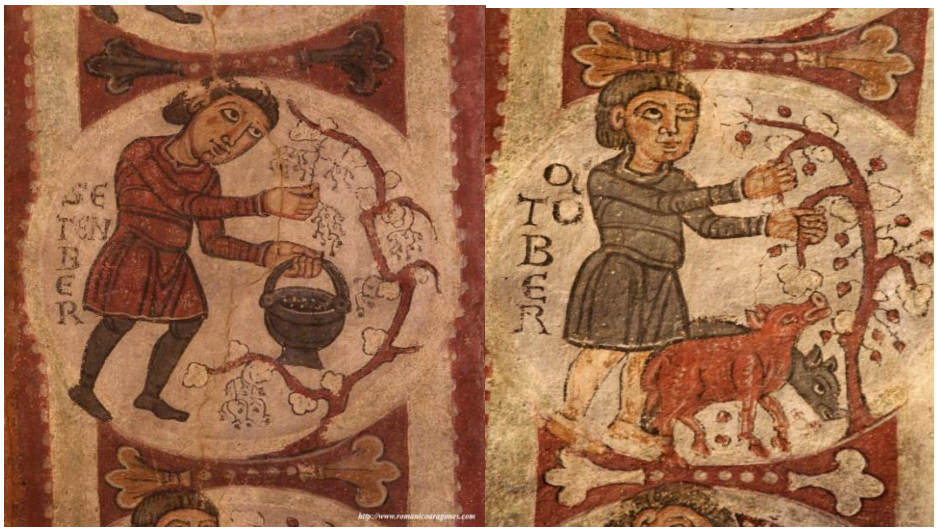
Campop Cambridge Group for the History of Population and Social Structure

European Network for the Comparative History of Population Geography and Occupational Structure

ENCHOS IV BARCELONA

23rd to 25th September, Universitat Autònoma de Barcelona



Rural works to be performed in the months of September and October.
Basílica de san Isidoro de León, 12th century.

Dates: 23rd - 25th of September, 2022

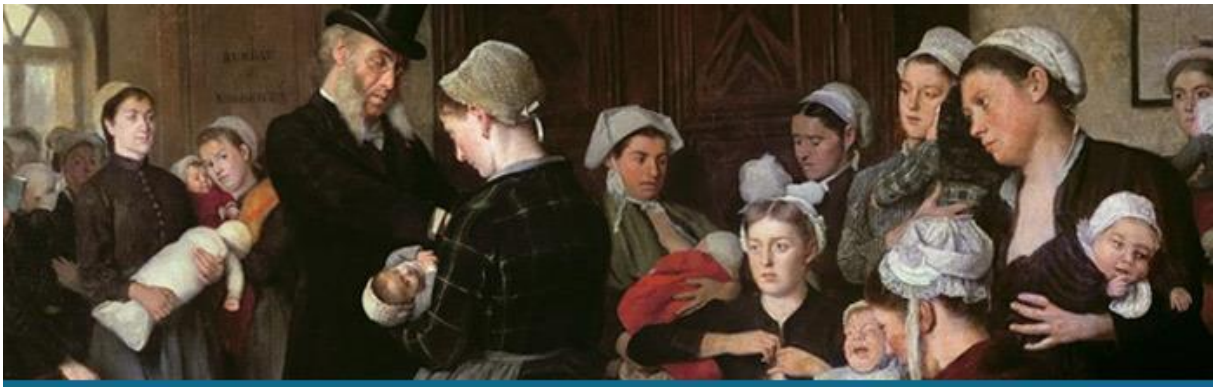
Venue: Residència d'investigadors (CSIC), Hospital street, 64. Barcelona

Online Zoom link (same for all meetings)

https://cam-ac-uk.zoom.us/j/98522994764?pwd=Zm9TTldROU9nbnJ1VTM1djVsQWU0dz09

Programme

DAY 1 (FRIDAY 23) 10am-5.30pm — Current projects by groups working on Spain, Portugal, Italy and Latin America



