



Centre d'Estudis Demogràfics

**FIVE CENTURIES OF MARRIAGES (5CofM).
A PROJECT OF HISTORICAL DEMOGRAPHY
IN THE BARCELONA AREA**

Anna CABRÉ
Joana M^a PUJADAS

386

*PAPERS
DE
DEMOGRAFIA*

2011



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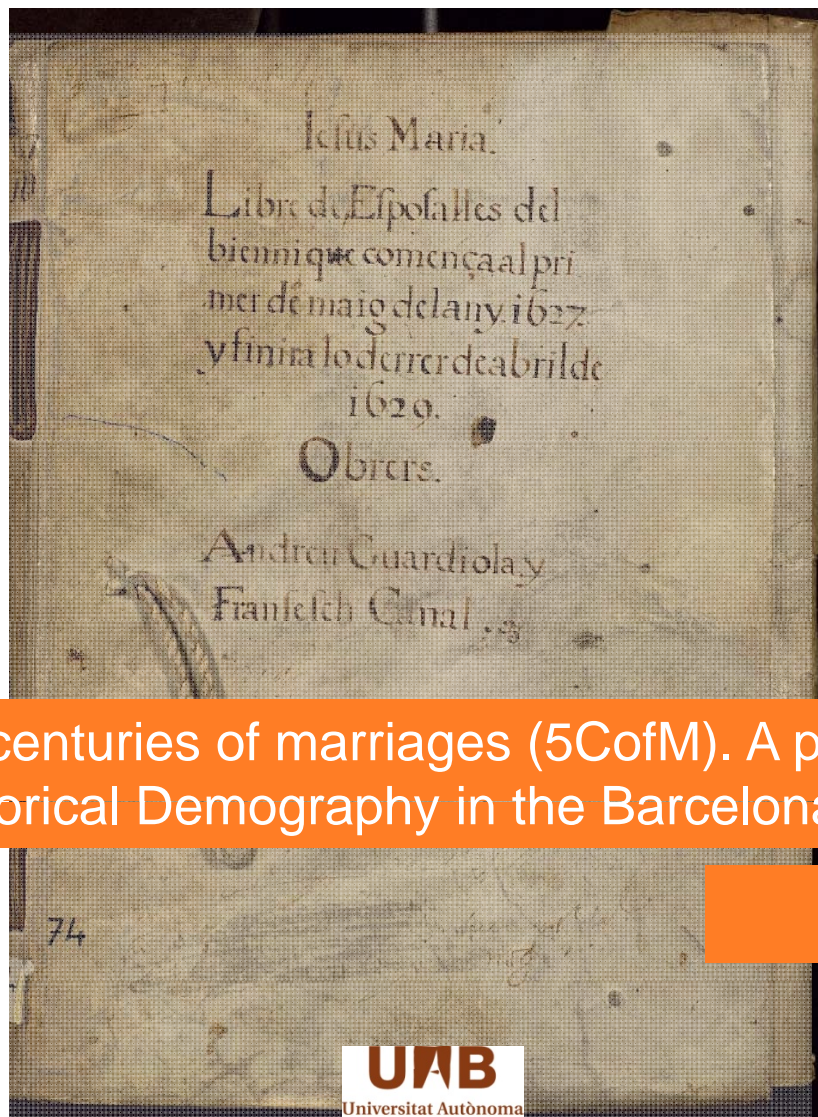
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En aquest document es realitza una presentació del projecte
Five Centuries of Marriages (5CofM), dirigit per la Professora Anna Cabré
i finançat per l'European Research Council, convocatòria Advanced Grant.

Centre d'Estudis Demogràfics

2011



Five centuries of marriages (5CofM). A project of Historical Demography in the Barcelona Area.

Anna Cabré
anna.cabre@uab.es

5cofM – The project

- Advanced Grant – European Research Council.
- 2011 – 2016.
- Partners:
 - Universitat Autònoma de Barcelona (UAB).
 - Centre d'Estudis Demogràfics (CED).
 - Centre de Visió per Computador (CVC).

