$$
\begin{tikzcd}
W \arrow[rr, leftrightarrow, "\mathrm{id}_W"'] \arrow[d, "\Theta_{\tilde{C}}"'] & & W \arrow[d, "\Theta_C"] & V \arrow[l, "\Phi"'] \arrow[r, leftrightarrow, "\mathrm{id}_V"] \arrow[d, "\Theta_B"] & V \arrow[d, "\Theta_{\tilde{B}}"'] \arrow[llll, bend right, "\Phi"'] \\
\mathbb{K}^m & & \mathbb{K}^m \arrow[ll, "M_{\tilde{C}}^{C}(\mathrm{id}_W)"'] & \mathbb{K}^n \arrow[l, "M_C^B(\Phi)"] & \mathbb{K}^n \arrow[l, "M_B^{\tilde{B}}(\mathrm{id}_V)"'] \arrow[llll, bend left, "M_{\tilde{C}}^{\tilde{B}}(\Phi)"]
\end{tikzcd}
$$