9.30. Registration and Welcome

10.00. Morning session (20 min paper +15 min discussion). Chair: Leigh Shaw-Taylor

10.00 Carmen Sarasúa, The occupational structure of Spain, 1700-1860

10.35 Margarita López: Where are the women? In search of female work in pre-census Catalonia (1785 – 1826).

11.10 Luisa Muñoz, The occupational structure of Spain from a gender perspective, 1860-1960. First results using the census of 1887 and other sources

11.45 Natalia Mora-Sitjà, Female employment changes between two Spanish censuses: a regional exploration

13.00 - 14.30 Lunch. El Jardi (Old Hospital de la Santa Creu)
https://www.bcnrestaurantes.com/eng/barcelona.asp?restaurante=el-jardi

14.30. Afternoon Session: (20 min papers +15 min discussion). Chair: Carmen Sarasua

14.30 Filipa Ribeiro da Silva, Hélder Carvalhal and Jaime Reis, PORTHOS: Portugal's Occupational Structure, 1760s-1860s-1910s: a preliminary assessment (ONLINE).

15.05 Emiliano Travieso and Marc Badia-Miro: Occupational structures in Chile and Uruguay: initial findings for the First Globalization era (c.1880-1913)

15.45 to 16.15 Coffee

16.15 David Chilosi and Carlo Ciccarelli: Southern Italy in the great divergence: what can we learn from Engel's law?

Dinner: 20:30. Gats (Xuclà, 7) https://www.encompaniadelobos.com/gats/

DAY 2 (SATURDAY 24) 9:30am-5pm — Presentation of new work, new funded projects and methodological innovations related to occupational structure by ENCHOS members.

9.30. Morning session: Updates on new national projects (20 min papers +10 discussion). Chair: Alexis Litvine

9.30 Anna Missaia, Technological shocks and regional resilience: changing occupational structure and development in the Swedish regions (1640–1900)

10.00 Rombert Stapel, '(Re)counting the Uncounted'. Replicating Population Estimates for the Netherlands and Belgium (1350-1800)

10.30 Michael Pammer, What defines a woman's occupation? Evidence from Austrian and Hungarian censuses and Austrian micro-sources

11.00 to 11.30 Coffee

11.30 Erik Buyst, Female labour, regional inequality, and the industrial revolution: the case of Belgium, 1846-1910

12.00 Cédric Chambru and Ulrich Woitek, The Occupational Structure of Switzerland, c. 1800

12.30 Lei Shi, The occupational structure of China's first industrial city, 1900-1930.

13.00 Stefan Nikolic, Tamas Vonyo, Industrialization in the Habsburg Empire: A Spatial Analysis

13.30 to 14.45 Lunch El Jardi (Old Hospital de la Santa Creu)

https://www.bcnrestaurantes.com/eng/barcelona.asp?restaurante=el-jardi

14.45. Afternoon session: methodological advances (10-15 mins papers+15 discussion). Chair: Leigh Shaw-Taylor

14.45 Auriane Terki-Mignot, A new method to reconstruct female occupational structure from census enumerators books (ONLINE)

15.15 Alexis Litvine and Auriane Terki-Mignot, A first look at PSTI v3

15.45 Alexis Litvine and Stan Hinton, Introducing a new tool to create comparable occupational dataset automatically

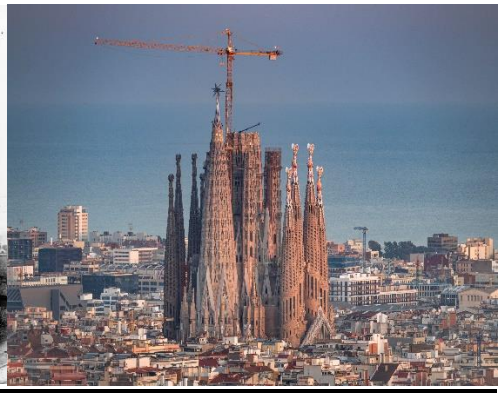
16.15 Murat Güvenç, New Tools to Categorize Disaggregate Qualitative Historical Data