AIM

This project is a long-term research initiative based on the data-mining of the *Llibres d'Esposalles* conserved at the Archive of the Barcelona Cathedral. This extraordinary data source comprises 291 books of marriage licenses records, with information of approximately 610.000 unions celebrated in over 250 parishes of the Diocese between 1451 and 1905.

5CofM - Goals

- The extraction of all the substantive information on five centuries of marriages contained in the *Llibres d'Esposalles* through the construction of an exhaustive database to be named *The Barcelona Historical Marriage Database (BHMD)*.
- The development of demographic and social research based on the time-series and the geographical distribution of the marriages and the characteristics of the newly wed, such as occupation of the husband, former marital status of husband and wife, socioeconomic position signaled by the fee imposed on them, and, when possible, occupations of their fathers, survival of their parents, place of residence and geographical origin (when different from place of celebration).
- The methodological research on linkage of identities and kinship, aiming to reconstruct genealogies which can in some cases cover up to ten generations or more and constitute a privileged material for the study of life-change, intergenerational transmission and siblings differentials in occupation and social status.
- The establishment of interdisciplinary links and permanent cooperation between research in social sciences and research in computer science, having for common grounds the reading, recognition and transcription of manuscript data.

5CofM - Lines of Research

- Marriage series and the concept of net reproduction.
- Chronology and geography of population estimates.
- The data on marriage fees and occupations.
- Migratory flows.
- Survival, thus mortality.
- Linkage of identities and kinship.

5CofM - Team

Universitat Autònoma de Barcelona – Centre d'Estudis Demogràfics:

- Anna Cabré (Principal Investigator and director of the CED)
- Joana Maria Pujadas-Mora (Coordinator)
- Ainhoa Alustiza (Postdoctoral researcher).
- Miquel Valls (PhD student).
- Albert Garcia-Soler (PhD Student).
- Joan Pau Jordà (PhD Student).
- Aina Moragues (Research Assistant).
- Kenneth Pitarch (Master Student).

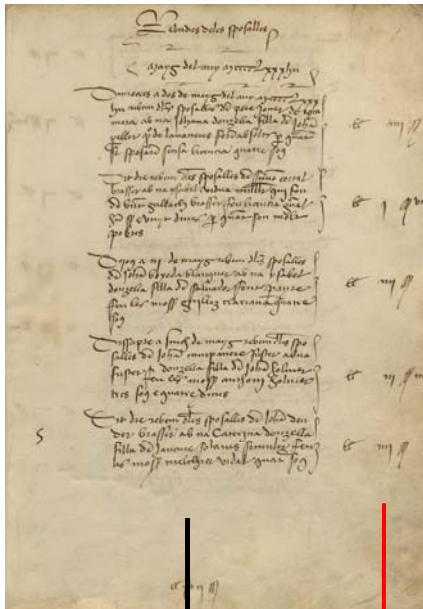
Centre de Visió per Computador :

- Josep Lladós (Senior Researcher and director of the CVC).
- Alícia Fornés (Coordinator).
- David Hernández (PhD Student).
- Núria Cirera (Master Student).



