1054-17-240 **Apoorva Khare*** (apoorva@math.uchicago.edu), Yale University, Mathematics Dept., PO Box 208283, New Haven, CT 06520-8283, and **Vyjayanthi Chari** and **Tim Ridenour**. *Faces of polytopes and Koszul algebras.*

Given a reductive Lie algebra $\mathfrak{g}$ and a finite-dimensional simple $\mathfrak{g}$-module V, we study the category $\mathcal{G}$ of graded finite-dimensional modules over $\mathfrak{g} \ltimes V$. This includes truncated current Lie algebras as well as those associated to folding of complex simple Lie algebras. Given a face of the polytope formed by the weights of V, we introduce a partial order on the simple objects in $\mathcal{G}$. Using this, for certain finite subsets of the affine weight lattice, we produce quasi-hereditary Koszul algebras of finite global dimension. (Received September 15, 2009)