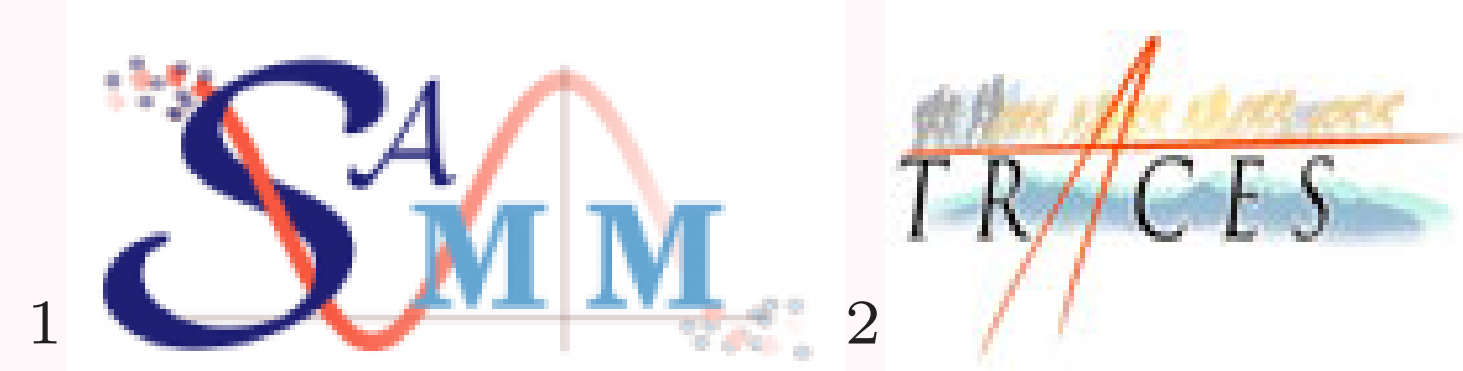


# Exploration of a large database of French notarial acts with social network methods

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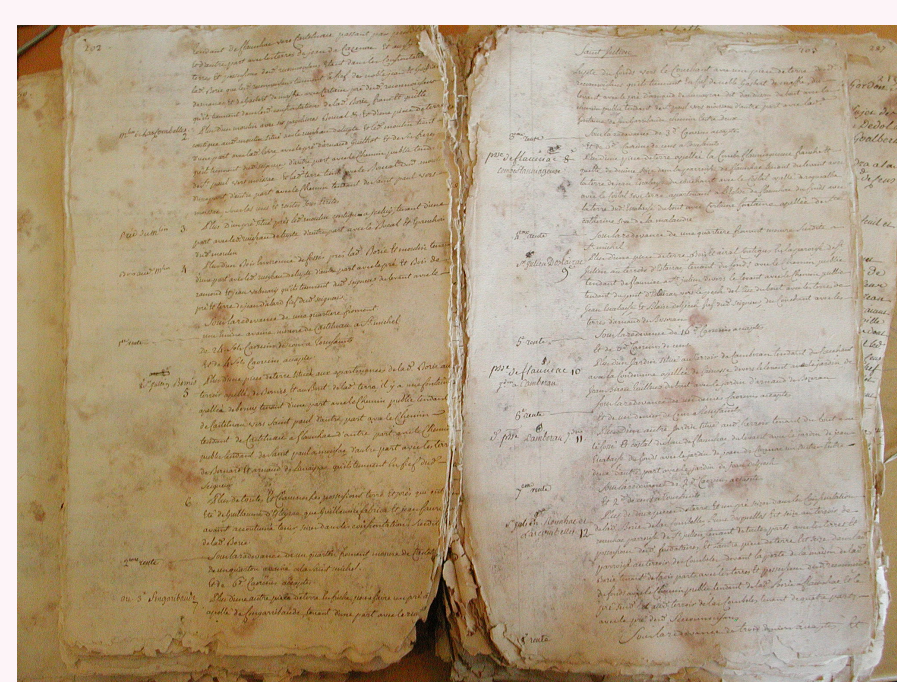
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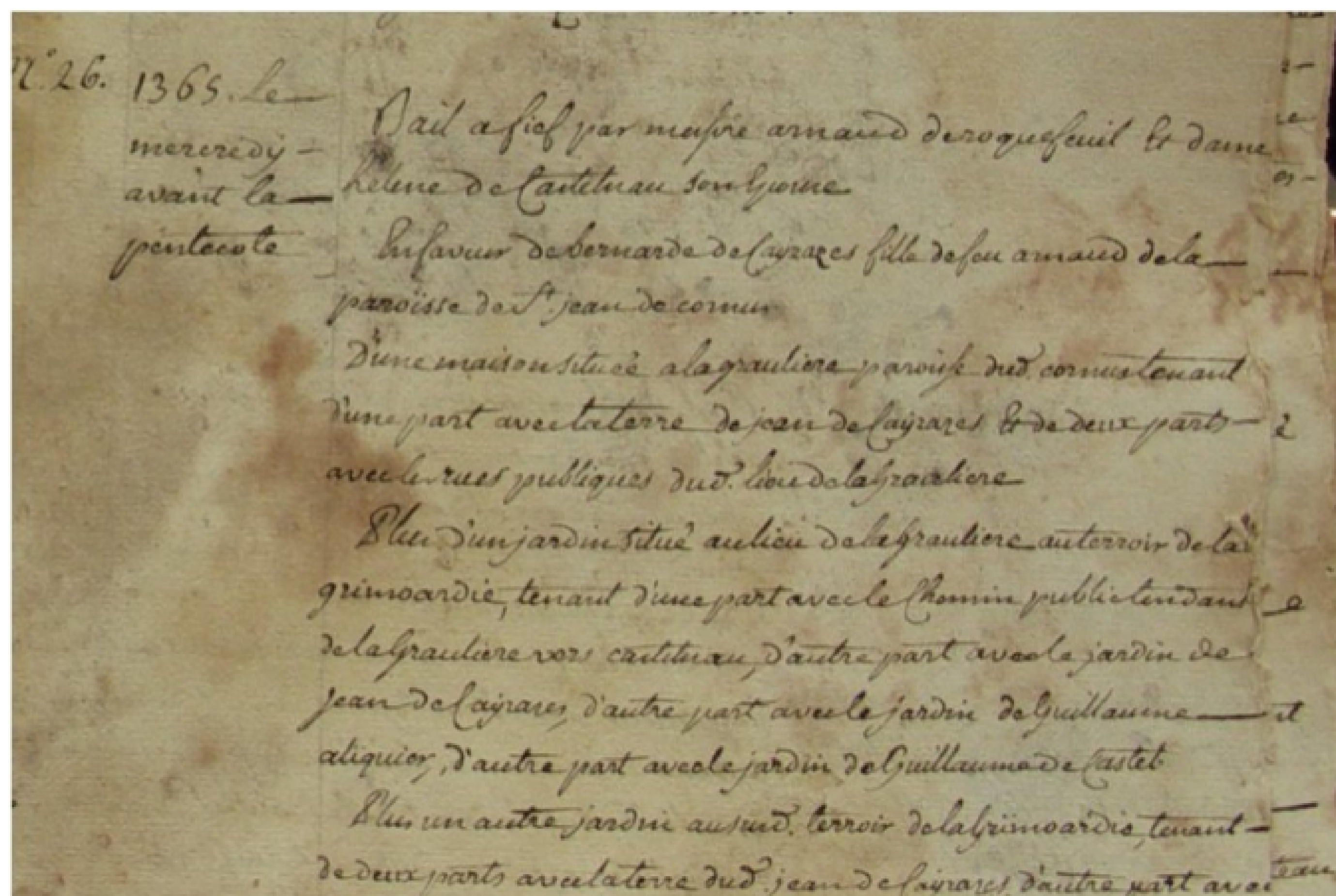
## Sources

3356 notarial acts

- “Archives départementales du Lot” (Cahors, France)
- Seigneurie de Castelnau Montratier (south west of France);
- established between 1238 and 1765, mostly between 1250 and 1500;
- copied from lost sources between 1770 and 1789 to validate land claims, rents, etc. of the new owner of the Seigneurie.



