

$$\begin{array}{ccccc}
 P & \xrightarrow{\begin{pmatrix} 1 \\ 0 \end{pmatrix}} & P \oplus Q & \xrightarrow{\begin{pmatrix} 0 & 1 \end{pmatrix}} & Q \\
 p \downarrow & & (\iota p \quad q) \downarrow & & \pi q \downarrow \\
 L & \xrightarrow{\iota} & M & \xrightarrow{\pi} & N
 \end{array}$$