

$$\begin{array}{ccccc}
 & & \Delta^1 \times \Lambda_k^n & & \\
 & \nearrow \iota_1 & \downarrow & \searrow p|_{\Delta^1 \times \Lambda_k^n} & \\
 \Lambda_k^n & & \square & \xrightarrow{\quad ? \quad} & \Lambda_k^n \\
 \downarrow & & \downarrow & & \downarrow \\
 \Delta^n & \xrightarrow{\quad \iota_1 \quad} & \Delta^1 \times \Delta^n & \xrightarrow{\quad p \quad} & \Delta^n
 \end{array}$$