$\mathcal{E}$

$$\mathcal{E}\left(\int^{c\in\mathcal{C}}\mathcal{D}(Kc,-)\cdot Fc, G(-)\right)=\int_{c\in\mathcal{C}} Set^{\mathcal{D}}(\mathcal{D}(Kc,-),\mathcal{E}(F(c),G(-)))=\int_{c\in\mathcal{C}}\mathcal{E}(Fc,GKc)=$$

$$(F, GK)$$

$$h^A : \mathcal{C} \to Set$$

$$F : \mathcal{C} \to \mathcal{D}$$

$$_{h^A}F(G) = \int^{c \in \mathcal{C}} Set^{\mathcal{C}}(h^A(c), G) \cdot Fc = \int^{c \in \mathcal{C}} Gc \cdot Fc$$

F

$$\mathcal{C} = \Delta$$

$$\mathcal{D}_0(x,-) \to \mathcal{V}(*, \underline{\mathcal{D}}(x,-))$$

$$id : * \to \underline{\mathcal{D}}(x, x)$$

*

$$\mathcal{M}^{\Delta^{op}}(F \cdot \Delta[\cdot], G)$$

$$\left(\coprod_{f:[n]\to[m]} \Delta[n] \times X_{[m]} \right) \xrightarrow[f^\star]{f_\star}$$

$$\left(\coprod_n \Delta[n] \times X_{[n]}\right)$$

$$\begin{tikzcd}
\Delta(-,n) \times X^{[m]} \arrow[r, "f_* \times id"] \arrow[d, "id \times f^*"'] & \Delta(-,m) \times X^{[m]} \\
\Delta(-,n) \times X^{[n]}
\end{tikzcd}$$

$$\gamma : \coprod \Delta[n] \times X_{[n]} \to d(X)$$

$$\gamma_n(\tau : [r] \to [n],\ x) = \tau^*(x)$$

$$\frac{(\Delta[m] \times X_{[m]} \coprod \Delta[n] \times X_{[n]})([n])}{\langle f_*([m] \xrightarrow{\tau} [n]) \times x \sim [m] \xrightarrow{\tau} [n] \times f^*(x) \rangle}$$

$$\Delta[m] \times X_{[m]}$$

$$[m] \xrightarrow{\tau} [n] \times x = \tau_*([m] \xrightarrow{id} [m])$$

τ

$id\times$

$$X_{[n]}$$

$$\coprod_{f:[n]^{op}\to[m]^{op}} \left(\coprod_{\vec{d}:[n]\to\mathcal{D}} Gd_n \otimes Fd_0\right) \underset{f}{\overset{fold}{\rightrightarrows}} \coprod_n \left(\coprod_{\vec{d}:[n]\to\mathcal{D}} Gd_n \otimes Fd_0\right)$$

$$f : d_n \to d_0$$

$$\frac{\coprod_{f:d_0\to d_n} Gd_n \otimes Fd_0}{\langle x \sim (Gf \otimes Id)(x) \sim (Id \otimes Ff)(x) \mid x \in Gd_n \otimes Fd_0 \rangle}$$

$$
\begin{tikzcd}
Gd_n \otimes Fd_0 \arrow[r, "Gf\otimes Id"] \arrow[d, "Id"] & Gd_{n-1} \otimes Fd_0 \\
Gd_n \otimes Fd_0 &
\end{tikzcd}
$$

$f : d_n \to d_{n-1}$

$$Gd_{n-1} \otimes Fd_0$$