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Urban ruination and the social geography of cities: some findings from the Lisbon metropolitan area

Eduardo Brito-Henriques

Paulo Morgado

David Cruz

CEG, IGOT (Institute of Geography and Spatial Planning), Universidade de Lisboa, Portugal

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- The experience of contemporary urbanity is marked by the presence of abandonment, ruination and emptiness. Ruins, abandoned buildings and vacant land are ubiquitous presences in contemporary cities.
- Urban shrinkage exacerbates the presence of ruins and vacant land in cityscape. However, little attention has been devoted to the analysis and understanding of ruination and to study of the morphology and abilities of those spaces.
- Developing appropriate planning solutions for urban derelicts and vacant lands is currently a major challenge for urban planning - low cost, flexibility/multi-functionality and ephemerality/transience should be key criteria

Paper's mission

- To investigate the drivers and key factors of urban ruination, particularly the relations between dereliction, dilapidation of city properties, and social geography
 - How does social geography relate to urban ruination?
 - Is there any relationship between social inequalities, social change, and dereliction?
 - To what extent does depopulation, ageing, ethnicization, poverty, unemployment, obsolescence and de-industrialization influence dereliction and ruination?
 - Which factors are the most important in engendering urban ruination?

Paper's structure

1. Theoretical framework and hypothesis
2. Methodology
3. Places in focus (i.e. the case studies)
4. Findings
5. Conclusion

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- Ruination is related to 'transition zones' in the city (Burguess, 1929)
 - Ruination occurs in older housing (Hoyt, 1939)
 - Dilapidation of city properties is related to poverty, unemployment and ethnic minorities (Hoyt, 1939)
 - The percent of vacant residential properties increases in census tracts with elevated poverty rates (Silverman et al., 2012)
 - The percent of abandoned residential properties increases in census tracts with highly concentrated black populations (Silverman et al., 2012)
 - High-school graduates are related with neighborhoods with low rates of unoccupied housing units (Hollander, 2011)
 - Areas and dwelling types that are popular with more mature households, especially families, are likely to see longer term occupancy with infrequent changes of tenant/owner leading to more efficient market conditions (Couch & Cocks, 2013)

Theoretical framework & hypothesis

The Chicago School's legacy - ruination is inherent to neighborhood change (invasion/succession processes) and closely related to filtering down and poverty

- Increasing numbers of vacant properties tends to generate longer periods of voids, and generate area blight in which these processes concentrate [...]; these areas have problems relating to stigma and growing dereliction (Lee & Nevin, 2003)
- Social housing sector is more efficient than the private sector with regard to maintaining housing stock in use (Couch & Cocks, 2013)
- Higher rates of residential vacancy are found in census tracts with government subsidized rental housing (Silverman et al., 2012)
- Private housing development is a cause of decreased vacant land (Newman et al., 2016)
- Higher rates of residential vacancy are found in census tracts with older housing (Silverman et al., 2012)
- Housing vacancy has been geographically concentrated in certain inner urban areas of poor quality private housing (Couch & Cocks, 2013)

Theoretical framework & hypothesis

Material obsolescence and housing market failures are major causes for dereliction and ruination

- Low fertility rate and demographic ageing are causes of urban shrinkage (Reckien & Martinez-Fernandez, 2011)
- Unemployment rate impacts on population loss and abandonment (Johnson et al., 2014)
- De-industrialization results in dis-urbanization (Reckien & Martinez-Fernandez, 2011)
- Vacant land can occur in any location but is most likely to occur in areas of transitioning use (e.g., former industrial) (Németh & Langhorst, 2014).

