$$\coprod_{g\in\ker_n}|\partial\Delta^n| \xrightarrow{\coprod_{g\in\ker_n}|i^n|} \coprod_{g\in\ker_n}|\Delta^n|$$

$$(a_g)_{g\in\ker_n}\downarrow \qquad\qquad \text{PO} \qquad\qquad \downarrow$$

$$K_{n-1} \longrightarrow K'_n$$

$$f_n \qquad\qquad f'_{n+1} \qquad X$$