

## MICRO-URBANISM IN CENTRAL EUROPE (1867-1918) The Concept

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**Summary:** *Urban structure and architecture, be it a unique manifesto or a coherent ensemble, can only be examined in the interaction of each other if the goal is to create a complex image – on the level of micro-urbanism. Micro-urbanism is a complex area in the field of architecture, urbanism and acts as a new discipline and approach in the urban morphology. In systematizing the types of urban tissues, I analyzed the pattern of street networks, the form of plots and buildings; I have determined the inner relationship between the elements, and the analyses were completed with the determination of patterns of green and open areas. The study of architectural manifestos (public and residential buildings, palaces, villas) and the assignment of the urban tissue types is the task of the current research. The research has an interdisciplinary nature and deals not only with the structure but also with an architectural context of the selected towns via macro and micro scales: how the building relates to the structure and vice versa.*

**Keywords:** *Micro-urbanism, 1867-1918, Central-Europe*

### 1. INTRODUCTION

The urban morphological features are determined by the development of the spatial changes and the interaction between the components of the urban fabric (streets, squares and green spaces, public spaces) for the better understanding of the historical movements and driving forces- led to the unique urban and architectural ‘manifesto’. The contemporary urban heritage character based on its urban tissue typology can be defined by studying the urban development of the city during the period of its evolution into contemporary urban patterns. The research deals not only with the urban structure but also with the architectural context of the urban tissue: how the building itself and the built environment, in general, is related to the structure and vice versa, thus how the townscape changes and interact. The mutual effect is a phenomenon of micro-urbanism.

The actual study is a preliminary concept of the micro-urbanism studies in Central-Europe between 1867 and 1918, based on the urban tissue type taxonomy<sup>2</sup>, the urban regulation principles, the built environment, towards urban rehabilitation principles and contemporary architecture of nowadays.

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<sup>2</sup> The urban tissue types characteristic to the territory and the time frame of the research were defined by the Author in her PhD dissertation entitled *Urban Tissue Typology and Urban Typology (1867-1918)*.

The fundamental aspects based on the spatial relations between physical objects include the natural environment and the built environment, and the built environment is essentially embedded within the natural environment [1]. Therefore, the chosen case study areas combine historical and contemporary factors determining the towns' unique character: abandoned and well preserved urban heritage, various urban tissue character, possible urban rehabilitation area, former greenfield development, the changing urban and natural landscape. Urban structure and architecture, be it a unique manifesto or a coherent ensemble, can only be examined in the interaction of each other if the goal is to create a complex image – on the level of micro-urbanism. It an interdisciplinary nature and deals not only with the structure but also with an architectural context of the selected towns via macro and micro scales: how the building relates to the structure and vice versa. Macro scale represents the urban structure with the urban tissue types together with the additional green spaces, the micro scale is the vertical articulation of the building fabric and the specific elements, thus the analytical system still follows the cognitive approach of M.R.G. Conzen [2], with a combination of Caniggia's [3] research methodology (architectural typology). The micro-urbanism analyses read the town according to the combinations of the elements of the structure, urban tissues and building fabric, which creates a collage via a unique combination of the repeating elements. Thus the research negates the doctrine by Benevolo [4] which states that each city is unique, more likely propose that the towns (Central-Europe, 1867-1918) are specific combinations of a unique, but recurrent elements.

The collage nature of each town allowed to examine the forms of urban areas and the whole structure has been read as a whole. The similar spatial arrangement of the forms, similarities in the built environment serve as a shred of evidence to evaluate the towns in pursuance of similar criteria based on micro-urbanism. The townscape changes can be followed as specific imprints of a certain time period. In the case of these towns, similar townscape characters have evolved between 1867-1918, and specific combination of structure and built environment, urban ensembles (micro-urbanism).

## 2. ASPECTS OF THE MICRO-URBANISM

Micro-urbanism research tends to combine several disciplines primary related to urban and architectural research: urban morphology, typo-morphology, urban and architectural history and theory, planning theory and history; with the arts and humanities, because the urban and architectural evolution cannot be determined without a profound knowledge and understanding of the historical and social aspects (inter- and multidisciplinary).

