$$\begin{array}{c|c} F(X) & \stackrel{\theta_X}{-\!\!\!-\!\!\!-\!\!\!-} G(X) \\ \downarrow^{F(f)} & & \downarrow^{G(f)} \\ F(Y) & \stackrel{\theta_Y}{-\!\!\!\!-\!\!\!-} G(Y) \end{array}$$