

$$\begin{array}{ccc}
 \mathcal{F}(V) & \xrightarrow{f(V)} & \mathcal{G}(V) \\
 \downarrow & & \downarrow \\
 \mathcal{F}(U) & \xrightarrow{f(U)} & \mathcal{G}(U)
 \end{array}
 \quad \text{for } U \subseteq V.$$