Source: Continuity

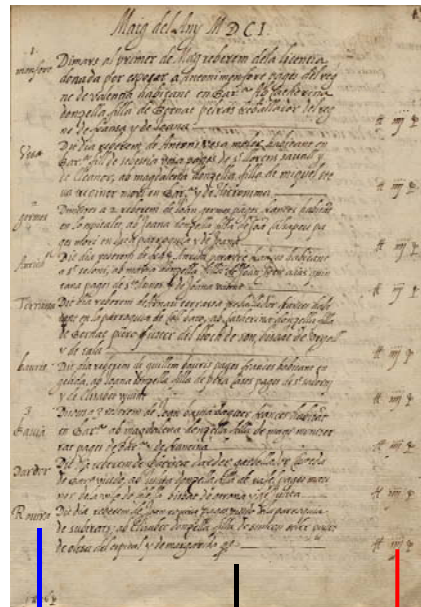
1481: volume 3



Marriage license

Fee

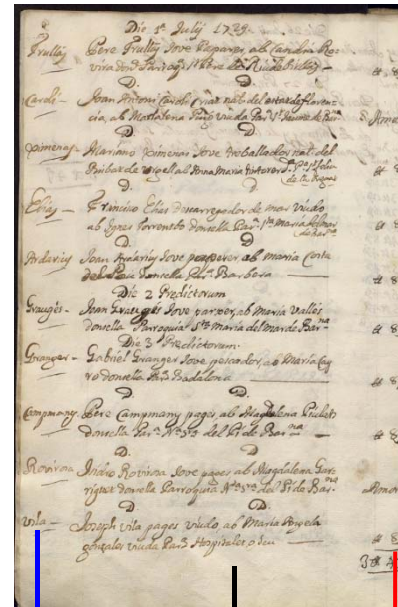
1601: volume 61



Marriage license

Fee

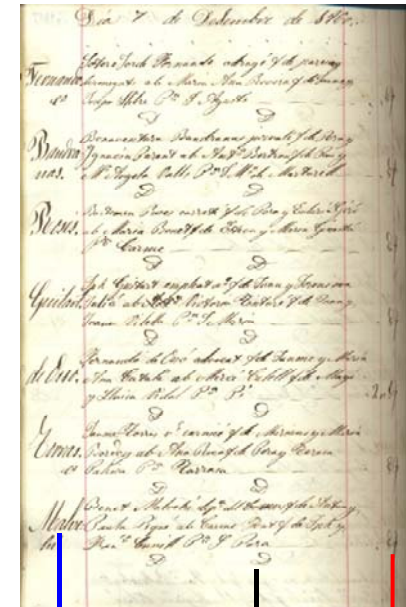
1729: volume 127



Marriage license

Fee

1860: volume 200



Marriage license

Fee

Source: Contents

1481: volume 2

Dit die rebem d(e) les (e)sposalles de pere saba /
ter pescador a(m)b na benete donzella filla /
de franci paulegue q(uondam) pescador fou licen /
tia g(e)n(er)al quatre sous IIII sous

On said date we receive the marriage license fee
for pere sabater fisherman with maiden benete
daughter of franci paulegue deceased fisherman it
was a general license charge of 4 sous IIII sous

1601: volume 61

Dit dia reberem de Joan rovira pages viudo de la
parroquia / de subirats, a(m)b Elisabet donzella
filla de simeon soler pages / de olesa del espital y
de margarida q(uondam) 4 sous

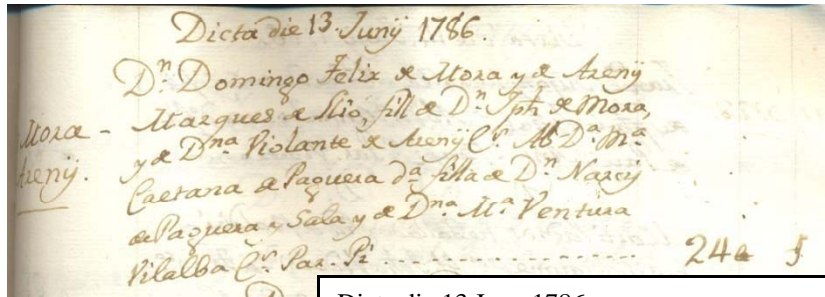
On said date we received from Joan rovira peasant
widower from the subirats parish and maiden
Elisabet daughter of simeon soler peasant from olesa
de espital and the deceased margarida 4 sous

1729: volume 127

Joan Antoni Caroli criat nat(ural) del estat de floren-
cia, a(m)b Marlalena Puig viuda Par(roquia) s(an)t
Jaume de Bar(celo)na Amore dei

