

$$\begin{array}{ccc}
F([A_1]) \otimes \cdots \otimes F([A_n]) & \xrightarrow{\eta_{[A_1]} \otimes \cdots \otimes \eta_{[A_n]}} & G([A_1]) \otimes \cdots \otimes G([A_n]) \\
P_1 \downarrow \cong & & \cong \downarrow P_2 \\
F([A_1, \dots, A_n]) & \xrightarrow{\eta_{[A_1, \dots, A_n]}} & G([A_1, \dots, A_n])
\end{array}$$