1056-05-226 **Ralucca M Gera*** (rgera@nps.edu), 1 University Way, Monterey, CA 93943, and **Henry Escuadro**, **Pranav Anand** and **Craig Martell**. *The Link Graph: a Tool for Word Sense Disambiguation.*

One of the chief concerns of linguists is the ambiguity of natural language. At the lexical level, this manifests in the existence of the multiplicity of senses that a word may have. A natural representation for the outcome of this procedure is a graph, were V is the vocabulary (the set of distinct words in the text) and vertices are adjacent in iff the words they represent co-occur in a relevant pattern in the text. Ideally, the words in the same semantic field thus give rise to a component of the graph. However, when words that have multiple senses are part of the graph, this is not the case.

In response, Dorow et al. provide an algorithm that transforms the graph into a new graph, for which generally each individual component contains only one meaning of the polysemous words. They introduced the link graph, a subgraph and another version of the line graph. Given a graph G, the *link graph* of G, denoted by $LK(G)$, is the graph obtained from G by replacing each edge ℓ of G by a vertex v_ℓ, and then joining two vertices in $LK(G)$ iff the corresponding edges in G belong to a K_3 in G. This paper studies general properties of $LK(G)$ for an arbitrary graph G, with full characterization for $G \cong K_n$. (Received August 17, 2009)