

## SOME NOTES ON NETWORKS AND ETHNICITY

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These are a few notes relevant to the use of network models and network analysis in studies of ethnicity.

The method of study I recommend for getting at some aspects of ethnicity is a study of transactions in networks. By analyzing the various modes of transaction characteristic of various circumstances we can learn something of both the cooperative and exploitative aspects of ethnicity. This approach also might help develop a "generative theoretical model" (Barth, 1966) to help explain the institutionalization of ethnic group relations in plural societies. Susan Greenbaum's (1991, 1993) studies of ethnic-based mutual aid societies seems to be moving in that direction, especially in her study of the Afro-Cuban *Union Marti-Maceo* in Ybor City, Florida, "Economic Cooperation Among Urban Industrial Workers: Rationality and Community in an Afro-Cuban Mutual Aid Society, 1904-1927" (1993).

In another network-related approach, J.C. Mitchell (1974) compares separately collected and analyzed (1) cognitive data on ethnicity, and (2) behavioral data on ethnicity, using hierarchical clustering techniques (Johnson, 1967) to discover the structure of ethnic categories, on the one hand, and the structure of social distances expressed in behavior relative to those same ethnic categories. The data, in both cases, derive from structured interviews, the one set using a Bogardus-type social distance questionnaire, the other a sample survey of residential units providing information on the ethnic composition of residents. Using the similarities and differences between the cognitive and behavioral "structures" Mitchell elaborates four "perceptions relating to ethnic differentiation: at the common sense level there are (1) perceptions of cues which mark ethnic groups and there are (2) perceptions of behavior that are presumed to be explained by their ethnic identity; at the analytic level there is the respondent's construct of the ethnic group or category, a cultural construct, and there is the analyst's construct of ethnicity as a structural phenomenon, seen as an explanation. Mitchell does not provide a description of the methods by which he relates "these four types of ethnicity."

Methods of network analysis lend themselves readily to studying interactions within and among various ethnic groups. Granovetter (1973) has suggested not only that different ethnic groups have different network patterns, especially in terms of the uses made of weak versus strong ties (Liebow, 1966), but also that ethnic group relations are heavily influenced in urban settings by the existence of spaces and conditions that sustain weak ties. Weak ties are necessary to the development of harmonious plural communities or societies.

Formal methods of analyzing network structures and network flows are available to study interaction both within and between ethnic groups. Linton Freeman (1978) developed a "segregation index" which measures the degree to which there existed a "systematic -- as opposed to random -- social arrangement that reflected limitations on the access of different classes of people to one another" (1978b:13). With some prompting from J.C. Mitchell (1978), who pointed out that the segregation index did not adequately deal with the situation where there was systematic pressure toward integration, Freeman later (1978b) developed a separate, additional, index, to measure systematic integration in social networks: "This integration measure, I, varies between 0 and 1. A value of 0 indicates a complete lack of systematic integration: the number of cross-subset links is either equal to or less than the number expected by chance under the random linkage assumption. A value of 1 indicates that all possible cross-subset links are present" (1978:14).

Grace M. Anderson (1978), together with T.Laird Christie (Anderson and Christie 1978), has made some interesting contributions to the study of ethnic networks. Anderson and Christie lament the existence of gaps in our knowledge of both ethnic and native peoples' networks: "Many of our observations come from 'black box' inferences about the operation of networks, rather than from direct means of measurement" (1978:31). They note that most studies of ethnic networks "present network concepts only metaphorically," although now, they say, "The tools have now been refined for accurate measurement," and they implore us to "proceed to use them with precision

and insight" (1978:32). Ranu Jain (1987) published "some thoughts" on the uses of network analysis in the study of ethnicity.

Malcolm M. Dow and Frans B.M. de Waal (1989) have reviewed various "assignment methods" for the analysis of network subgroup interactions that can well be applied to studies of ethnic groups. These include quadratic assignment methods as well as general cubic assignment methods. The methods they describe certainly "appear to have great potential" in the study of human groups, as they say, but unfortunately their illustrations come from studies of interactions among groups of monkeys.

Formal mathematical models for the analysis of informant responses to systematic interview questions has recently been developed to a high state of precision under the rubric "cultural consensus analysis" (Romney, Weller and Batchelder 1988). Comparisons of responses of different samples of a population can be made with considerable precision, yielding measures not only of how much consensus there is in the whole population but also how much that consensus varies from domain to domain within a culture and how different are the population samples in their knowledge about the domains. The extent to which one segment of the population "just doesn't get it" can be stated precisely when you state precisely what "it" is, and the method of cultural consensus analysis makes that possible.

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