

$$\begin{array}{ccc}
 A & \xleftarrow{\text{eval}_A} & A^Y \times Y \\
 & \nearrow g & \uparrow (h, \text{id}_Y) \\
 & & X \times Y
 \end{array}
 \qquad
 \begin{array}{c}
 A^Y \\
 \uparrow h \\
 X
 \end{array}$$

$$\begin{array}{ccc}
 A & \xleftarrow{\text{eval}_A} & P_Y(E^Y(A)) \\
 & \nearrow g & \uparrow (h, \text{id}_Y) \\
 & & P_Y(X)
 \end{array}
 \qquad
 \begin{array}{c}
 A^Y \\
 \uparrow h \\
 X
 \end{array}$$