

Exploring the diversity of ruins in the Portuguese perforated city: a cluster analysis-based approach

Eduardo Brito-Henriques

David Cruz

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

Support

This research has been sponsored by Portuguese national funds through the *Fundação para a Ciência e a Tecnologia* (FCT), I.P. – the Portuguese national agency for science, research and technology – under the Project PTDC/ATP-EUR/1180/2014 (NoVOID - Ruins and vacant lands in the Portuguese cities: Exploring hidden life in urban derelicts and alternative planning proposals for the perforated city)







Google

Paper's mission: investigate the diversity of ruins

Which typologies?

Old or new?

Theoretical Framework and Hypothesis

Main reasons for urban ruination...



Deindustrialization



Crisis and
capital circulation



Progress, societal changes
and material obsolescence





Progress, Societal Changes and Material Obsolescence



Methodology



Data Collection
(Remote Sensing)

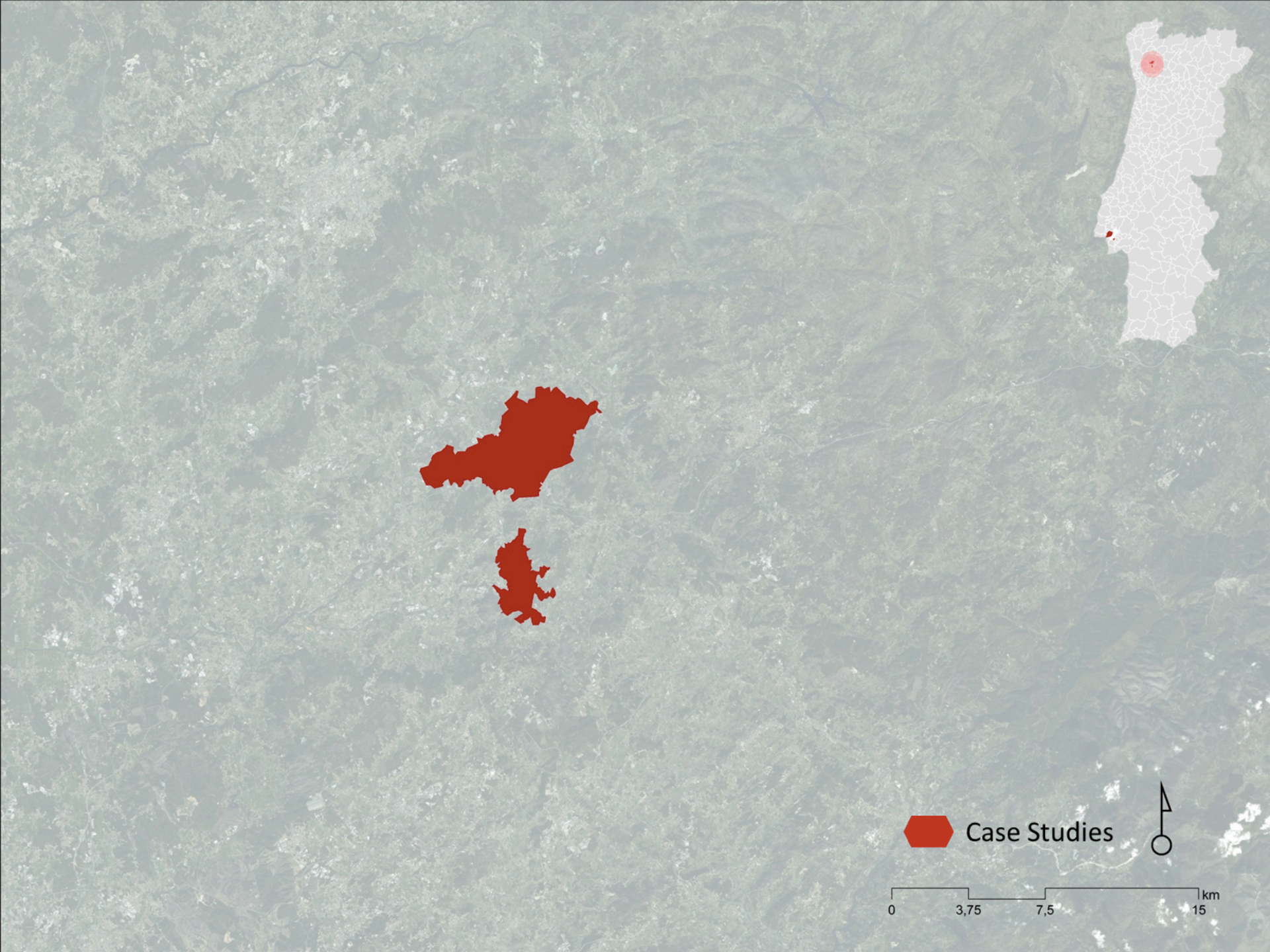


Selection & Inventory
(Fieldwork)

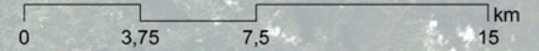
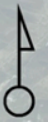


Cluster Analysis
(Ward & Euclidian)





Case Studies





Area

- Less than 200m²
- 200m² to 1000 m²
- More than 1000m²



Construction

- Before 1919
- **Between 1920-60**
- Between 1961-80
- Between 1981-2000
- Between 2001-2005
- Post 2005



Abandonment

- Before 1985
- Between 1986-1995
- Between 1996-2005
- **After 2005**
- No use yet

Variables in analysis

Type

- Industrial
- Equipment
- Office
- Trade
- Infrastructure
- **Single Family**
- **Multi family building**
- Other