Historical aspects: "In Western Europe the advanced capitalism was the engine of the radical urban transformation. However, in Central Europe, the economical and political conditions differ from the Western European ones, which resulted in only a partial renewal of urban development. The modernization generally did not bring any fundamental structural transformation [in most of the cases actually not, but in numerous cases of the studied towns, structural transformation can be experienced – comment by the Author], but rather by takeover of symbols of modernism. The end of the 19<sup>th</sup> century was different from the earlier period by the fact that it was fully imbued with its own sense of modernity" [5]. The era was marked by the rapid alternation of architectural styles. From the middle of the 19<sup>th</sup> century, the Gothic style and the renascent Renaissance reign, in the 1890s

appeared the neo movements, like the neo-Gothic, neo-Renaissance, neo-Baroque, Eclecticism; after the turn of the 19<sup>th</sup> and 20<sup>th</sup> century, the Secession appeared and as a counter effect of the style, the Neo-classicism. The typical historicism ('neo' styles), according to Moravánszky, is the Amtsprache [6] (formal language) of urbanization in Central Europe. As Caniggia and Maffei conclude, the typological process [as the micro-urbanism also belongs to the typo-morphology] has to be interpreted as a "succession of changes in time, distinctions and applicable mutual spatial influences (...). History is a system of time-space individuation readable through its formation and transformation processes" [7].

**Planning principles:** The similar town planning principles influenced the urban planning in Central-Europe directly by the theories and practices of Reinhard Baumeister, Josef Stübben, Camillo Sitte and Otto Wagner or indirectly by their followers, as Antal Palóczy and students, who admitted the directions and used in their planning principles. Due to identify the common urban and complementary the architectural development platform, the urban tissue analyses were supplemented with study of these town building theories typical in Central-Europe. The supplementary research based on micro-urbanism leads to the understanding of the townscape as it is based on the relationship between the urban structure (urban tissues) and the architecture.

**Identity:** The identity of the town, the urban structure with the combination of townscape (building fabric or together with the additional elements, the built environment) has the highest degree in urban physical and aesthetical quality and perception of the town itself: a specific semantic domain in architecture and urban design. In the very period, besides the certain degree of universalisation of the townscape and the repeated micro-urbanism character of the towns, the urban interaction of the inherited built environment depends on the symmetry/balance between the traditional and modern, and a certain rhythm in some elements, but the most important issue is the question of the governing proportional relationships between the components – the question is still valid today, thus the micro-urbanism analyses could be source of better understanding the historical movements tend to make better planning decisions, but not to recreate the past, but to take it as an inspiration with all the visual and structural "regularities".

**Forming process:** The comparison takes the main urban identity-shaping urban forms and relationships into account, which created the specific character of the town and its identity in the research period. Analysing the transformation of the Central European towns from the middle of the 19<sup>th</sup> century until the early 20<sup>th</sup> century, similar features and significant differences could be discovered in most of the studied towns. The progressive urban development of the second part of the 19<sup>th</sup> century was the manifestation and consequence of the industrialization and the new socio-economical and political status.

**Typo-morphology:** The meaning of the expression 'morphology', which can be identified as a perception of the nature of the urban forms as it is, is most significantly the discipline studying the morphological properties within an urbanized territory. The urban tissue and morphology of a town can be defined by the study of the urban (built and spatial) environment formation: it is determined by the built manifestations, their gradual development, and the interaction between various components of the urban fabric (streets, squares and green spaces, public spaces). The theoretical aspects of the typo-morphology (in our case) are the town's spatial/geographic characteristics, as well as the historical and the architectural components. Type combines the volumetric characteristics of built structures with their related open spaces to define a built landscape type.

A typology is a tangible form of conceptual thinking: examining the urban and building fabric of the territories, as a consequence they could be identifiable pattern types that follow the identified development schemas. The typo - morphological determinations which could be interpreted not only as a complex space but also can unify and explain the different urban and architectural forms and their mutual connection. The morphological schema of the non-built (voids) and built environment partially can be defined by the archetypes of spaces/squares, streets systems or gates, yards.

Elements: town plan-representation of a town's physical layout (urban tissues and urban structure), building fabric: buildings and related open space (layout), facades and elements. Buildings are placed on low rank with regard to the hierarchy of the urban forms and formations since they are less constant compared to the road network and the town structure. However, the development of the road network has a strong influence on the buildings, and on the image of the town itself as well. The townscape changes can be followed as specific imprints of a certain time period (Figure 1.).



*Figure 1. Townscape of Debrecen in 1912 (Source: Fortepan/Magyar Földrajzi Múzeum-Erdélyi Mór cége)*

### 3. METHODOLOGY

The basis of the typo-morphological approach can be described by socio-technical schemas and typified forms. The theoretical aspect constitutes the city's spatial/geographic characteristics, history and built environment. The primer urban tissue analyses were made by looking at the characters of the built environment and landscape to describe and illustrate the historical process of urban form development and its spatial consequences. Appreciation of morphology, analysing the evolution and change in traditional urban space and the typology that defines zones and urban pattern are the key elements in considering local patterns in the nominative processes of urban development.

