

Comparing Triadic Structure in Social Networks

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In this talk I examine triadic structure in a variety of social relations measured on individuals of different animal species. Triadic structural signatures are distinct patterns of ties among triples of actors that might be found in multiple networks and thus would indicate structural tendencies that are shared across networks. Prior results in the social, physical, biological, and computer sciences lead us to expect that distinct structural signatures should characterize different kinds of relations. Moreover, if these structural signatures are distinct from one another, they should reveal discrete clusters of networks, perhaps based on different network functions (such as information flow or signaling), different network macro structures (clustering or transitivity), specific constraints on network formation, or residues of distinctive historical relational trace. Contrary to these expectations, results presented here show that 1) triad censuses from a collection of social networks do not form robust clusters, 2) the clusters that are found are not characterized by distinctly different triad census patterns, 3) clusters contain heterogeneous kinds of social relations, and 4) variation in triad censuses among the social networks is fairly continuous rather than forming discrete clusters. These results raise questions about appropriate conceptualization when comparing local structure in social networks and suggest that local structure in social networks is perhaps better viewed along continuous dimensions of contrast than as discrete clusters with distinctive structural signatures.