Theoretical framework & hypothesis

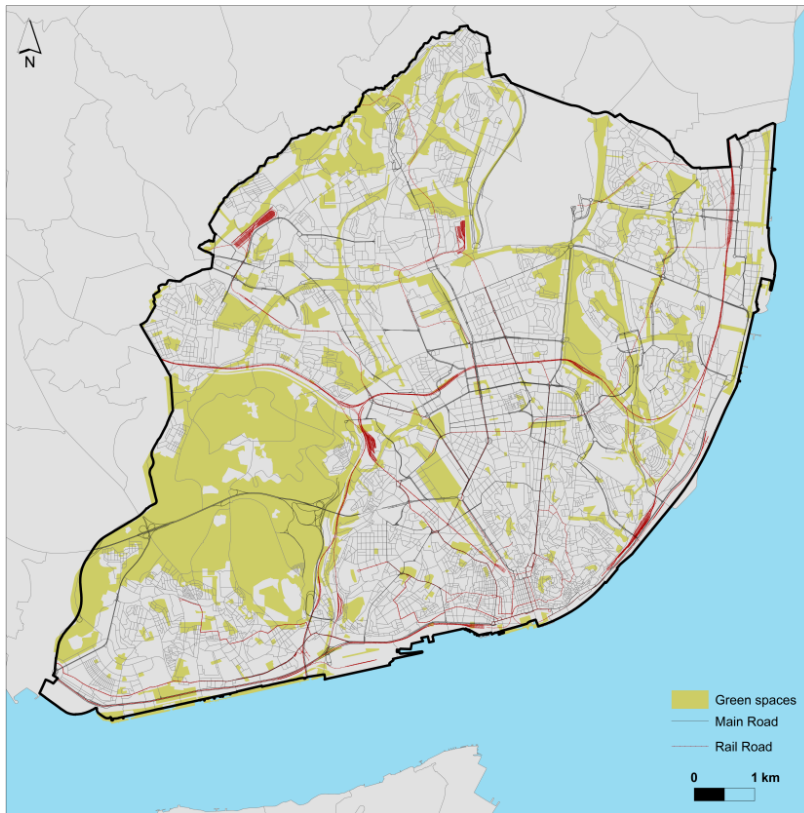
Urban shrinkage due to economic restructuring and societal changes is a key factor for dereliction and ruination

Methodology – 2 steps

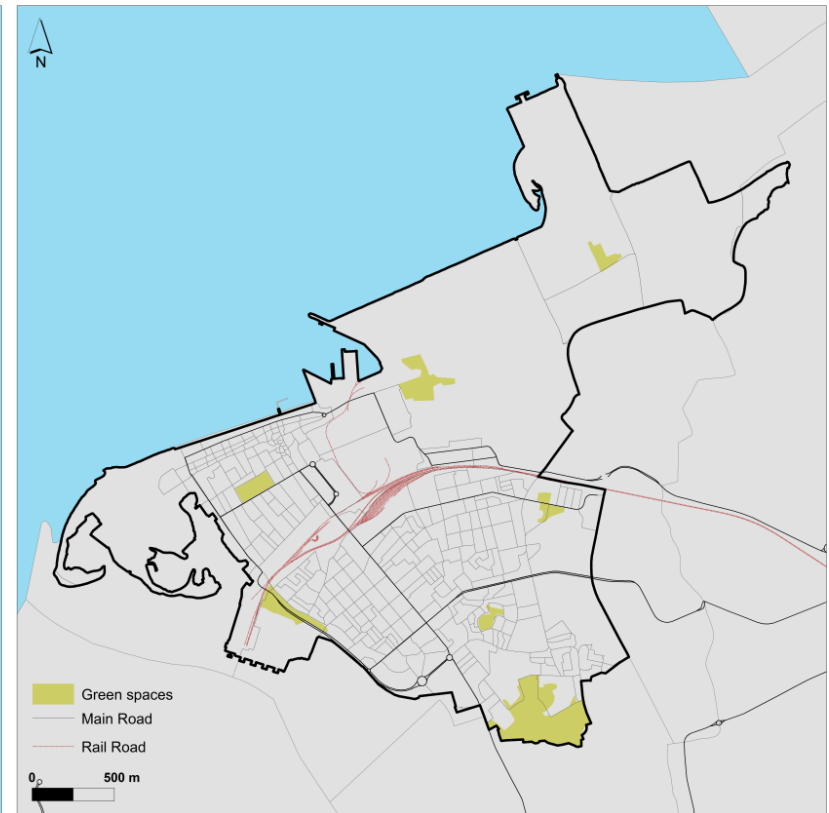
- 1st step – Data collection on urban ruins through remote sensing (using high-resolution ortophotos)
- 2nd step – Statistics analysis crossing primary data on ruins with secondary data on population and housing from census

