

$$\begin{array}{ccc}
 \mathrm{rank}_1[\mathcal{M}(\Omega_1 \times \Omega_2)] & \xrightarrow{Y_*} & \mathcal{M}(\Omega_2) \\
 \downarrow X_* & \nwarrow \otimes & \uparrow \\
 \mathcal{M}(\Omega_1) & \longleftarrow & \mathcal{M}(\Omega_1) \times \mathcal{M}(\Omega_2)
 \end{array}$$