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Matthew J Willis* (mjwillis@wesleyan.edu), 38 Ward St., Middletown, CT 06457. *Parabolic generalizations of the Catalan numbers.*

These results originated from the study of flagged Schur functions, which are polynomials produced by summing the weights of certain sets of semistandard Young tableaux. These sets are determined by n -tuples ϕ with $1 \leq \phi_1 \leq \dots \leq \phi_n \leq n$ called flags which serve as upper row bounds for the tableaux. The set of all flags is the distributive lattice denoted $L(n, n)$ by Stanley. The set determined by each flag is a principal ideal in the poset of Young tableaux under the entrywise comparison ordering. When the shape of the tableaux is strict, i.e. all column lengths are present, the distinct flagged Schur functions are enumerated by the Catalan numbers. What happens if the shape is not strict? The missing column lengths determine a parabolic subgroup of the symmetric group. To answer the question, we sharpen some earlier results of Postnikov and Stanley that related flagged Schur functions to key polynomials (type A Demazure characters), which are polynomials determined by a permutation. This leads to new sub-posets of n -tuples with some interesting properties and applications, in particular counts that are analogous to the Catalan numbers for each of the $2^{n-1} - 1$ parabolic subgroups. These results are joint with Robert Proctor. (Received August 29, 2016)