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The Wilkinson shift is frequently used in the computation of eigenvalues of Jacobi matrices. It has been conjectured that its iteration leads to cubic convergence to zero of the bottom off-diagonal entry. This is not always true: there is a Cantor-like set  $X$  of initial conditions in the set of Jacobi matrices with spectrum  $0, 1, -1$  on which convergence is strictly quadratic. The set  $X$  is defined through the dynamics of a discontinuous map. (Received February 22, 2008)