

$$\begin{array}{c}
 U_f \times S(X_f * X_g) \xrightarrow{\quad id \times coh_{f,g} \quad} U_f \times (S(X_f) \times S(X_g)) \xrightarrow{\quad dyn_{f,g} \quad} S(X_f) \times S(X_g) \xrightarrow{\quad coh_{f,g} \quad} S(X_f * X_g) \\
 \end{array}$$