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Miklos Bona* (bona@uf1.edu), Department of Mathematics, Univ. of FL, Little Hall,
Gainesville, FL 32611-8105. *Surprising symmetries in objects counted by Catalan numbers.*

Let $S_{n,132}(q)$ be the number of all copies of the pattern q in all 132-avoiding permutations of length n . We provide a large class of pairs q and q' for which $S_{n,132}(q) = S_{n,132}(q')$ and the equality is non-trivial. In particular, our statistics, while having the same cumulative value, are *not* equidistributed. The proofs depend on some transformations in another class of objects counted by Catalan numbers, namely binary plane trees. (Received February 08, 2012)