17.30 Guided tour of the neighborhood around the Residencia

Dinner: 20:30 Les Quince Nits (Philippines Club, Plaza Reial, 6)

https://andilana.com/en/locales/les-quinze-nits-3/





DAY 3 (SUNDAY 25) 10am-1pm. General discussion/workshop, funding opportunities

10.00 to 12.00: Individual and collective funding plans discussion

11.00 to 12.30:

a) PSTI v3, Comparator, Clustering hands-on workshops

b) Time to discuss new collaborations plans

c) ENCHOS membership updates

12.30 to 13.00: Planning the next meeting

Lunch: 13:30 Bar Central Raval (Carrer d'Elisabets, 6) https://barcentral.bar/

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We would like to acknowledge generous support for the meeting from the Project *The long-term transformation of the occupational structure, Spain 1700-1920. Non-agricultural occupations as a proxy for economic modernization*, financed by Ministerio de Ciencia e Innovación, Proyectos de Generación de Conocimiento (ID2021-123863NB-C21).

Organizing committee

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ABSTRACTS

DAY 1 (FRIDAY)

Carmen Sarasúa: The occupational structure of Spain, 1700-1860

Our research group was recently awarded funding for a 4 year research on '**The long-term transformation of the occupational structure, Spain 1700-1920. Non-agricultural occupations as a proxy for economic modernization'.** This proposal departs from previous research by our team and members of this network, and includes two sub-projects: one covering the pre-census period (1700-1877) and a second one covering the census period, leaded by Luisa Muñoz.

Subproject 1 will start in 1700 and will cover the 18th century and the first half of the 19th century. Thus, it will be based on pre-census sources.

This paper will discuss the work plan, available sources and hypothesis, and will present the first results.

Margarita López-Antón: Where are the women? In search of female work in pre-census Catalonia (1785 – 1826)

As in most countries, in Spain the official pre-census sources underestimate the position of women as workers in the different economic sectors, by classifying them as family collaborators or simply not considering them, so the results for women are strongly distorted, and it is necessary to seek other sources.
In my research I study the work of women in pre-industrial Catalonia using sources that are complementary to the official ones. The Travels and Interrogations of Francisco de Zamora, municipal documentation, account books, ... The results presented refer to the occupation of women in the secondary and tertiary sectors through different micro analyzes and reinforce the hypothesis that the increase in the occupation of women in non-agricultural activities was prior to industrialization. This would be in line with research by Torras (2019) on rural economies with dispersed industry, which no longer produced only for local consumption but for regional, national and colonial markets, and how this rural industry in Catalonia was linked to the manufacturing industry, and, therefore, the importance of women's work in the transformation of this sector.

References
Torras Elías, J. (2019), *La industria antes de la fábrica*, Ediciones Universidad de Salamanca.

Luisa Muñoz-Abeledo: The occupational structure of Spain from a gender perspective, 1860-1960. First results using the census of 1887 and other sources.

This paper analyses regional labour markets from a gender perspective, identifying the main occupations of men and women based on the census of 1887, which shows the diversity of the region's economic specializations. Furthermore, the paper revises the data of the 1887 census, accounting for women's work that is hidden by the census. By combining demographic data (from the census) with other sources, this article corrects the under-recording of women's participation rates in industries that had intensive participation by women: food industry (fish processing), textiles, and tobacco, finding that women's labour participation rates surpassed 50 percent. The sources employed are: the National Population Census of 1887 (Censo Nacional de Población), the Geographical and Statistical Review of 1888 (Reseña Geográfica y Estadística de España), worker rolls from the Spanish Tobacco Monopoly (Compañía Arrendataria de Tabacos, CAT), and Social Reforms Commission Reports from the 1880s.