	Dependent variable
dereliction & ruination	Ruins density (ruins/km ²)
	Independent variables
filtering & poverty	% University graduates
	% families with 3 or 4 people
	% Income support recipients
	% Non-European inhabitants
Material obsolescence & housing market	% Vacant dwellings
	% Social housing (dwellings whose tenant is the national government or the municipality)
	% buildings built up after 2001
	% buildings built up before 1946
	% dwellings without bathing facilities
de-industrialization & shrinkage	Population density (inhab./km ²)
	Occupied housing unit density (occupied dwellings./km ²)
	Ageing index
	Unemployment rate (%)
	% production workers (manufacturing)
	Population change 2001-11 (%)
	Production workers change 2001-11 (%)

The 2 places in focus

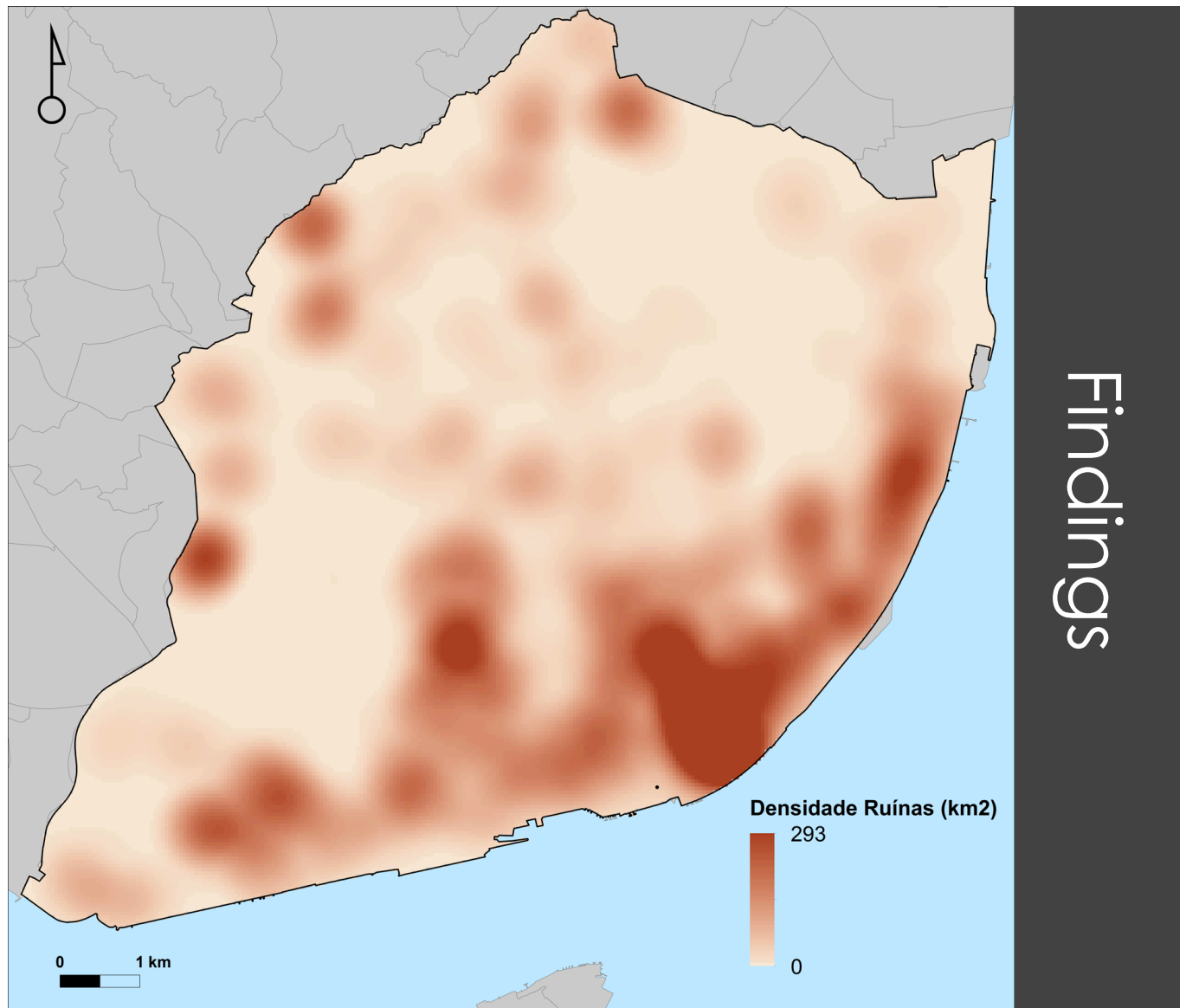


Lisbon, representative of a metropolitan center

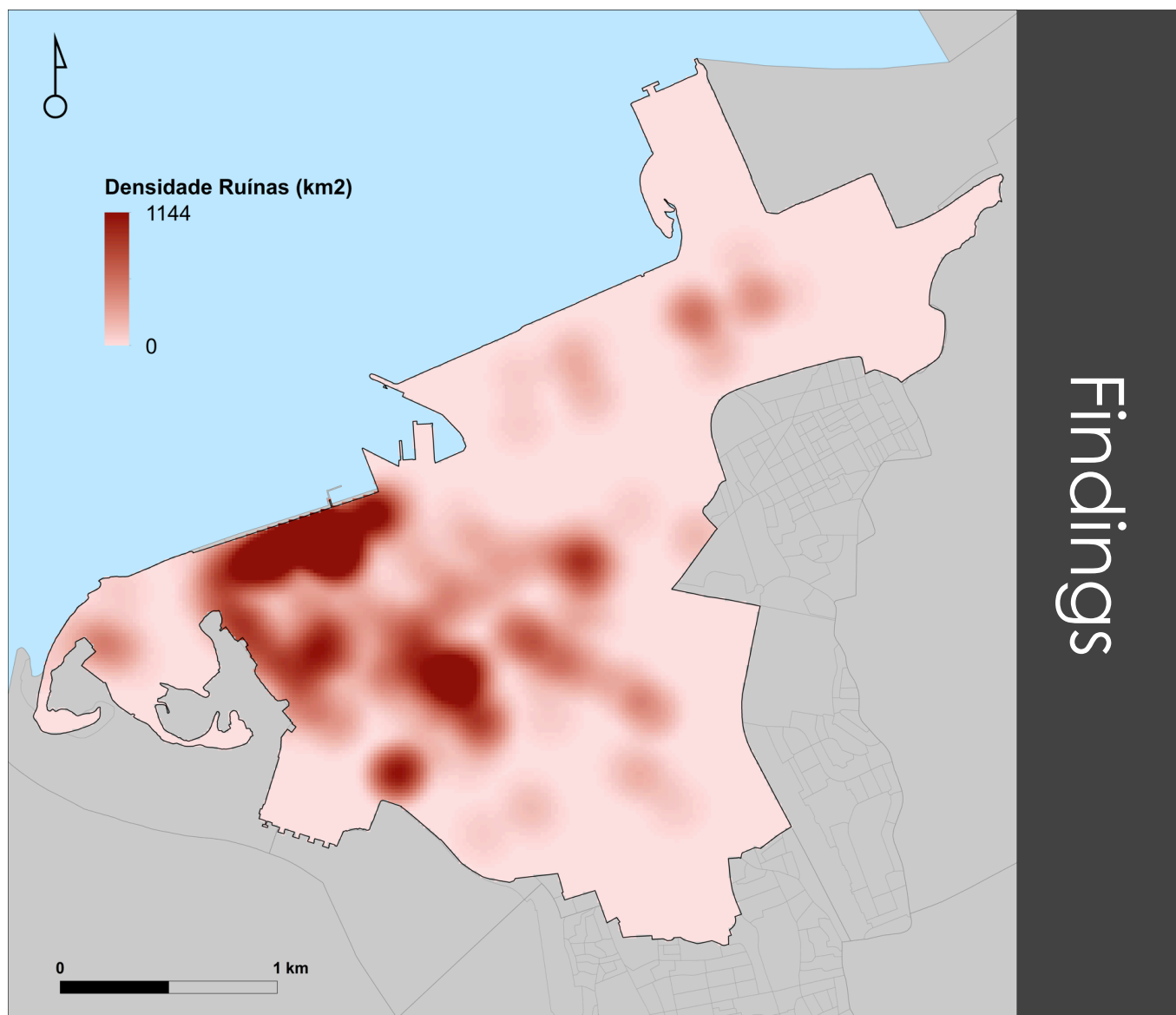


Barreiro, representative of an old industrial suburb (rustbelt)

Kernel density of ruins in Lisbon, 2014



Kernel density of ruins in Barreiro, 2014



		Ruins density (per Km ²)	
filtering & poverty	% University graduates	-,503	←
	% families with 3 or 4 people	-,544	←
	% Income support recipients	,320	
	% Non-European inhabitants	,243	
material obsolescence & housing market	% Vacant dwellings	,339	
	% Social housing	,070	