## An example



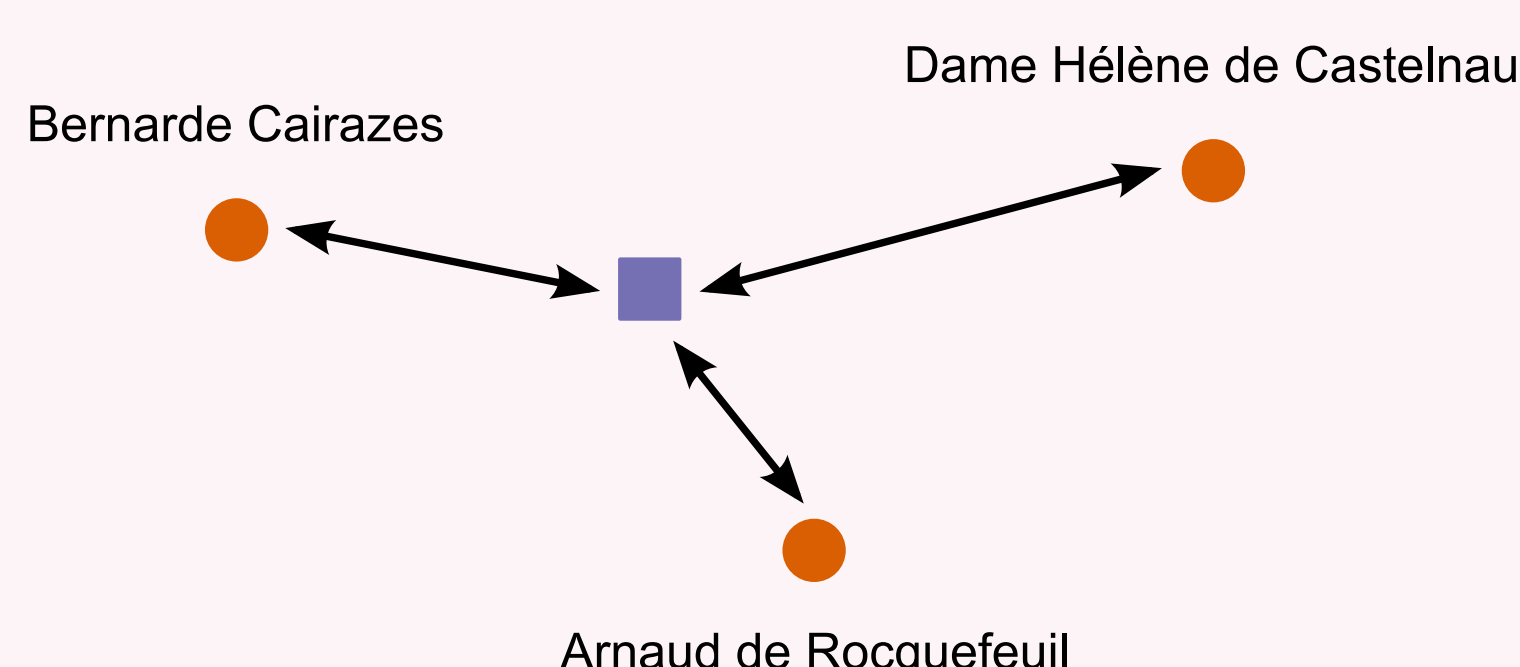
AD 46 48 J6 page 37, acte 26 (analyse détaillée id\_acte=72, id\_transaction=142)  
références documentaires

1365. le mercredi avant la Pentecôte date paroisse  
tenancier, acteur de l'acte  
Bail à fief par messire Arnaud de Roquefeuil et Dame Hélène de Castelnau son épouse en faveur de Bernarde Cairazes, fille de feu Arnaud de la paroisse de St Jean de Cornus, d'une maison située à La Graulière, paroisse de Comus, tenant d'une part avec la terre de Jean Cairazes et de deux parts avec les rues publiques du dit lieu de La Graulière. tenancier confront  
[...] (7 autres transactions pour deux jardins, un pré et 4 pièces de terre)  
sous la redevance de 6 d cahorsins d'acapte à mutation de seigneur et de 3 (4 quartes) mesures d'avoine et 1 poule à notre Dame en septembre.  
Jean de Combelcau, notaire et commissaire d'actes de monsieur l'officiel de Cahors.  
notaire seigneurs, acteurs de l'acte

