FORBIDDEN CITY: URBAN PATTERNS OF THE UPPER CLASS POPULATION IN THE TWENTY-FIRST CENTURY SPANISH METROPOLITAN REGIONS

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1. Methodology

The spatial distribution of high classes in the metropolitan regions of Madrid and Barcelona is approached through multivariate analysis of the data of the 2001 Census tracts. The regions under study are Madrid and Barcelona. The *Comunidad Autónoma de Madrid* (CAM) will be used as an approximation to Madrid metropolitan region and the *provincia* (province) will be used for Barcelona's for the multivariate characterization of territory.

1.1. Variable selection

The 2001 census offers a vast range of variables at a very detailed level. The variables selected are part of the 5 key stratification dimensions: social class, lifestyle, nationality, employability, and location in rural/urban area. Each of those dimensions has been operationalized following criteria of relevance, reliability and parsimony: social class by job category; lifestyle by the surface of the place of residence, nationality by current nationality, employability by % of unemployment, and location in rural/urban area by the % of agricultural workers (see table 2).

Table 1. Ocupational dimention, census viables and variables of analysis.

Variables Census 2001	Variable used in the multivariate analysis
National Classification of Occupations of 1994	**Social Class by occupational categories**
1. Managers 2. Scientific and intellectual technicians and professionals	High category 1+2
3. Technicians and support professionals 4. Administrative type employees	Middle-high category 3+4
5. Service and sales workers 6. Farm workers and fishermen 7. Miners and skilled construction and industry workers 8. Industrial installations operators and drivers 10. Members of armed forces	Middle-low category 5+6+7+8+10
9. Unskilled workers	Low category 9

Source: INE, *Censo 2001*. Own table.

The main problem with job category is its restriction to formal employed population only, which could underestimate low classes since they are more excluded from the (formal) job market. The dimension of employability helps to avoid this problem. The multivariate analysis includes, by taking into account the unemployment ratio, the socio-spatial structure derived from formal exclusion from the job market.

Nationality or ethnicity, strongly related to symbolic capital, could also work as a criterion for territorial inequities and social segmentation in a way that is not reducible to job categories or unemployment. Segregation based on nationality shows the differentiation produced by cultural barriers and a very restrictive regulatory framework for migrant workers' rights. It also contributes, according to the 2001 census data, to distinguish between metropolitan zones and *neo-rural* or suburban areas (that showed lower levels of migrant population).

The big scope and internal variability of metropolitan regions presents the problem of *double hierarchy*: There is a strong contrast between opportunities and costs associated to urban zones and those of small towns located far form the main city. The variables "percentage of agricultural workers" and "surface of the residence's living area"[1] help to solve the *double hierarchy* problem. Ruralness and life style related to socioeconomic stratification, but they also help to differentiate between the metropolitan structure and the neo-rural components.

1.2. Calculations: Factorial and cluster analysis.

The multivariate data analysis includes a factorial and a cluster analysis. The principal components analysis (rotated by varimax method) generated 3 components that explained 77% of total variability (with valid Bartlett sphericity test -0.000- and KMO measure -0.54-). These 3 components have been used to run hierarchical cluster analysis with solutions from 4 to 12 clusters. The 8 clusters solution has been considered optimal because is the more complex solution with high relatively high Calinsky score (Pseudo-F of 2445.13).

## 2. Results: Patterns of socioeconomic residential distribution

The cluster number 1, *Elite*, is composed of elite census tracts. It shows the highest levels in the two highest job categories (48% and 26%), almost half of its population lives in houses of more than 120 m^2, there is low unemployment (9%) and the average age is 39 years old. The census tracts of this cluster are typically urban, with little agrarian activity and little immigrant population (5.4%). Although elite characteristics are not applicable to every one of the 1.425.000 residents in cluster 1 (about a 25% have jobs in low middle and unskilled jobs), it is probable that the country's elite and higher classes live precisely in this census tracts. The cluster nº2, *High*, is similar to cluster

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[1] The surface of the place of residence synthesizes different combinations of urban centrality, conspicuous consumption and house living standards. This variable allows to take into account the distinction based on consumption and to consider the better class situation resulting from cheaper costs and higher standards for those living in rural / suburban areas. Thus, the surface of the residence's living area is a key variable to operationalize the spatial component in process and strategies of class distinction.

number 1 and includes census tracts where high classes predominate. At first glance, it could seem that *Elite* and *High* clusters share similar traits, but cartographic representation shows that not only *High* census tracts shows lower socioeconomic levels and living standards, but also lower centrality. Population located in *High* census tracts shows lower capacity to achieve big houses, high environmental quality or to hold symbolically valuated central places.

