Miklos Bona* (bona@ufl.edu). How the absence of a permutation pattern influences the number of occurrences of another.

Following a question of Joshua Cooper, we study the expected number $E_{q,r}(n)$ of occurrences of a given permutation pattern $q$ in permutations that avoid another given pattern $r$. For one specific $r$, we find the pattern $q$ which maximizes (resp. minimizes) this expectation over all patterns of length $k$.

We also prove a few exact enumeration formulae, some of which are surprising. In particular, we will obtain a very unusual 3-fold symmetry involving objects counted by Catalan numbers. (Received January 05, 2012)