Emiliano Travieso and Marc Badia-Miró: Occupational structures in Chile and Uruguay: initial findings for the First Globalization era (c.1880-1913)

In two separate papers, we reconstruct the occupational structure of Chile and Uruguay during the First Globalization, two economies which were then (and remain today) near or at the top of average incomes in Latin America. Our sources include censuses and population enumerations as well as (for the case of Uruguay) a random sample of secular birth certificates. We offer the first internationally comparable estimates on the occupations of workers in Uruguay and Chile for c.1890 and c.1910. We rely on these data to discuss to what extent successful export-led growth (based on a comparative advantage in extensive agriculture and mining respectively) contributed to broad-based development and structural change. The results for Uruguay suggest that agriculture remained the largest employer in the economy by 1908 and that the female workforce in agriculture was much larger than scholars previously thought. We hope that these initial results spark further research for other cases in the region, and continue to look for colleagues to take up other national studies to reconstruct Latin American occupational structures in the long twentieth century.

David Chilosi and Carlo Ciccarelli: Southern Italy in the great divergence: what can we learn from Engel's law?

Italy, as one of the richest countries of the world in the Middle Ages and the early modern period, has played a central role in debates on the great divergence. However, lack of quantitative data on southern Italy's pre-modern development has also meant that, to date, the debate on Italy's position in the great divergence has almost entirely ignored the southern half of the peninsula. Chilosi and Cicarelli (2022) published for the first-time estimates of the agricultural employment share in southern Italy between 1400 and Italy's unification (1861). Engel's law predicts the agricultural employment share decrease with gdp pc. Groth and Persson's (2016) method exploits this

regularity to construct gdp pc estimate with agricultural employment shares. This paper applies this method to the new occupational series to estimate the evolution of Southern Italy's gdp pc and places it in international context. We find that southern Italy was different from the centre-north: it was initially poorer than the Yangzi Delta, it decidedly forged ahead of China only in the eighteenth century and was taken over by Britain in the mid-17th century, half a century before the centre-north. Yet our levels are difficult to reconcile with the idea that bare bone subsistence real wages were representative of standards of living in pre-modern Italy, even for the southern Italy. Four our series, its income per capita ranged between 2.29 and 3.12 subsistence baskets. In fact, pre-modern southern Italy emerges as a comparatively well-off place. Trends, too, are incompatible with the real daily wage series. We find slow economic growth, with a yearly rate of change of 0.04% and a total change of 37%, and no fall in real incomes in 1450-1600, when, on the contrary, economic growth was particularly rapid. These results challenge the emerging view that parsimonious estimates of gdp pc are biased towards finding stagnation. They also challenge the new orthodoxy that the Black Death was a watershed in the history of the great divergence because in its aftermath Malthusian checks disappeared only in north-western Europe.

References

Chilosi, D. and Ciccarelli, C., 2022. Evolving gaps: Occupational structure in southern and northern Italy, 1400–1861. *Economic History Review*.

Groth, C. and Persson, K.G., 2016. Growth or stagnation in pre-industrial Britain? A revealed income growth approach. *CAGE Working Paper* 264.

DAY 2 (SATURDAY)

Anna Missaia: Technological shocks and regional resilience: changing occupational structure and development in the Swedish regions (1640–1900)

The emergence, disappearance and relocation of jobs are inherent features of modern economic growth and a result of technological change and evolving market conditions. These dynamics, observed both in today's globalized world and in past waves of globalization, have an important regional dimension, with some regions striving and some declining. We look at the case of Sweden, a late industrializer that developed into one of the most dynamic economies of the continent. We construct a database on the occupational structure of the Swedish parishes by gender from 1640 to 1900 using both censuses (from 1750) and non-census sources such 1 / 3 as tax records and probate inventories (for 1640-1750). To collect information on this earlier period, we use Automated Text Recognition techniques and for all periods we rely on GIS. We then test whether Swedish regional economies during the industrial take-off responded to external factors, such as openness to trade, or to internal conditions such as pre-industrial occupational specialization and land ownership. We also test how specific protectionist policies of the 18 century, such as subsidizing manufactories and providing monopoly rights to trade in towns, affected subsequent regional industrialization. The Swedish case will provide a methodological model at the European level for constructing pre-industrial occupational structures as well as a term of comparison of a late industrializer to the existing evidence on Britain.

