

# Commutative Diagrams for Lirong's Talk

Lirong Yang  
Typeset by Fengyang Wang

March 17, 2017

$$\begin{array}{ccc} A & \xrightarrow{q} & A/E \\ & \searrow \forall & \downarrow \exists! \\ & & x \end{array}$$

$$\begin{array}{ccc} A & \xrightarrow{q} & \overline{A} \\ & \searrow \forall & \downarrow \exists! \\ & & X \end{array}$$

$$\begin{array}{ccc} A & \xrightarrow{q} & \overline{A} \\ & \searrow f & \downarrow \exists! \bar{f} \\ & & X \end{array}$$

$$\begin{array}{ccc} M \times N & \longrightarrow & M \otimes_R N \\ & \searrow \forall & \downarrow \exists! \\ & & L \end{array}$$

$$\begin{array}{ccccc} M \times N & \longrightarrow & R^{M \times N} & \longrightarrow & R^{M \times N} / K = M \otimes_R N \\ & \searrow \forall & \downarrow & \swarrow \exists! & \\ & & L & & \end{array}$$