$$
\begin{array}{ccc}
\mathcal{P}_k(W)_L & \longleftarrow & \mathcal{P}_k(W) \\
\Big\Vert \wr & & \Big\Vert \wr \\
k[X_1, \ldots, X_n]_L & \longleftarrow & k[X_1, \ldots, X_n]
\end{array}
$$