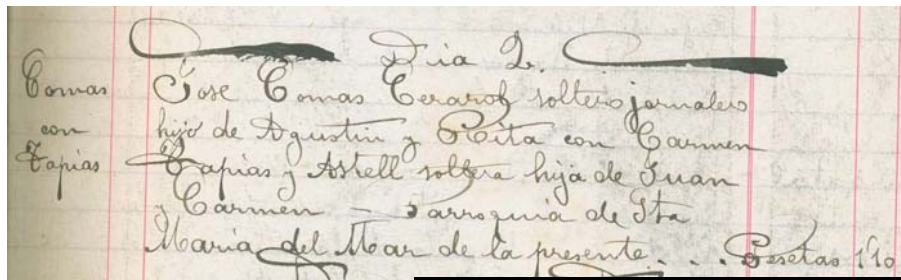
Joan Antoni Caroli valet from the state of florence
with Marlalena Puig widow from sant Jaume of
Barcelona Parish. Amore dei (no fee)

1786: volume 157



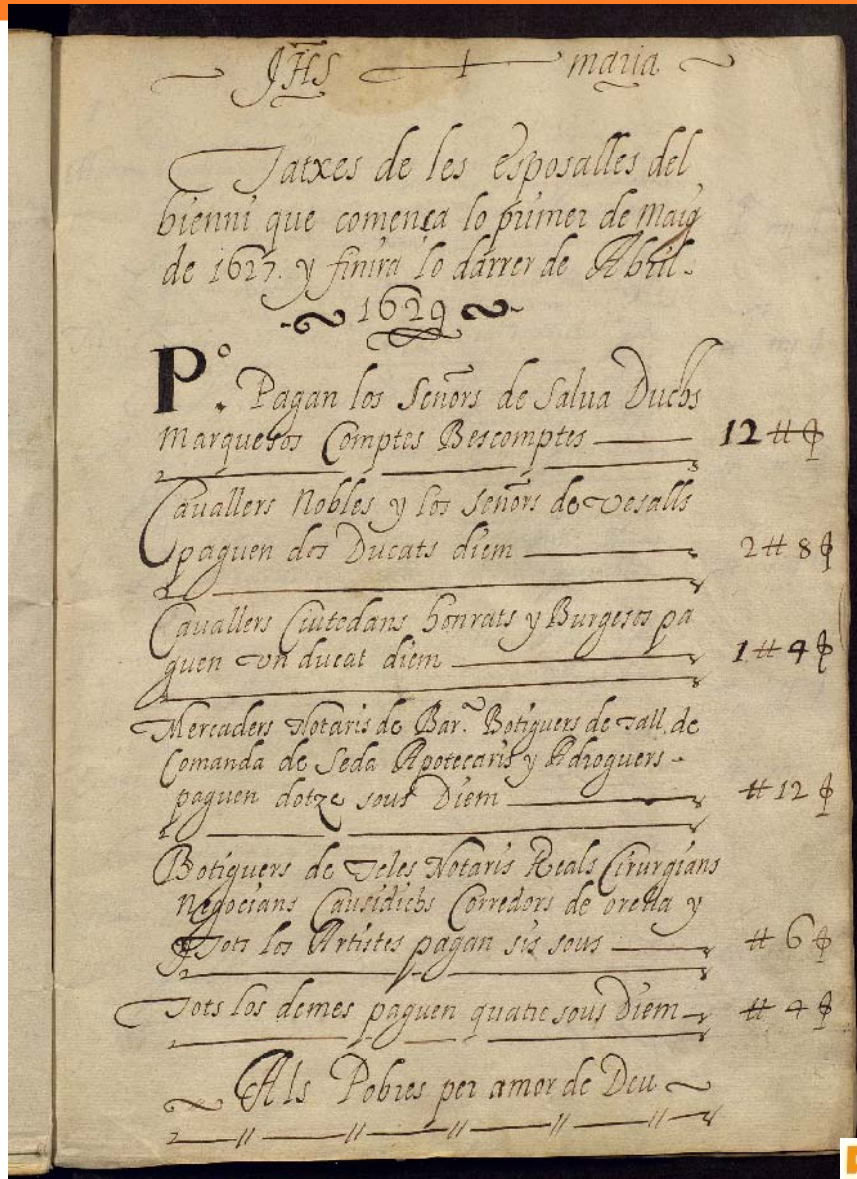
<p>Dicta die 13 Juny 1786 D(on) Domingo Felix de Mora y de Areny/ Marques de Llio fill de D(on) J(ose)ph de Mora, / y de D(ona) Violante de Areny A(m)b D(ona) M(aria) / Caetana de Paguera filla de D(on) Narcis / de Paguera y Sala y de D(ona) M(aria) Ventura / Vilalba Par(roquia) Pi 24 lliures</p>	<p>On said date of the 13 of June 1786 Don Domingo Felix de Mora y de Areny Marques of Llio son of Don Joseph de Mora, and of Dona Violante de Areny with Dona Maria Caetana de Paguera daughter of Don Narcis de Paguera y Sala and of Dona Maria Ventura Vilalba Pi Parish 24 lliures</p>
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1903: volume 243