Clusters 3 (*Middle*) and 4 (*Middle-low suburban*) have more balanced profiles. There is more social heterogeneity, although the percentage of population working in middle job categories predominates. Cluster 3 presents a mixed proportion of job categories: 21% of high, 31% of middle high, 38% of middle low and 10% of low category; its population is embedded in the metropolitan dynamics (central locations); the houses standards are low: 61% living in houses with less than 75m^2; and the unemployment is high (12%). Cluster 4 (*Middle-low suburban*) is mostly populated (54%) by service, sales, farm, construction and industry workers, drivers, army forces and industrial operators. Despite its lower job category, population living in this spatial cluster access to bigger houses: 57% of the population living in houses from 75 m^2 to 120 m^2 and 25% living in houses bigger than 120 m^2. It seems population of cluster 4 traded living standards for centrality: cluster 3 is located in the main cities of CAM and RMB, since cluster 4 spreads towards more distant cities of the province. The ring roads of the main cities are almost a perfect barrier between the two clusters (see figures 1 and 3).

Figure 1. *Spatial distribution of middle and periurban areas of Barcelona (Detail).*

Conglomerado 1	Conglomerado 3	Conglomerado 4	Conglomerado 6	Conglomerado 8
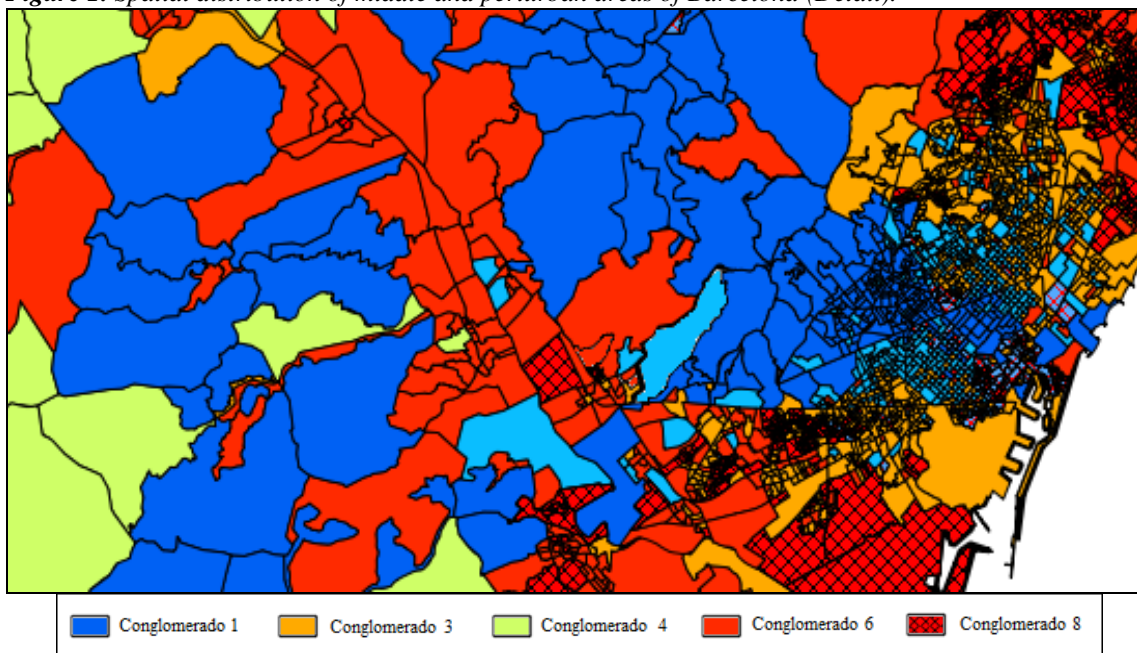
Source: INE, *Census 2001*. Own map.