- Information: transaction date and type, rent and other compensations, locations (associated to indirectly involved persons), directly involved persons: tenant(s), lord(s), notary
- Large database: 6720 transactions in 3356 acts involving 4280 names (excluding notaries)

## Network model

- vertices (nodes): persons AND transactions
- edges: citations or inclusions

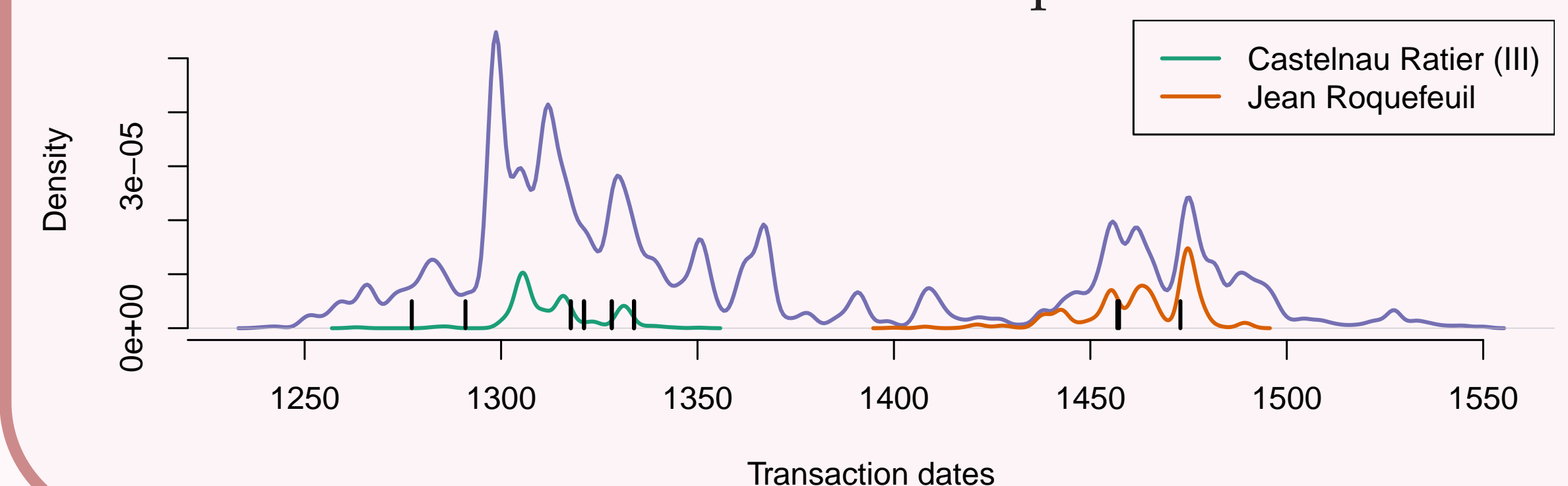


## Global characteristics help identifying suspicious records

- 11000 vertices; among them, 10373 are connected.
- Power law degree distribution (e.g., 20 names associated to more than 100 transactions each and 4101 transactions together)
- 80 transactions with only one name (10 of them have “unknown” name attached)
- High degree names are sometimes suspicious (e.g., Seigneur Castelnau Ratier III involved in 329 transactions from 1262 to 1350 with probable life span from 1290 to 1350)
- Other possible transcription errors: persons with a very low degree but a very high betweenness (valid example: Chapter of Cahors but who are the other ones?)

## Dates

Poor connectivity (compared to a random model) essentially associated to long life span  
High betweenness nodes: Jean Roquefeuil, Castelnau Ratier III & Chapter of Cahors



## Visual exploration

Figures made with the free software Gephi <http://gephi.org/>