The urban tissue typology can be defined through special morphological composition which is both internally and externally organized and also has a relationship with the structures and adjacent spaces in order to make well-defined clusters. The definition is not exclusively visual, through the application of patterns and schemas, as written analysis also plays an important role. The description complies with the unified criteria. In addition to the visual presentation in the descriptive section, the following were summarized: built environment, green spaces and water features and their relationship with buildings and streets, terrain, road geometry and structure, nature of the connections in the town.

The identified 11 main urban tissue types and their subtypes were determined and defined by analyses of 70 towns by use of the integrated method. The types focus on the general urban fabric taxonomy and ignore the minor variations which do not change the classification of the urban tissue.

Example (Figure 2.): towns with radial road or/and ring road, which town core has undergone structural and architectural transformation (5<sup>th</sup> group). The ring road is not as regular as in case of the 4<sup>th</sup> group, it could be a full circle or partly constructed road, in case of the development, it can be constructed at the place of the demolished defence walls or in such territory where were no town walls; the radial road is connecting the town core with the railway station most of the cases. Towns: Sombor, RS; Debrecen, HU; Szombathely, HU; Szolnok, HU; Timișoara, RO;

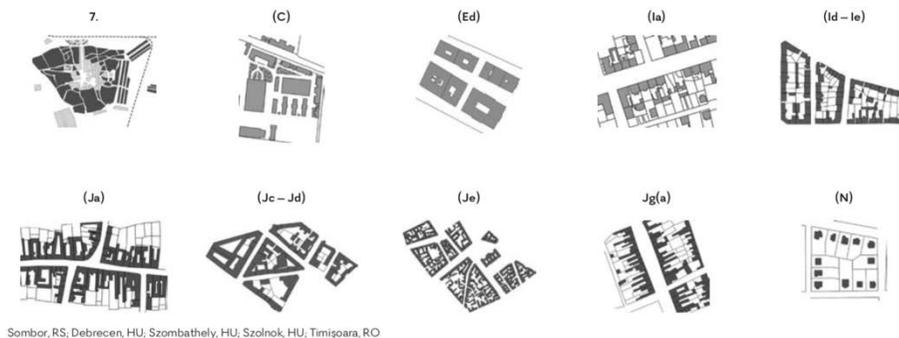


Figure 2. Urban-type No.5 (the result of the urban typology matrix)

In the case of Debrecen, the radial structure was a consequence of the geographical and hydrographical features of the landscape, the nature of extensive agriculture and seasonal housing habits of the inhabitants. A fringe of gardens and yards surrounded the central core of the towns. Radial roads converging in the central area determined the structure. A defining principle of lowland settlements was radial development.

I and J urban tissue types are predominant in the urban type No.5, such the micro-urbanism analyses tend to focus on their first stage on those areas in the contemporary town, where these urban tissues are in dominance with the combination of the public (sacral or secular) buildings and latter infills<sup>3</sup> – this is the phenomena of co-presence in the towns. “Co-presence and derivation are none other than historical outcomes in space and time. Co-

<sup>3</sup> Infill refers to the development of vacant parcels within previously built areas.

presence is spatial correlation [in case of micro-urbanism both in 2D and 3D- remark by the Author]; derivation is a temporal correlation: an object exists in that it belongs to an identified point of the dual process that can be summed up in the unique concept of history” [8].

Thus the stages of the preliminary research are (1.) identification of the urban type (1867-1918); (2.) outline of the case study area, there still remains of the urban tissue types back to 1867 and 1918; (3.) urban tissue identification together with the derivation and co-presence (Figure 3.).

(2.) Urban tissue types in Debrecen – example in the downtown area: (Ja) Plots with irregular geometry form complex plot-series. Development in unbroken rows with variable building layouts: “U”, “L” and traditional rectangle shape. Outbuildings (in some cases more than 3) are attached to the main building. In all cases a courtyard belongs to the buildings, it is surrounded by buildings located on the same plot. The shape of the plots reflects on the pre-regulation distribution of land, which has not changed. As a result of street system regulations, along with the streets, the distribution of building layout has changed, while inside the blocks the traditional (pre-regulation) development method remained the same. The type is also an integral part of the towns: Zagreb, HR; Novi Sad, RS; Arad, RO; Baja, HU; Miskolc, HU; Munkachevo, UA; Uzhgorod, UA; Timișoara, RO (regular street network); Székesfehérvár, HU; Cluj Napoca, RO (regular street network); Bratislava, SK (regular network); Pécs, HU; Târgu Mureș, RO; Esztergom, HU; Debrecen, HU (regular street network);