<p>Dia 2 Jose Comas Gerard soltero jornalero / hijo de Agustin y Rita con Carmen / Tapias y Astell soltera hija de Juan / y Carmen – Parroquia de S(an)ta / Maria del Mar de la presente / Pesetas 1'10</p>	<p>Day 2 Jose Comas Gerard unmarried day laborer son of Agustin and Rita with Carmen Tapias y Astell unmarried daughter of Juan and Carmen - Santa Maria del Mar Parish of this city Pesetas 1'10</p>
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Source: Contents



Marriage licenses fees for the two year period that starts on the first of May, 1627 and ends on the last day of April, 1629

Dukes, Marquises, Counts and Viscounts.

12 ll

Noble knights and Lords of vassals.

2ll 6s

Knights, Honored Citizens and Bourgeoisies.

1ll 4s

Merchants, Notaries of Barcelona, Shopkeepers of distinguish materials, Chemists and Druggists.

12s

Shopkeepers of materials, Royal Notaries, Surgeons, Traders, Solicitors, Middlemen and Artists.

6s

The rest.

4s

The poor ones for the love of God.

-

Source: Geography

Dioceses of Barcelona



Deganat de Piera

10 volumes: 1572 - 1831

14.806 marriages

Deganat del Vallès

18 volumes: 1541 - 1803

12.896 marriages

Deganat del Penedès

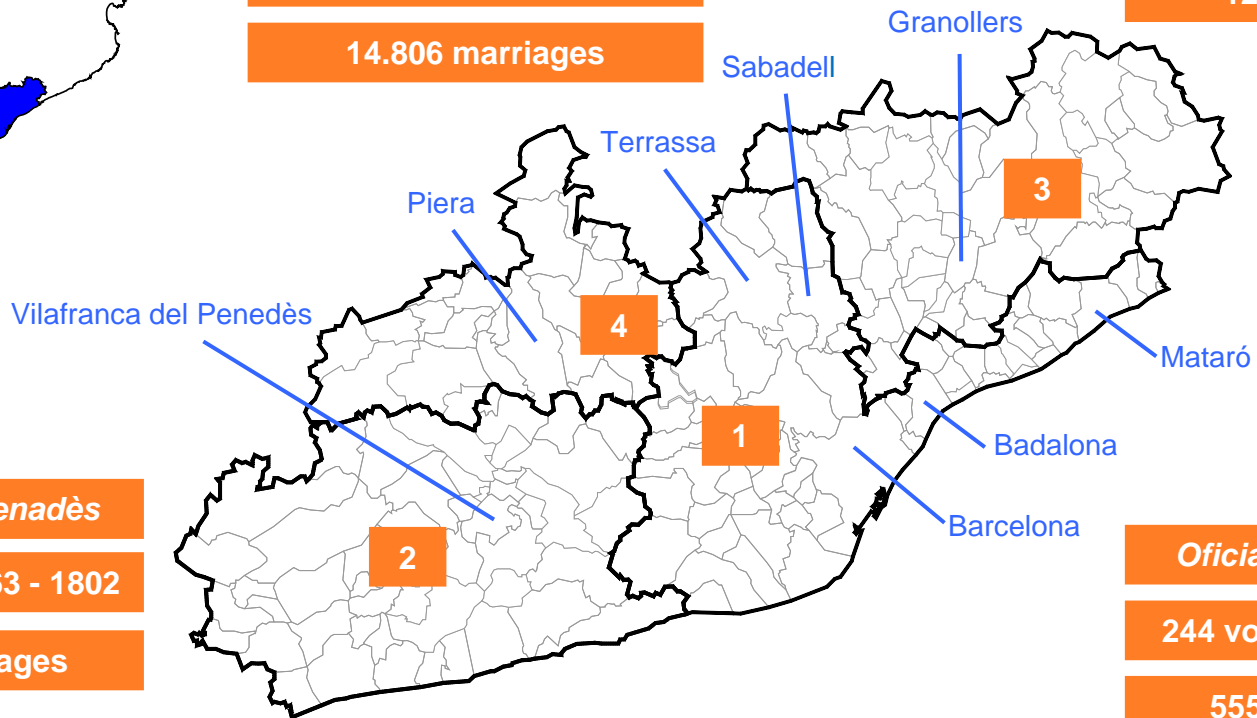
19 volumes: 1563 - 1802

26.493 marriages

