$$\left(X_n \otimes \bigotimes_{i=1}^{n} X_{a_i}\right) \otimes \left(\bigotimes_{i=1}^{n}\bigotimes_{j=1}^{a_i} X_{k_{i,j}}\right) \xrightarrow{\quad\gamma\quad} X_n \otimes \bigotimes_{i=1}^{n}\left(X_{a_i}\bigotimes_{j=1}^{a_i} X_{k_{i,j}}\right)$$

$$\downarrow{\mu_{a_1,\ldots,a_n}\otimes 1} \qquad\qquad\qquad\qquad\qquad \downarrow{1_{X_n}\otimes\mu\otimes\cdots\otimes\mu}$$

$$X_{a_1+\cdots+a_n} \otimes \left(\bigotimes_{i=1}^{n}\bigotimes_{j=1}^{a_i} X_{k_{i,j}}\right) \qquad\qquad X_n \otimes X_{k_{1,1}+\cdots+k_{1,a_1}} \otimes \cdots \otimes X_{k_{n,1}+\cdots+k_{n,a_n}}$$

$$\searrow{\mu_{(k_{1,1}+\cdots+k_{1,a_1}),\ldots,(k_{n,1}+\cdots+k_{n,a_n})}} \qquad\qquad \swarrow{\mu_{(k_{1,1}+\cdots+k_{1,a_1})+\cdots+(k_{n,1}+\cdots+k_{n,a_n})}}$$

$$X_{k_{1,1}+\cdots+k_{1,a_1}+\cdots+k_{n,1}+\cdots+k_{n,a_n}}$$