1147-05-649   **Bruce Wallace Westbury*** (`bruce.westbury@utdallas.edu`), Department of Mathematics, University of Texas at Dallas, 800 W Campbell Rd, Richardson, TX 75080. *Promotion and rotation.* Preliminary report.

A recurring theme in algebraic combinatorics is "promotion = rotation". Two basic examples are; rotation of noncrossing matchings and promotion of Dyck paths; and, rotation of triangulations and promotion of frieze patterns. The promotion operator extends to an action of a cactus group. A similar construction gives an action of a cactus group on dual semistandard skew tableaux. This recovers the well-known jeu-de-taquin operations, promotion, evacuation, rectification as well as tableau-switching, Bender-Knuth involutions and dual equivalence graphs. These constructions can be carried out in any coboundary category. The motivating examples are the categories of crystals and the simplest cases arise from minuscule representations. The tableaux combinatorics arises from the exterior powers of the vector representation of SL(n) and other minuscule representations give cactus group actions on k-noncrossing matchings, permutations and plane partitions. (Received January 27, 2019)