	% buildings built up after 2001	-,148	
	% buildings built up before 1946	,479	←
	% dwellings without bathing facilities	,621	←
de-industrialization & shrinkage	Population density (per km ²)	,564	←
	Occupied housing density (per km ²)	,617	←
	Ageing index	,622	←
	Unemployment rate (%)	,462	←
	% production workers	,088	
	Population change 2001-11 (%)	-,395	←
	Production workers change 2001-11 (%)	-,328	

Findings

Pearson correlation coefficients (r)

	Unstandardized coefficients		Standard. coefficients	t	Sig.
	Beta	Std. Error	Beta		
% University graduates	2,185	1,426	,279	1,533	,133
% families with 3 or 4 people	-,242	3,139	-,012	-,077	,939
% Income support recipients	32,582	12,394	,243	2,629	,012
% Non-European inhabitants	1,215	2,320	,063	,524	,603
% Vacant dwellings	2,709	1,007	,255	2,689	,010
% Social housing	4,044	1,362	,293	2,968	,005
% buildings built up after 2001	1,633	1,384	,093	1,180	,245
% buildings built up before 1946	,193	,392	,056	,491	,626
% dwellings without bathing facilities	26,092	7,303	,338	3,573	,001
Population density (per km ²)	,003	,008	,165	,391	,698
Occupied housing density (per km ²)	,009	,014	,284	,650	,520
Ageing index	,845	,132	,656	6,392	,000
Unemployment rate (%)	-7,121	5,557	-,210	-1,282	,208
% production workers	15,507	6,769	,400	2,291	,027
Population change 2001-11 (%)	-,038	1,025	-,005	-,037	,971
Production workers change 2001-11 (%)	,371	,974	,047	,381	,705

Findings

Multiple linear regression analysis

The independent variables statistically significantly predicted the density of ruins

$F(16, 39) = 19,592, p < ,0005, R^2 = ,889 (R = ,943; \text{adjusted } R^2 = ,844; \text{Std. Error of the estimate} = 41,5033)$

Conclusion

- Dereliction and ruination are complex multi-causal phenomena – the classical explanations based on the Chicago School theories are apparently not useful to explain the current situation in the Lisbon metropolitan area
- Ageing is the most significant predictor of ruination; considering that housing vacancy is also a significant predictor, shrinkage may be pointed out as key in explaining ruination;
- No relation was found between older housing areas and ruination; on the other hand, poor housing conditions as well as social housing impact significantly in ruination – thus, housing obsolescence is not likely to depend on the age of a building;
- Ruination is most likely to occur in industrial neighborhoods;
- A relation between state aid programs and ruination was also detected; does this mean that poverty is a cause for ruination? Or does this mean that public sector is less effective in preventing ruination?

Thank you

■ eduardo@igot.ulisboa.pt

■ novoid@igot.ulisboa.pt