$$\mathrm{rank}_1[\mathcal{M}(\Omega_1 \times \Omega_2)] \xrightarrow{\;Y_*\;} \mathcal{M}(\Omega_2)$$

$$\Big\downarrow X_*$$

$$\otimes$$

$$\mathcal{M}(\Omega_1) \longleftarrow \mathcal{M}(\Omega_1) \times \mathcal{M}(\Omega_2)$$