

$$\begin{array}{ccc}
 M \times M \times M & \xrightarrow{\mu \times 1} & M \times M \\
 \downarrow 1 \times \mu & & \downarrow \mu \\
 M \times M & \xrightarrow{\mu} & M
 \end{array}$$

$$\begin{array}{ccccc}
 T \times M & \xrightarrow{\eta \times 1_M} & M \times M & \xleftarrow{1_M \times \eta} & M \times T \\
 & \searrow \pi'_M & \downarrow \mu & \swarrow \pi_M & \\
 & & M & &
 \end{array}$$