$$\mathbf{u} \xrightarrow{T} T(\mathbf{u})$$

$$\rho_{B} \downarrow \qquad \qquad \downarrow \rho_{C}$$

$$\rho_{B}(\mathbf{u}) \xrightarrow{M_{B,C}^{T}} M_{B,C}^{T} \rho_{B}(\mathbf{u}) = \rho_{C}(T(\mathbf{u}))$$