

$$\begin{array}{ccc}
 \mathbf{U}_f \times S(\mathbf{X}_f * \mathbf{X}_g) & \xrightarrow{\quad} & S(\mathbf{X}_f * \mathbf{X}_g) \\
 \text{coh} \downarrow & & \uparrow \text{coh}' \\
 \mathbf{U}_f \times (S(\mathbf{X}_f) \times S(\mathbf{X}_g)) & \xrightarrow{\text{dyn}_{f \circ g}} & S(\mathbf{X}_f) \times S(\mathbf{X}_g)
 \end{array}$$