

M37.

New Technologies and Methods for Historical Cadastral Studies (1500-1950)

Modelling the Internal Micro Structure of Grid Patterned Cities: Vienna's Gründerzeit Structure and Barcelona's Pla Cerdà

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Through the comparative studies of different cities, the ambition of this session is to discuss how cadastral studies may shed new light on the processes of change and persistence throughout time and space.

Keywords: urban history; cadastre; digital history; HGIS

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The **Urban Parterre Modelling UPM**-method goes far beyond cadastral studies. As conventional cadastral maps merely show building perimeters, they contain no information about the city's internal structure—about the complex interplay of architecture and its socio-economical use. Thus urban planning seems to spare little thought for what really takes place *inside* the buildings lining a street, although we perfectly know that the potentials of ground floor use and the structure of the correlating public street space are directly related.



Fig 1: UPM Use structure map: comparative analysis of the historic (1910) and the nowadays status. © Psenner

UPM refers to the city's "parterre" as a holistic urban system: it covers both built-up and non-built-up areas. Thus street, ground floor and courtyard are treated as entity, so that their interrelations can come to light. Technically the method represents the merging of a common 3D-city-model and a morphological ground plan survey—a researching technique used by (mostly) Italian and Swiss morphologists in the 1960s until the 1990s.

This new urban research method has been developed and tested in a pilot study by means of an in depth exploration of an exemplary historical street in Vienna. In September 2015 a new four years research program was financed by the Austrian Science Fund (Austria's central funding organization for basic research, FWF) and launched at the Department of Urban Design at Vienna University of Technology. Within this operational framework a variety of different street-level environments in Vienna's historic grid-structured areas are being examined and in the end compared to similar situations in Barcelona. Given this perspective the paper is therefore addressing the following *issues*: How was the Viennese/Barcelonese ground level originally used? Which urban functions were located there? What are the (historical) interrelations between public space and the life inside buildings? How does this micro system influence urban life and especially pedestrian behaviour in Vienna and in Barcelona?