Oficialitat de Barcelona

244 volumes: 1451 - 1905

555. 679 marriages



182 municipalities (c. 250 parishes)

- (1) *Oficialitat de Barcelona*: 61
- (2) *Deganat del Penedès*: 50
- (3) *Deganat del Vallès*: 46
- (4) *Deganat de Piera*: 25



THE WORK OF THE DEMOGRAPHY TEAM



Scanning - Barcelona Historical Marriage

- Professional company.
- More than 100.000 documents.
- February 2010 – June 2011.



Barcelona Historical Marriage Database – Data mining

Data mining:

- Microsoft Office Access 2003 / 2007.
- Web Application.
 - Centralization of documents and data.
 - Work online.

<http://www.cvc.uab.es/5cofm/>



Present status - Barcelona Historical Marriage Database

c. 290.000 marriages (at 1st of December):

- 55 transcribers + 3 groups of highschool students.

Target databases:

- Alphabetical lists of groom's and bride's surnames from 1451 to 1650.
- All marriage licenses for one out of every ten years from 1451 to 1905.
- All marriage licenses from 1575 to 1643.
- All marriage licenses from 1787 to 1860.
- All marriage licenses in January, from 1861 to 1905.

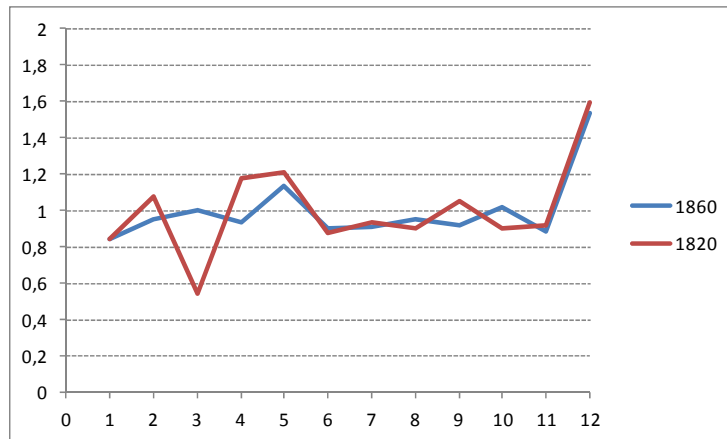
Harmonization (1575 – 1643): 48.921 marriage licenses.

- Names: 1685.
- Surnames: 18.824.
- Occupations: 1452.
- Geographical location (origin and residence): 773.

