1077-15-2574 **Ulrica Wilson*** (uwilson@morehouse.edu), Morehouse College, Atlanta, GA 30314, and **Leslie Hogben**, Iowa State University, Ames, IA 50011. *Eventually r-cyclic matrices.*

An eventual property of a matrix $M \in \mathbb{C}^{n\times n}$ is a property that holds for all powers $M^k, k \geq k_0$, for some positive integer k_0. Eventually positive and eventually nonnegative matrices have been studied extensively since their introduction by Friedland in 1978. A matrix is strongly eventually nonnegative if it is eventually nonnegative and it has a power that is both irreducible and nonnegative. In 2010, Hogben introduced and used eventually r-cyclic matrices to establish an algorithm to determine whether a matrix is strongly eventually nonnegative. We studied eventual properties of matrices from a unified perspective and established properties of the eigenstructure of eventually r-cyclic matrices. (Received September 22, 2011)