Rombert Stapel: '(Re)counting the Uncounted'. Replicating Population Estimates for the Netherlands and Belgium (1350-1800)

The Dutch scientific council (NWO) has a unique funding scheme aimed at replicating existing research. In 2020, its funds were first directed to humanities research, backing the '(Re)counting the Uncounted' project. This project aims to replicate four well-known studies estimating the population in Netherlands, Belgium, and Burgundian Low Countries prior to 1800 (Faber et al. 1965; Blockmans et al. 1980; Klep 1991; Paping 2014).
The project, which will continue throughout 2022, has two strategies. First, we digitize the original, unaggregated censuses (ca. 1.900) and link these data to specially prepared historical GIS maps of ca. 17.000 localities in the Low Countries. This allows us to precisely define the geographic coverage of these premodern counts and account for missing areas.
Secondly, we improve the comparability of the censuses by systematically describe the context of both the censuses themselves, and that of the units counted. This provides a toolbox to future users of the data to apply, for instance, household coefficients in a more consistent manner. This paper will discuss the background of the project and present the first results, both in comparison to the original studies replicated in the project, and in terms of long-term developments in the population geography of the towns and villages of the Low Countries.

Michael Pammer: **What defines a woman's occupation? Evidence from Austrian and Hungarian censuses and Austrian micro-sources**

Imperial Austria and Hungary conducted modern style censuses in 1869, 1880, 1890, 1900, and 1910. Each of them included an occupational census that combined a division into branches with a division into positions within these branches, and with sex. In addition, we find some information on by-employment. The categorisation varied slightly from census to census, and between Austria and Hungary, but after minor aggregations, we can compare the results.

Generally, these comparisons reveal different standards of counting in both countries, resulting in errors that are more pronounced for women. We find the following problems:

- The censuses tend to underestimate female employment. This is evidently so in Hungary, and perhaps also in Austria.
- The Austrian censuses tend to underestimate the extent of by-employment. The censuses focus on occupations in the secondary or tertiary sector, and tend to underreport by-employment in agriculture. This is an issue for both males and females, but more so for females. In households with mixed employment, the share of non-agricultural work was probably larger for males than for females. Thus, if the agricultural work is underreported, the results for females are more strongly distorted.
- The 1900 census tends to underestimate the independence of women in agriculture in both countries, categorising self-employed women as collaborating family members. This distortion is more pronounced in Austria.

These findings point to a general problem in the use of published census data in an international comparison. Even in the setting of the Austro-Hungarian Monarchy, where at least some basic

coordination was the standard, the published census results cannot be used for a comprehensive assessment of the occupational structure in both countries.

In the micro-sources such as parish registers, women's occupations are systematically underreported from the beginning. Normally, the official guidelines demanded information on male occupations only. For married women, the registers had to list the occupations of husbands, which were probably different from wifes' occupations in many cases. Only in some cases such as farmers' or innkeepers' wifes, we can assume a similar occupation of both spouses. For widowed women, we find the occupations of the late husbands, which does normally not allow conclusions to the present occupations of the surviving women. For unmarried women, the registers often list the occupations of the women's fathers or even late fathers, often taken from the women's birth certificates, that is, occupations of other people a long time back. In the remaining cases, unmarried women are listed with their own occupation.

The paper provides a comparison of censuses, using graphs and maps, and a sample taken from parish registers to illustrate the potential and limitations of these sources.

