Reconstructing spatial relationships from charters: a collaboration between Data Mining and Historical Topography

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Urban Historic Topography

York, corner of Stonegate and Petergate, opposite Minster Gates, detail of OS 1852
Example of a charter from English edition of Vicars Choral collection

408. Grant by Thomas son of Josce goldsmith and citizen of York to his younger son Jeremy of half his land lying in length from Petergate at the churchyard of St. Peter to houses of the prebend of Ampleford and in breadth from Steyngate to land which mag. Simon de Evesham inhabited; paying Thomas and his heirs 1d. or [a pair of] white gloves worth 1 d. at Christmas. Warranty. Seal.


January 1252 [1252/3].

SOURCE: VC 3/Vi 326 (161 mm. x 137 mm.)
Modelling spatial relationships from charters (SoA before ChartEx)

1. Chronological sequence of transactions between actors.
2. Spatial analysis of matching boundary descriptions. (Also largely matching actors).
3. Comparison of accidental attributes of parcels of land (house/field names, descriptions, rents due etc).
Chronological Sequencing and Spatial Sequencing

408. Grant by Thomas son of Josce goldsmith and citizen of York to his younger son Jeremy of half his land lying in length from Petergate at the churchyard of St. Peter to houses of the prebend of Ampleford and in breadth from Steyngate to land which mag. Simon de Evesham inhabited.

409. Grant by Mariot widow of Thomas son of Josce goldsmith of York and by Jeremy (Jeremias) son of Thomas and Mariot to mag. Simon de Evesham canon of York of land with buildings in Steyngate, granted to them by Thomas, lying in length between Petergate and land of the prebend of Ampleford, and in breadth between Steyngate and land once of Geoffrey de Norwyz precentor of York.

411. Release and quitclaim that Jeremy (Geremias) son of Thomas the goldsmith of York made to mag. Simon de Evesham archdeacon of Rychemund, his heirs, and assigns of land with buildings in Stayngate, lying in length between Petergate and land of the prebend of Ampelford and in breadth between Stayngate and land of the archdeacon which was once of Jeremy's father Thomas. The release and quitclaim was made on Saturday before the feast of All Saints 51 Henry III [30 October 1266]
Conceptual Plan of Logical relationships

**LAND and BUILDINGS** (prebend of Ampleford)

- **LAND WITH BUILDINGS** (Simon de Evesham archdeacon, previously of late Thomas son of Josce; half land was given to Jeremy, the shop and solar on the corner was of Mriot and Jeremy)

- **LAND AND HOUSES** (Simon de Evesham, precentor, previously of Geoffrey de Norwich precentor)

- **LAND AND HOUSES** (Simon de Evesham precentor previously of Anketin de Hesingwald and Thomas Sotewain)

- **LAND and BUILDINGS** (prebend of Masham)

- **Property 1**
- **Property 2**
- **Property 3**

**St. Peter’s Churchyard**

**VCC 403-411 Property 1, 2, 3 and their development by 1266**
The conceptual plan is then adjusted to a real cartographic base using other evidence (detail of OS 1852). Not addressed by ChartEx. Future project?
Charter Annotation
Fragmented Relational Information
Matching Relational Information

Vicars Choral 408

Vicars Choral 409
Thomas son of Josce, goldsmith

Statistics

\[ p(\text{Thomas}) = 0.12 \] (common name)
\[ p(\text{Josce}) = 0.0015 \] (uncommon name)
\[ p(\text{Goldsmith}) = 0.04 \] (common profession)

Dating

vc-408  1252-1253
vc-409  1253-1261

Final confidence

\[ \text{conf (Thomas 408, Thomas 409)} = 0.9993 \]
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<th>Relationship</th>
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<td>glover</td>
<td>witness</td>
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Reconstructed network
Thomas son of Josce matched
At the corner of Petergate and Stonegate
Transaction-Transaction clustering

120 Vicars Choral charters
136 transactions
Site-matching: Stonegate/Petergate

- 414: Simon de Evesham
- 413: entire three parcels
- 413: Bubwyz
- 411: Jeremy son of Thomas
- 407: third parcel
- 412: entire three parcels
- 412: partial lease
- 410/410: William Raven de Fenton
- 406: ambiguous
- 409: Thomas son of Josce
- 408: Mariot widow of Thomas

Corners:
- Steyngate/Petergate
- second on Petergate
- third on Petergate
Conclusions

- Clear definition of processes and goals can support the automated analysis of even very fuzzy and incomplete data.
- Data Mining can suggest relationships out of both large and small data collections.
- Data Mining can suggest areas of ambiguity that need further clarification.
- Matching sites is more complex than matching actors but results are promising.
- Future projects – need to work with more types of data and larger data sets and develop georeferencing.