



Workshop on Sociophysics: Social Phenomena from a Physics Perspective

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Inter-methodological dialogues in Mebengokré kinship system description



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INTRODUCTION

Kinship studies situate at core of anthropological enquiries since the emergence of the discipline. Despite controversies and alternative points of view, a shared meaning of kinship can be identified in its power to let people to "participate intrinsically in each other's existence" (Sahins 2013). The expansion of the digital tools for data analysis provided innovative methods to the problem of describing and discussing how people are related each other through kinship (e.g. White, Batageli e Mrvar 1999; Houseman e White 2002; Rauff 2016). Previous studies focused diverse Lowland South American Amerindian people analysing empirical networks discussing the presence of matrimonial circuits in which spouses are related by consanguinity, affinity and other local categories of connecting people (e.g. Ferreira, Franco e Silva 2014; Mahalem de Lima 2017; Silva, Ferreira e Franco 2017). This study focuses the kinship network of the Xikrin-Kayapó, a Jê people, living at Mrötídjám village in the Tríncheira-Bacajá Indigenous Land (PA-Brazil). Ethnographic descriptions of Xikrin-Kayapó kinship highlighted a tension between the movement of husbands from one side to the other of the village's ring pattern and the permanence of wives in their original families' houses or village ring segments as a consequence of the post-marrying uxorfocal residential (Fisher 1991; Cohn 2005; Bollettin 2020).

The present study aims at:

- offering original data for discussing how network analysis can shape light on residential arrangements activated by in a Xikrin-Kayapó village;
- comparing qualitative and quantitative methods, consequently providing insights for future researches.

MATERIALS AND METHODS

• Data discussed in this study have been collected through direct interviews in the Mrötídjám Xikrin-Kayapó village in the Tríncheira-Bacajá Indigenous Land (PA - Brazil).

• Only adult people have been interviewed and have been asked to inform:

- 1) co-resident people in the same house (intended as a shared building),
- 2) and in the same family (intended as the same co-residential group).

• Houses as building define a place in which one or more families share the space. Families, by their own, define a group of people related by marriage or filiation and co-resident;

3) matrimonial ties and patrilineal and matrilineal filiation.

• These data permitted to map connections between the diverse familiar groups of which the village is composed and to produce a network of individuals' matrimonial and filiation ties.

Results of the interviews report:

- a total of 336 persons, including relatives not still alive and others resident outside the village but mentioned as fathers or mothers.
- Resident inhabitants of the village are 280 (83,33% of the total).
- The number of reported houses is 28 and families are 58.
- The number of matrimonial edges is 58, and the number of total edges (including marriages ties and filiation) is 674.
- Data have been organized in Sublime Text documents, and successively used to elaborate networks using Gephi 0.9.1 and Pajek programs.

RESULTS

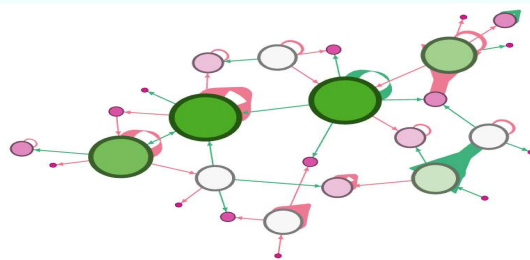


Figure 2: Kinship network produced from residential choices after marriages. Green nodes are more connected, white medium connected, and pink low connected. Thickness of arcs is associated with the number of movements: thicker more frequent and thinner less frequent. Green arcs represent residence in husband's house and pink arcs in wife's house.

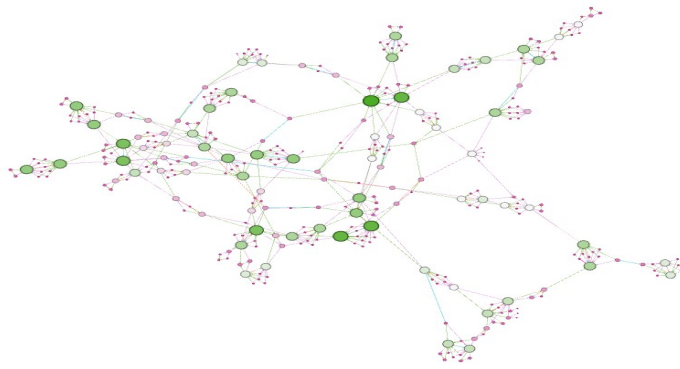


Figure 3: Kinship networks with individuals as nodes and matrimonial and filiation ties. Green nodes are more connected, white medium connected, and pink low connected. Colour of the arcs is related with the kind of interpersonal connection: pink is maternal tie, green paternal tie, orange masculine marriage, and blue feminine marriage.

Redes	Rede espaça $m \ll n(n-1)/2$	n	m	Δ	$\langle k \rangle$	L	D	PNA	C_ws	componentes
Casas	378	28	59	0,084	4,370	2,213	5	0	0,212	1
CasasF	0		33	0,065	2,870	1,586	4		0,167	4
CasasM	0		26	0,056	2,364	1,562	3		0,067	4

Table 1: Indexes produced from the analysis of house-marriage network. "Casas" represents the network including both masculine and feminine post-matrimonial movements, "CasasF" only feminine movements and "CasasM" only masculine movements

DISCUSSION

Preliminary conclusions indicate toward:

- 1) The pre-eminence of feminine co-residential patterns, highlighted by the higher value of loops in the house-marriage network, as well as by Clustering Coefficient, Average Degree, Network Diameter and Average Path indexes;
- 2) Coherence between matrimonial structure and uxorfocal residential patterns reported in ethnographic descriptions and network analysis;
- 3) The productivity of comparing qualitative and quantitative methods for the study of social networks;
- 4) The necessity of including other additional parameters in the study of Lowland South American kinship networks, such as "classificatory relatives", in future studies.

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Figure 1: Panoramic of the Mrötídjám village, with the houses' ring. Picture by Paride Bollettin 2012