Erik Buyst: Female labour, regional inequality, and the industrial revolution: the case of Belgium, 1846-1910

Shaw-Taylor (2007) and You (2020) investigated in detail the geography of English female employment in respectively 1851 and 1881. Both studies confirmed that female labour force participation rates varied widely from region to region depending on their occupational structure. In this paper we do a similar regional exercise for the Belgian case. At the same time we introduce an extra dimension by analysing the intertemporal developments between 1846 and 1910. Moreover, the Belgian case has another advantage. By the mid-nineteenth century, when the first nationwide occupational censuses were organized, the large-scale transformation from hand spinning to factory employment in England was largely over. So the English occupational censuses did not capture this complex phenomenon. Belgium, by contrast, followed Britain's industrialization model with a time lag of several decades (Pollard, 1982, 87). As a result, the Belgian censuses did register the disruptive effects of the breakthrough of mechanized production on both female and male employment, by region, and by occupational category. It enables us to shed new light on this complex transition process.

Cédric Chambru and Ulrich Woitek: The Occupational Structure of Switzerland, c. 1800

In this paper, we propose to reconstruct the occupational structure of Switzerland at the turn of the 19th century. We rely on a set of cantonal censuses between 1802 and 1809 to provide a preliminary overview of the distribution of occupations in both urban and rural areas. We find evidence of industrial (spinning and weaving) activities across all Switzerland, but mostly Zurich and its eastern surroundings.

Lei Shi: The occupational structure of China's first industrial city, 1900-1930

The debate on the 'Great Divergence' paid little attention to changes in China's occupational structure. According to previous research, the agricultural sector accounted for around 80 per cent of the labour force until the Reform and Opening-Up from 1980s, and the share of modern industries in the Chinese economy was trivial.
However, the first and significant industrialization had already started in China during the first three decades of the 20th Century, closely associated with the rise and expansion of major treaty ports. In particular, Shanghai experienced the fastest growth and industrialization during this period, quickly becoming China's industrial and trade center. As a result, almost 3 million of rural laborers migrated to Shanghai during 30 years, transforming the city into one of the world's largest metropolises, and changing the occupational structure and even the economic structure of China.
My paper reconstructs and analyzes the occupational distribution in Shanghai during early 20th century, using as sources the Official Yearbooks and Origin Association archives (Tong xiang hui). It shows the fast increase of occupations in industry and services, and the growth and concentration of women in industrial sectors (70% of total workers).
The comparison of the economic and occupational structures of the original places of the immigrants in Shanghai proves the shift of the occupations from the agriculture to the secondary and tertiary industries. And in some regions (especially Jiangnan) with high rural household handicrafts, the occupational structure was also deeply affected by the modern industries and global economy, the labourers had to leave the rural areas to work in manufacturing factories and services in big cities.
The massive demographic and occupational structure changes show that Shanghai led China's early industrialization and has become the driving force of China's modernization.

Stefan Nikolic, Tamas Vonyo: Industrialization in the Habsburg Empire: A Spatial Analysis

We examine detailed statistics from occupational and business censuses of the Habsburg Empire to provide accurate measures for both the level and spatial concentration of manufacturing before World War I. We first map industry location in 50 regions across 13 industries, differentiating employment in factory industry from handcrafts. We demonstrate dramatically different spatial patterns. Industries dominated by factory employment were all spatially concentrated. The diffusion of manufacturing owed more to large craft industries than to modern factories. While older industries like metallurgy, textiles, or glass and ceramics remained concentrated in Alpine Austria and the Czech lands where the industrial revolution began in Central Europe, modern industries like chemicals or machinery were most prevalent in large agglomerations. We then use occupational data for almost one thousand local districts to identify location determinants in different industries. We find that local agglomeration effects and path dependency, measured by the adoption of steam engines, were much more important than domestic market access. The spatial concentration of older industries reflected in part the location of coal mines, while they had no significant role in newer industries. We use instrumental variables and spatial modelling to rule out omitted variable bias and spatial autocorrelation. By estimating our regressions using different

units of spatial analysis, we demonstrate in an historical context the relevance of the modifiable unit area problem, showing that results obtained from regional data overstate the role of market access and reduce the significance of local endowments.

