$$\mathcal{C}(X_1, Y_1)$$

$$
\begin{array}{ccc}
X_1 & Y_1 \\
f \uparrow & \downarrow g \\
X_2 & Y_2
\end{array}
\qquad \xrightarrow{\ \mathcal{C}(-,-)\ }
$$

$$\Big\downarrow \mathcal{C}(f, g)$$

$$\mathcal{C}(X_2, Y_2)$$