

$$\begin{array}{ccccc}
 X & & \mathrm{Hom}(Y, X) \otimes Y & \xrightarrow{\text{eval}_{X,Y}} & X \\
 \downarrow f & & \downarrow \mathrm{Hom}(Y, f) \otimes \mathrm{id}_Y & & \downarrow f \\
 X' & & \mathrm{Hom}(Y, X') \otimes Y & \xrightarrow{\text{eval}_{X',Y}} & X'
 \end{array}$$