Auriane Terki-Mignot (Online): A new method to reconstruct female occupational structure from census enumerators books

The first part of this paper will present a topology of census nominative lists for the French case, enabling nominative lists amenable to the study of women's work to be quickly and easily identified. In the second part, and through an in-depth analysis of two such nominative lists, the paper will go on to discuss a new methodology to assess the data contained in the lists and build estimates of female and male labour force participation rates and sectoral distributions.

Alexis Litvine and Auriane Terki-Mignot: A first look at PSTI v3

The current standard for all our coding is an evolution of the PST system devised by E.A. Wrigley to study the occupational structure of England and Wales in the nineteenth century. It has progressively been expanded, and many times remodelled, but it remains at its core anglo-centric and many of you have realised it does not suit the more complex cases (multi-sectoral attribution, contextual dependency, etc.). The idiosyncratic nature of PST is also problematic in the age of big data. It was not formatted as a proper database, and its usefulness to code very large datasets at scale semi-automatically is limited. PSTIv3 is a first attempt at addressing these limitations and creating a new standard for all of us. These were the principles guiding our approach: 1) the new standard must be fully compatible with all previous versions so that all existing datasets could be coded into PSTIv3 automatically or with very limited effort, 2) PSTIv3 should be compatible with the more modern coding schemes to maximise impact, 3) it should be able to evolve with new requirements from authors, 4) it should allow to code for place and time specificites of occupational titles, 5) it should allow to code multi-sectoral occupations (e.g. bakers). This is the first step in this development and we hope to gather feedback from all of you to make sure we are on the right track.

Alexis Litvine and Stan Hinton: Introducing a new tool to create comparable occupational dataset automatically

The INCHOS project (to which many of you have participated) has created comparable national datasets for occupational structure for 19 countries in the world. It is a key example of the benefits derived from coding data into a similar coding scheme and with similar guidelines. Yet, this coordinated effort still relies on multiple separate datasets (essentially XLS spreadsheets) which is

not the best format to analyse data across countries. In this paper, we will be introducing a new web-based tool developed by Stan Hinton to allow all of us to produce cross-country comparable datasets by simply selecting the desired features from a user-interface. In order to demonstrate the tool, we will analyse the sub-sectoral data for the consumer industries, and see what can be said of their role during the industrialisation period.

Murat Güvenç: New Tools to Categorize Disaggregate Qualitative Historical Data

Representation of geo-referenced qualitative historical data sets poses challenging methodological problems. Geographical information science emphasizes that reliable and valid representations require disaggregated inquiries, at high spatial resolution. In spite of their interesting data reduction and pattern recognition capabilities, conventional methods like Correspondence and Cluster analysis are not necessarily successful in meeting these requirements.
This presentation discusses a methodological contribution by L. Lebart devised to sidestep this major issue. It comprises three sections. The first concentrates upon L. Lebart's methodological contribution based upon mathematical compatibility and complementarity of Correspondence and Cluster Analyses. It shows that Lebart's Model can keep (i) the misleading effects of outliers (cases) under control, (ii) enables the use of disaggregated attributes at high levels of spatial resolution, (iii) can help students cluster categorical data, with minimum and measurable the risks of spatial and classification errors.
Lebart's procedure designed for dimensionality and data reduction, can handle both contingency tables and case multi-attribute matrices. It has been operationalized as a user interface. The flow chart diagram and distinctive features of this user interface are presented in the second section. The relevance of Lebart's contribution for historical studies is illustrated in the third section with two examples. The first relates to visualization of the street level building census data of Istanbul in 1927, and the second, to the representation of occupational structure of pier workers in Istanbul in 1790.
This communication ends with a brief summary of advantages and limitations of the model and potential contributions of new tools like Spectral Clustering.