

$$\begin{array}{ccc}
\coprod_{g \in \ker_n} |\partial \Delta^{n+1}| & \xrightarrow{\coprod_{g \in \ker_n} |i^{n+1}|} & \coprod_{g \in \ker_n} |\Delta^{n+1}| \\
(a_g)_{g \in \ker_n} \downarrow & \text{PO} & \downarrow \\
K_n & \xrightarrow{\iota_n} & K'_n \\
& \searrow f_n & \dashrightarrow f'_{n+1} \\
& & X
\end{array}$$

A commutative diagram illustrating a relationship between spaces and maps. At the top, a map from $\coprod_{g \in \ker_n} |\partial \Delta^{n+1}|$ to $\coprod_{g \in \ker_n} |\Delta^{n+1}|$ is labeled $\coprod_{g \in \ker_n} |i^{n+1}|$. Below this, a vertical arrow labeled $(a_g)_{g \in \ker_n}$ points from the left domain to K_n , and another vertical arrow points from the right domain to K'_n . A horizontal arrow labeled ι_n connects K_n to K'_n . From K_n , a curved arrow labeled f_n points to X . From K'_n , a dashed curved arrow labeled f'_{n+1} points to X . A diagonal arrow also points from the right domain to X .