Last Use

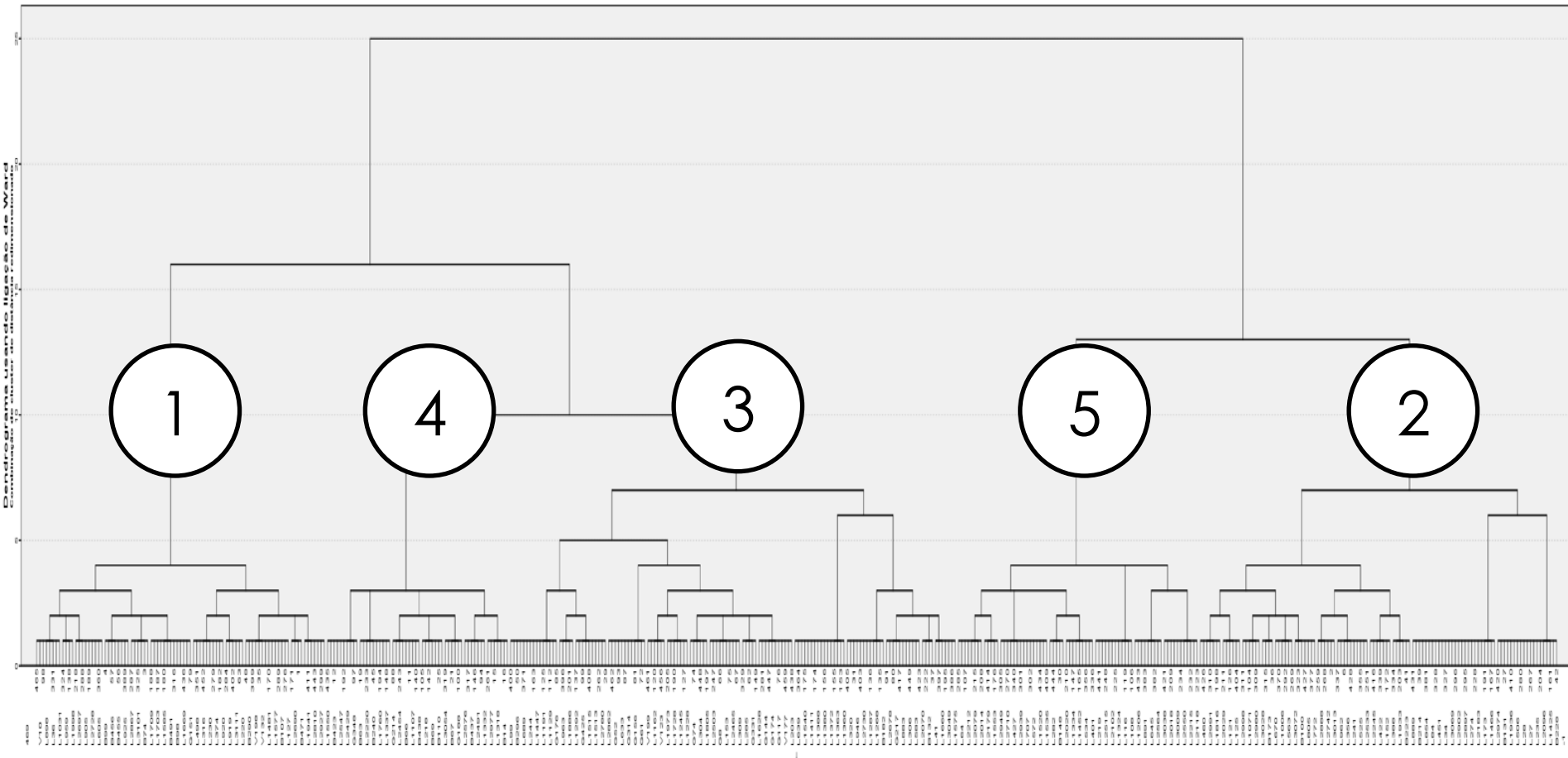
- Habitation
- Industry
- **Warehouse**
- Services
- Trade
- Religious
- Education
- Health
- Military/Security
- Garage
- Road
- Railroad
- Other

Morphology

- Grid
- Walls
- Other obstacles

Variables in analysis

Findings: Cluster Analysis - 5 Groups



%	G1 (1.029m2)* N=89 (19%)	G1 (234 m2)* N=110 (24%)	G3 (258m2)* N=137 (29%)	G4 (221m2)* N=56 (12%)	G5 (207m2)* N=74 (16%)
Industry	64	1	0	0	0
Habitation	6	93	98	98	95
Single Family	11	0	99	98	0
Multi Family	1	99	0	0	100
Construction Before 1919	31	93	80	0	0
Construction 1920-60	36	5	2	96	86
Abandon. Post 2005	55	66	56	41	58
Abandon. Before 1985	10	6	8	4	1

* Square meters average for each group

Conclusions

- Regarding the clusterization process into five groups, multiple causes for ruination exist;
- Obsolescence is likely to be the most important: 53% of ruins are old residential buildings, single and multi-familiar (built up prior to 1919); a large proportion of them are long-lasting ruins (about 48% were abandoned before 2005);
- Deindustrialization isn't a crucial reason for ruination: old industrial plants correspond to less than 19% of the ruins; buildings of different ages constitute this group; as expected, regarding the square meters average for each group, industrial ruins are much bigger than housing ruins, thus being highly impressive in cityscape;
- Modern and 'new ruins' correspond to a small part of urban ruins, although they also exist and contribute to urban ruination.

Thank you

eduardo@igot.ulisboa.pt

fabio.d.cruz@campus.ul.pt

novoid@igot.ulisboa.pt



LIZ OFF LINE
KSKO
ALRTEH
DEB
ANGEDT
POLYESTER
MVA
GPPB

THIRD
BLOWN
I
need

SO
RIRIKBI
Dume
DEB
hia