element which separately acts on $\{1,\dots,p\}$ and $\{p+2,\dots,n\}$ as required, we have that $w'u = w$.

As an example, suppose that $p=q=3$, and let u be the signed permutation $\overline{3}16254\overline{4}$. To unscramble the $\overline{3}12$, we must multiply on the left by $1 \mapsto 2$, $2 \mapsto 3$, $3 \mapsto \overline{1}$, and to unscramble the 65 we must multiply on the left by $5 \mapsto 6, 6 \mapsto 5$. Thus we multiply u on the left by $w' = 23\overline{1}\overline{4}65$ to get $w'u = w = 125364$.

Note that a permutation w having the properties above is completely determined by the positions (in the one-line notation) of $1,\dots,p$ among the first $n-1$ spots, which can be chosen freely. Thus there are $\binom{n-1}{p}$ such w, and hence $\binom{n-1}{p}$ closed $\widetilde{K}$-orbits, as claimed. $\square$

Definition 5.3.2. Let $Q \in \widetilde{K}\backslash X$ be a closed orbit. Call the flag $wB \in Q$, where w has the properties listed in the proof of Proposition 5.3.1, the **standard representative** of Q.

For $w \in W$ such that wB is the standard representative of some closed orbit Q, define

$$I_w := \{i \in \{1,\dots,n-1\} \mid w(i) > p+1\}.$$

For each $i \in I_w$, define

$$C(i) := \#\{j \mid i < j \leq n-1, w(j) \leq p\}.$$

Finally, define

$$f(w) := \sum_{i \in I_w} C(i).$$

Then we have the following formula for the S-equivariant class of the closed orbit Q:

Proposition 5.3.3. *Let $Q = \widetilde{K}\cdot wB$ be any closed orbit, with wB the standard representative.*