1024-52-114 **Margaret M Bayer*** (bayer@math.ku.edu), Department of Mathematics, University of Kansas, 405 Snow Hall, 1460 Jayhawk Blvd, Lawrence, KS 66045-7523. *Generalizations of Simplices and Cyclic Polytopes.* Preliminary report.

Multiplexes and braxtopes are polytopes that generalize simplices. Among simplicial polytopes, cyclic polytopes play a special role. In particular they have the largest number of faces of each dimension among polytopes with a fixed dimension and number of vertices. Bisztriczky discovered two classes of polytopes that share several properties of cyclic polytopes: ordinary polytopes, which are multiplicial; and Gale and braxial polytopes, all of whose faces are braxtopes. This talk will discuss these polytopes, with an emphasis on number of faces, flag vectors, and h-vectors. (Received January 04, 2007)