Cluster 5, *polarised area* shows a sharp internal contrast with a significant percentage of population working in high (25%) and middle high (27%) categories. It also shows the highest proportion of population working in unskilled jobs (15%), unemployment (13%), and people living in less than 75 m^2 (68%). Its centrality is maximal: historic city centres and old working class neighbourhoods (average age: 43 years). Cluster 5 (*Polarised area*) locates large socio-spatial processes in which high classes are involved: *gentrification*, *social recomposition* and *"white flight"*. These city areas have

also worked as first bridgeheads of migration fluxes toward Spain (especially from 2001 to 2007). Cluster 7 (*Rural*) refers to distant areas, with small, aged populations (average age of 44 years), high ratio of agricultural workers (25%) with middle low job categories (54%) but few unskilled workers (only 7%). Despite the predominance of low job categories, the risk of exclusion is also low: it is the area with less unemployment (6%) and the vast majority of the population (89%) can afford medium (45%) or big (44%) houses. Clusters 6 (*Low*) and 8 (*Exclusion risk)* are also related to populations with low job categories but in a metropolitan environment with higher exclusion risks: in cluster 8, 81% of the population lives in houses with less than 75 m^2, 17% are unskilled workers and the unemployment ratio reaches 15%.

Table 2. *Clusters' average values. The first ten variables were used to calculate the multivariate analysis.*

Variables	1. Elite	2. High	3. Middle Central	4. Middle periurban	5. Polarised Area	6. Low	7. Rural	8. Under exclusion risk
OCCUPATION								
High category	48.2	36.5	20.6	17.4	25.3	14.2	16.1	8.4
Middle high cat.	25.7	33.4	30.7	19.3	26.7	23.6	15.0	20.2
Middle low cat.	19.8	24.4	38.1	54.1	33.4	50.8	62.0	54.1
Low category	6.3	5.8	10.6	9.2	14.7	11.4	6.9	17.3
HOUSE'S SURFACE								
Less than 75 m^2	14.9	24.7	61.2	18.5	67.9	32.2	12.6	80.7
75 to 120 m^2	39.2	67.4	36.1	56.7	26.4	61.0	44.8	18.1
More than 120 m^2	45.9	7.9	2.6	24.7	6.5	6.8	44.5	1.2
OTHER								
Unemployment	9.0	9.9	12.2	9.0	13.0	12.1	6.1	14.8
Foreign populat.	5.4	3.7	6.0	3.8	14.3	3.5	2.1	7.4
Ocup act agric	0.8	0.3	0.5	4.2	0.6	0.7	25.7	0.8
OTHER CHARACTERISTICS								
Number of census tracts*	1.002	883	1566	482	826	1809	54	1111
Average age*	39.0	40.5	42.2	39.9	43.1	37.7	43.8	40.4
Total population (1000)*	1.425	1.186	1.893	658	916	2.799	22	1.271
% in Barc prov.	10.5	10.2	17.5	9.4	3.3	35.2	0.3	13.6
% in CAM	17.1	13.0	19.6	3.8	14.1	20.8	0.1	11.5
% in both*	14.0	11.7	18.6	6.5	9.0	27.5	0.2	12.5

Source: INE, *Census 2001*. Own table.

