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## STREETS AS HERITAGE – ‘HISTORICAL GATEWAY-PATHWAYS’ AND THEIR TRANSFORMATION INTO URBAN STREETS

### NASLIJEDE ULICA – PREOBRAZBE POVIJESNIH PRILAZNIH PUTOVA U GRADSKJE ULICE

DOCTORAL DISSERTATION [SUMMARY]

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The dissertation has 535 pages, three parts with 9 chapters, 200 illustrations, 92 tables, 144 footnotes, 10 appendices with two catalogues and 168 bibliographic units.

The topic of this doctoral research are urban streets as cultural heritage. Literature review reveals that streets are protected as part of larger urban areas and zones, but rarely as individual (urban linear) street entities. Nevertheless, examples such as the UNESCO protected Andrássy avenue in Budapest and Eggenberger allée in Graz are the main starting points for the hypothesis that streets are a linear component of heritage that is missing in conservation and planning.

The thesis contains three parts forming a theoretical, empirical and planning framework for confirming the hypothesis that streets are linear heritage. In the theoretical part, the dissertation defines a concept of ‘historical gateway-pathways’ as a specific type of street. In the second part of the thesis, the concept is explored further as ordinary urban heritage of (arterial) routes through comparative case studies, using the Heritage Urbanism (HERU) approach<sup>1</sup> with the Urbanscape Emanation research concept in combination with Space Syntax methodology.<sup>2</sup> The third part combines theoretical and empirical results into a planning framework for upgrading the existing classification model proposed by the ARTISTS project<sup>3</sup> with the link and place status. The proposal for upgrade adds the ‘heritage’ status or historical context to link-place status duality which enables insight into complex spatial changes of streets when observed as a route.

The spatial and cultural context for the empirical study are cities located in the region consisting of Austro-Hungarian historical provinces. Cities are grouped according to size, growth scale, location on terrain, urban core and matrix of historical gateway-pathways. This indicates that every city is a unique case study that shares specific similarities and differences in correlation to urban growth processes, which is a set-up for investigating historical arterial routes on five case studies (Budapest, Ljubljana, Prague, Vienna and Zagreb). The categorisation of historical gateway-pathways for these five cities was established using an open source database with historical georeferenced maps<sup>4</sup> of three Austro-Hungarian military surveys. Analytical criteria for the categorisation were initial gate-

way-pathway types and their route transformation models for each city. The five chosen case studies and their 38 observed historical arterial routes were also analysed through space syntax methodology. Every city was simplified to an axial and/or segment map, which together with qualitative historical urban analyses gives a syntactic urban model representing the spatial configuration of open public spaces. Routes are compared within each model through quantitative measurements of integration (probability that the place will be a destination in the overall system) and choice (probability that the place will be a route/passage in the overall system). These numerical analyses of cities and routes have provided a comparative framework and introduced the possible quantitative definition for ‘linear density’ measure which could be used for detecting specific types of historical arterial transformations.

Overall, the research hypothesis is confirmed by the described route analysis on multiple examples as an element of continuity that can be followed on historical maps and identified in the contemporary urban fabric as systems of open public spaces. The demonstrated study achieved a redefinition of the street as linear heritage through route significance in three ways.

- 1) Definition and proposal for a new street type of ‘historical gateway-pathways’ – These specific routes are established based on the importance of their initial (gateway) connection between the periphery and historical urban core. Their development is a testament to heritage urban depth through urban and architectural parts with changing functions, urban conditions and settings, which makes their planning distinct and complex.
- 2) Arterial routes are successfully identified and categorised in comparative case studies through historical maps and syntactic models – Identification is based on a sample of 38 routes from five cities. The results defined initial categories, their degree of transformation, and three main groups, depending on the overall route assessment.
- 3) Results are used and tested for the enhancement of the planning framework in the

streetscape redesign process by taking into consideration a peri-urban location and route assessment type.

Through these types and analyses of centrality as an arterial urban process, the street is recognised as an urban link that can be an active planning and research tool in rethinking the city, as well as *vice versa*, encouraging a comparative and multi-scalar approach in (re)designing and analysing streets.

Research contribution is multiple. The theoretical contribution is a new view on cities from arterial route development with an established link between streets and heritage that should be evaluated and recognised in new planning scenarios. This contribution complements a current planning (OECD-EC) definition of the city with better understanding of the main defining factors and units in the historical context. The combined comparative tools and methods of this research are a methodological contribution for future studies and planning of streets as a system in connecting the heritage. The conclusion is that these tools are easily and widely available for all since the research tested the possibilities and limitations of open knowledge and online databases with inputs that can be used in GIS. The planning contribution with the classification upgrade confirms the reclaiming of streets by pedestrians, stemming from theory and previous studies with place-making agendas.

<sup>1</sup> This research was a part of the research project “Heritage Urbanism” (HERU HRZZ 2032) led by Prof. Mladen Obad Šćitaroci, Ph.D. from 2014 until 2018 at the University of Zagreb financed by Croatian Science Foundation and it was also part of the “Urbanscape Emanation” research led by Prof. Bojana Bojanic Obad Šćitaroci, Ph.D. financed by University of Zagreb. Both research concepts are elaborated in the paper on Heritage Urbanism in Sustainability 2019, 11(9), 2669; <https://doi.org/10.3390/su11092669>.

<sup>2</sup> This research includes results from guest research performed in 2016 at University College of London (UCL) at the Space Syntax Laboratory supervised by Sam Griffiths, PhD and Garyfalvia Palaiologou, Ph.D.

<sup>3</sup> ARTISTS – Arterial streets towards sustainability was a research project coordinated by Lund University, Sweden from 2001-2002; <https://cordis.europa.eu/project/id/EVK4-CT-2001-00059>

<sup>4</sup> Available from [mapire.eu](http://mapire.eu) database