1035-60-633 **Chung-Chien Hong*** (`tchong@ms26.hinet.net`), Department of Mathematics, Albany State University, Albany, GA 31705, and **N G Medhin** (`ngmedhin@ncsu.edu`), Department of Mathematics, North Carolina State University, Raleigh, NC 27695. *Dynamic Models For Social Networks.*

We employ non-linear programming and dynamical systems approach to study social networks. A dynamic model is used to simulate the varying preferred values of each actor in the social network. Finally, we study the movements of actors leading to the identification of cliques. It is not necessary that an actor know every member of the social group under study. We assume each actor has positive and negative affinities toward the other actors. It is also assumed that each actor has limited statistical information on each of the other actors. Finally, the likelihood of a relationship is higher in the case of perceived reciprocity. (Received September 12, 2007)