mu\rangle^*\{x\} \times^{\mathsf{FCD}} \operatorname{im}(\nu \circ f|_{\langle\mu\rangle^*\{x\}}) = \langle\mu\rangle^*\{x\} \times^{\mathsf{FCD}} \langle\nu\rangle\langle f\rangle^*\{x\}.$$

So $\nu \circ f|_{\langle\mu\rangle^*\{x\}} = \langle\mu\rangle^*\{x\} \times^{\mathsf{FCD}} \langle\nu\rangle\langle f\rangle^*\{x\}$.

Thus $\operatorname{xlim}_x f = \left\{ \frac{(\langle\mu\rangle^*\{x\} \times^{\mathsf{FCD}} \langle\nu\rangle\langle f\rangle^*\{x\}) \circ \uparrow r}{r \in G} \right\} = \tau(fx)$. □

REMARK 1193. Without the requirement of $\langle\mu\rangle^*\{x\} \sqsupseteq \uparrow^{\operatorname{Ob}\mu} \{x\}$ the last theorem would not work in the case of removable singularity.

THEOREM 1194. Let $\nu \sqsubseteq \nu \circ \nu$. If $f|_{\langle\mu\rangle^*\{x\}} \xrightarrow{\nu} \uparrow^{\operatorname{Ob}\mu} \{y\}$ then $\operatorname{xlim}_x f = \tau(y)$.