First results

- *Aproximació a les migracions històriques a través de l'estudi dels cognoms (Catalunya, 1497 – 1601)*. Master Thesis (2011). Joan Pau Jordà.
 - *Poverty and Spatial Location along Industrialization, Barcelona, 1787 – 1860*. Population Association of America 2011 Annual Meeting. Anna Cabré, Joana Maria Pujadas-Mora, Miquel Valls, Albert Garcia-Soler.
 - *Social groups and Urban Location along Industrialization: Barcelona, 1786 – 1861*. European Population Conference (2010). Anna Cabré, Joana Maria Pujadas-Mora, Miquel Valls, Albert Garcia-Soler. Vienna.
-
- *Marriage, migrants and social mobility. Barcelona, 1597 – 1634*. European Social Science History Conference (2012). Anna Cabré, Joana Maria Pujadas-Mora, Albert Garcia-Soler, Miquel Valls, Ainhoa Alustiza. Glasgow.
 - *Second generations in the past: the fate of French migrants' children in the Barcelona area at the 17th century*. Anna Cabré, Joana Maria Pujadas-Mora. European Population Conference (2012). Stockholm.
 - *Migratory waves of the past. Frenchmen in the Barcelona area at the 16th and 17th centuries*. Albert Garcia-Soler, Joana Maria Pujadas-Mora, Ainhoa Alustiza, Anna Cabré. European Population Conference (2012). Stockholm.
 - *Approaching migrations through family names: the Barcelona area at 16th century*. Joan Pau Jordà, Joana Maria Pujadas-Mora, Aina Moragues, Anna Cabré. European Population Conference (2012). Stockholm.
 - *Secularization and Industrialization: the seasonality of marriages at the Barcelona area*. Miquel Valls, Joana Maria Pujadas-Mora, Anna Cabré. European Population Conference (2012). Stockholm.

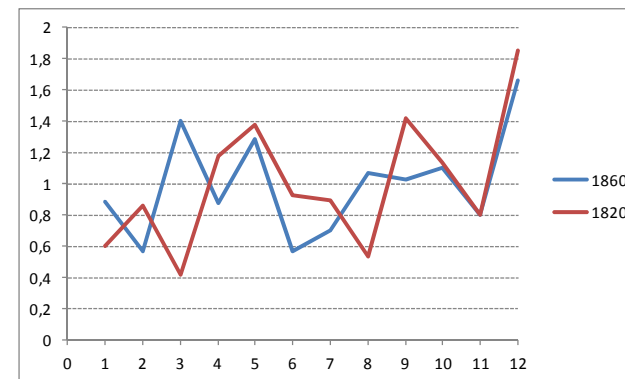
An example: Secularization in the 19th century



Peasants



Weavers





THE WORK OF THE COMPUTER SCIENCE TEAM

Line segmentation

ia reborem del sor Jaume Casademunt (aualler en Bar.
lat fill q^o sor Bernat Casademunt (sucda honorat
la senyora Lucrecia Casademunt y de ollevs, ab la s^{ra}
abet Anna donzella filla del q^o fraz Puig gener mer
re sucda de Bar.^a y dela senyora Isabel Jaumira

Handwriting recognition

- Hidden Markov Models
 - WER: Open Vocabulary: 16%, Closed Voc: 13%
- Neural Networks
 - WER: Open Voc: 17%, Closed: 13%

dit dia reberē de Hieronym Ponsich corder de Bar^a fill de Jua^s Pon.

- System output:
 - dit dia reberē\$ de Hieronym Ponsich orde de Bar^(a). fill de un Pon=
- Human transcription
 - dit dia reberē\$ de Hieronym Ponsich corder de Bar^(a). fill de Jua\$ Pon=

First results

- *Handwritten Text Recognition for Marriage Register Books*. Verónica Romero, Joan-Andreu Sánchez, Nicolás Serrano, Enrique Vidal. International Conference on Document Analysis and Recognition (ICDAR), Beijing, China, September 18-21, p. 533-537, 2011.
- *Handwritten Word Spotting in Old Manuscript Images Using a Pseudo-structural Descriptor Organized in a Hash Structure*. David Fernández, Josep Lladós, Alicia Fornés. Pattern Recognition and Image Analysis, Lecture Notes in Computer Science series, volume 6669, Springer Berlin / Heidelberg, p. 628-635, 2011.
- *Study of the Influence of the Representation in Word Spotting in Handwritten Historical Documents*. Josep Lladós, Marçal Rusiñol, Alicia Fornés, David Fernández, Anjan Dutta. Under Review.
- *A symbol spotting approach in graphical documents by hashing serialized graphs*. Anjan Dutta, Josep Lladós, Umapada Pal. Under Review.

5CofM
FIVE CENTURIES OF MARRIAGES