1042-20-107 **Andrew Dunlap Warshall*** (`andrew.warshall@yale.edu`). *Generalizing the lamplighter group.*

The lamplighter groups $G \wr \mathbb{Z}$, G a finite group, are interesting examples in geometric group theory. For example, they are not almost convex with respect to any generating set, and, with respect to their standard generating sets, they have unbounded dead-end depth. In this talk, I will discuss a generalization of these results to broader classes of groups. In particular, I will define the concepts of a t-generating set for a $\mathbb{Z}[t, t^{-1}]$-module and strong t-logarithmicity of a t-generating set. With these concepts, it can be proven that the soluble groups $\mathbb{Z}^n \star_A$, where n is a natural number and A is some hyperbolic endomorphism of $\mathbb{Z}^n$ all have the same properties, namely that they are not almost convex with respect to any generating set and that they have unbounded dead-end depth with respect to some generating set. This includes as special cases the soluble Baumslag-Solitar groups $BS(1, n)$, $n > 1$, and the regular lattices in Sol, that is $\mathbb{Z}^2 \rtimes_A \mathbb{Z}$, where A is a hyperbolic automorphism of $\mathbb{Z}^2$. Although much of this was already known, this treatment unifies the different cases. (Received August 13, 2008)