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In a seminal 1981 paper, Holland and Leinhardt described what they referred to as the  $p_1$  model for describing dyadic interactions in a social network summarized in the form of a directed graph. Their model which is log-linear in form, allows for effects due to differential attraction (popularity) and expansiveness, as well as an additional effect due to reciprocation. Fienberg and Wasserman re-represented the  $p_1$  model in contingency table form and gave it a log-linear representation in that setting. Here we reconsider the  $p_1$  model using the tools of algebraic statistics. In particular, we describe Markov bases for these models, and briefly describe their use in the study of possible generalizations to the class of  $p^*$  models. The  $p_1$  models admits a concise combinatorial description in terms of some well-known varieties in algebraic geometry. (Received January 27, 2009)