Figure 2. *Elite, High and Polarised sections in Barcelona and central districts of Madrid*
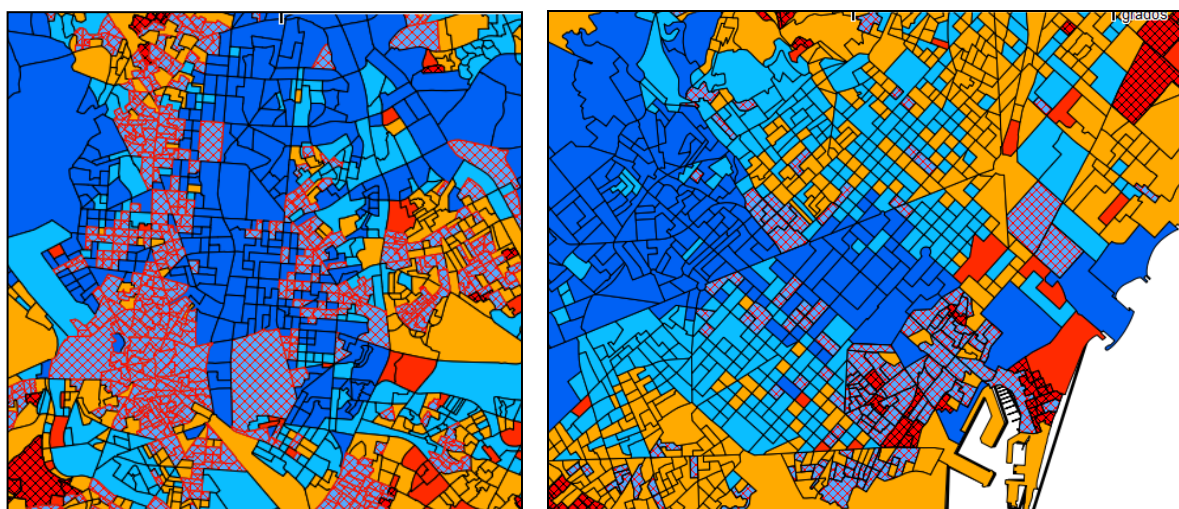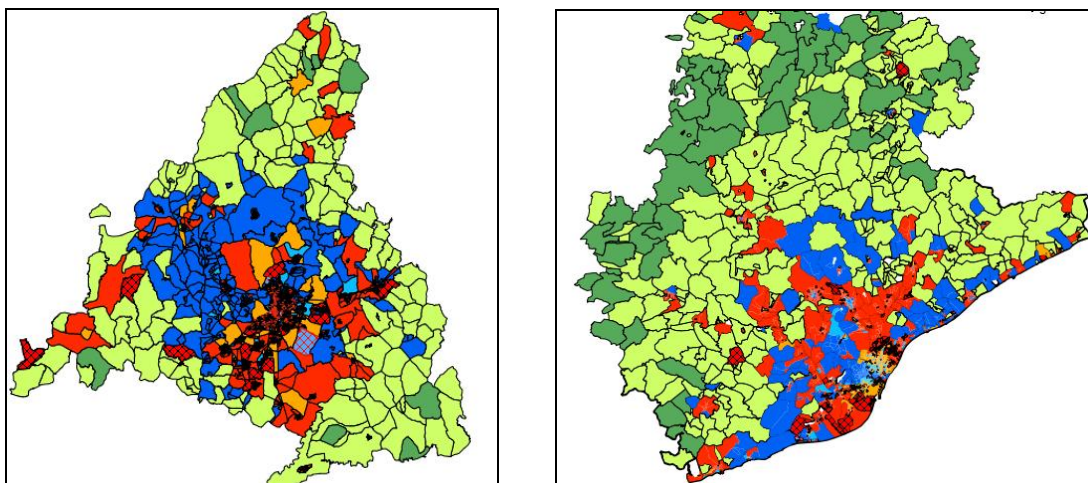
Source: INE, *Census 2001*. Own map.

3. Conclusions: Patterns of socioeconomic residential distribution

The results identify an intense segregation of upper classes. This segregation is characterized as voluntary and contributes significantly to the socio-territorial configuration of metropolitan regions which should receive more attention in studies of urban inequality. The mapping and analysis of the elite conglomerate (1) identifies four territorial patterns: depending on the density, congregation (in cores) and seclusion (in residential areas); based on morphology: axes (groups of municipalities) and towns (isolated nuclei). These traits are repeated in Barcelona and Madrid whose differences depend primarily on the scale of metropolitan development.

Figure 3. *Spatial distribution of rural an periurban areas in the provinces of Madrid and Barcelona*

Source: INE, *Census 2001*. Own map.

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