

$$\begin{array}{ccc}
 \mathbf{u} & \xrightarrow{T} & T(\mathbf{u}) = \rho_C^{-1} \left( M_{B,C}^T \rho_B(\mathbf{u}) \right) \\
 \downarrow \rho_B & & \uparrow \rho_C^{-1} \\
 \rho_B(\mathbf{u}) & \xrightarrow{M_{B,C}^T} & M_{B,C}^T \rho_B(\mathbf{u})
 \end{array}$$