

$$\mathbb{H}_{\triangle_0} \mathbb{K} \xleftarrow{\mu} \mathbb{H}_{\triangle_0} \mathbb{K} \boxtimes \mathbb{H}_{\triangle_0} \mathbb{K} \subset \mathbb{H} \times \mathbb{H}_{\triangle_0} \mathbb{K} \xleftarrow{\delta} \mathbb{H}_{\triangle_0} \mathbb{K}$$

$$\mu(\gamma \boxtimes \gamma') = \gamma \gamma'$$

$$s:t(\delta\gamma) = {}^{st}\gamma$$

$$\delta\gamma = \sum_i \gamma_i \boxtimes \gamma^i \Leftrightarrow {}^{st}\gamma = \sum_i {}^s\gamma_i \ {}^t\gamma^i$$

$$\mathbb{H}_{\triangle_0} \mathbb{K} \subset \mathbb{K} \nabla_{\mathbb{K}_{-0}} \mathbb{H} = \mathbb{K} \nabla_{-0}^{\sharp} \mathbb{H}$$

$$\begin{array}{ccc} \mathbb{H}_{\triangle_0} \mathbb{K} & \xleftarrow{\pi} & \mathbb{H}_{\triangle_0} \mathbb{K} \boxtimes \mathbb{H}_{\triangle_0} \mathbb{K} \\ \downarrow b & & \downarrow s \\ \mathbb{K} \nabla_{-0}^{\sharp} \mathbb{H} & \xleftarrow{\delta} & \mathbb{K} \nabla_{-0}^{\sharp} \mathbb{H} \boxtimes \mathbb{K} \nabla_{-0}^{\sharp} \mathbb{H} \end{array}$$

$$\begin{array}{ccc} \mathbb{H}_{\triangle_0} \mathbb{K} \boxtimes \mathbb{H}_{\triangle_0} \mathbb{K} & \xleftarrow{\delta} & \mathbb{H}_{\triangle_0} \mathbb{K} \\ \downarrow b & & \downarrow s \\ \mathbb{K} \nabla_{-0}^{\sharp} \mathbb{H} \boxtimes \mathbb{K} \nabla_{-0}^{\sharp} \mathbb{H} & \xleftarrow{\sharp} & \mathbb{K} \nabla_{-0}^{\sharp} \mathbb{H} \end{array}$$

$$\mathbb{H}_{\triangle_{-\ell}^{\infty}} \mathbb{K} = \mathbb{K} \nabla_w \mathbb{K} \nabla_{\ell}^{\sharp} \mathbb{H} = \underbrace{\mathbb{K} \nabla_{\ell}^{\infty \sharp} \mathbb{H}}_{\sharp} \quad \text{predual Four alg : } \ell_v | \gamma = \int_{\downarrow_s}^{\mathbb{H}} {}^s\gamma$$

$$K \underset{-\ell}{\overset{\infty}{\Delta}} \mathbb{C} = \underset{\#}{\underbrace{\mathbb{C} \underset{\ell}{\overset{\infty}{\Delta}} K}} \text{ predual Four alg : } \ell_{\downarrow} | \gamma = \int_{\downarrow_s}^K {}^s \gamma$$

$$S \underset{-\ell}{\overset{\infty}{\Delta}} \mathbb{C} = \underset{\#}{\underbrace{\mathbb{C} \underset{\ell}{\overset{\infty}{\Delta}} S}} \text{ predual Four alg : } \ell_{\downarrow} | \gamma = \int_{\downarrow_s}^S {}^s \gamma$$