(Jc) Regular road lines, the blocks are surrounded by gridiron street network. The blocks are rectangular, the buildings with both-side wings dominate within the borders of the plot series. The plots have same dimensions in the urban block, but the placement of the buildings are different, the inner courtyard is attached to each building, but most of the cases the groups of backyard separated from each other by back and side wings. Possible block shape can be triangular as well. Towns: Subotica, RS; Pančevo, RS; Szeged, HU; Novi Sad, RS; Arad, RO; Timișoara, RO; Oradea, RO; Székesfehérvár, HU; Cluj Napoca, RO; Sopron, HU (triangular); Bratislava, HU; Hódmezővásárhely, HU; Gherla, RO; Osijek, HR; Sombor, RS; Győr, HU; Esztergom, HU; Szolnok, HU; Debrecen, HU; Budapest, HU;

(3) The urban layout has to be complemented with visual inspection (photographs, postcards) due to trace the temporal correlation of the subsequent infills (Figure 3.)

Muratori, in his work and in his morphological practice and studies, focused on typology via four scales (building - district - town - territory) due to his understanding of the directions shaping building fabrics, urban organism and territories. Caniggia further developed the theories of Muratori with a focus on typo-morphology (based on the relationship between building type and town form), and an understanding of the built form by examining the historical process of its formation.

The macro scale of the current research in the urban type (the upper mentioned town)–urban tissue type (district) and the building fabric (building). The micro scale of the research is the building fabric – the building itself: proportions of their vertical and horizontal parts, appearance, matching with the built environment (geometrically, aesthetically).



Figure 3. Debrecen, Piac street – temporal correlation of the selected area. Dark grey: after 1920, grey: 1880-1920, light grey: before 1880 (until the middle of 18<sup>th</sup> century)



Figure 4. Debrecen

According to Muratori and Caniggia the building components are necessary “(...) to break up into four terms: elements, elementary structures, structure systems and systems organism. Every component has to be read as interrelated to others on an immediately larger and immediately smaller scale (...)” [9]. Their conclusion is partly accepted in the micro-urbanism analyses: the building fabric is the system of organism without further classification; in the proportion studies the building is considered as the structure system and the elementary structures are the gate (G), the window area (W), floors (F), ceiling and as elements their smaller details are considered.

Proportion studies (Figure 5.):

- (a) street front installation rate (horizontal division):  $\text{gate}(G)/\text{building}(B)$
- (b) facade proportions
- (c) horizontal length ratios relative to total facade length

The proportion studies, rates of the structure systems according to the height (H) or length of the building (B) give quantitative data about the width and height relationships of the houses and the facade segmentation.

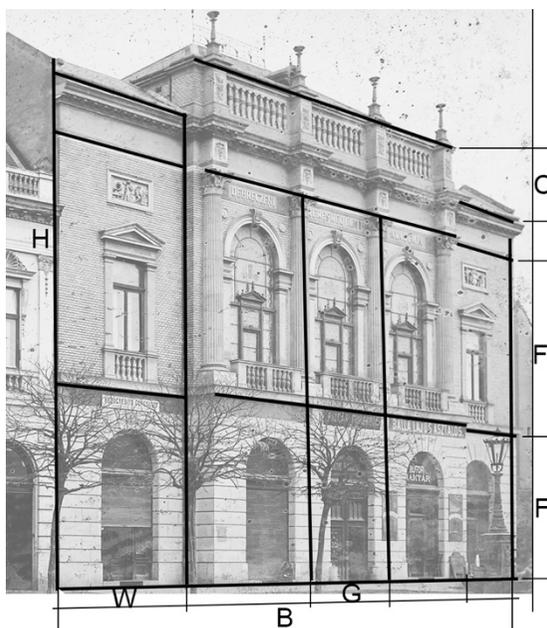


Figure 5. Proportion studies. Debrecen – Piac street in 1908 (Source: Fortepan/Magyar Földrajzi Múzeum-Erdélyi Mór cége)

The quantitative studies are complemented with the qualitative studies: the study of the elements, structure systems and connection with the spatial layout. Such: corners and intersections as building element and spatial feature- morphology and types, connection; street joints with extending morphological elements- the analysis uses practical examples of typology, takes into account the architectural, urban design and systematization determines of the era (Josef Stübben, Camillo Sitte, Palóczi Antal, etc.) in the region; morphology of the infills- how the infill was solved in a certain period of its creation, how it reacts with a particular urban fabric and architectural environment; combination of architectural elements- together with the quantitative analyses.

Even the urban tissue typology was dealing with the green spaces due to create a more accurate taxonomy, but the micro-urbanism is taking the various greenery into account as a part of a townscape – element which changes the perception of the space together with landmarks (secular, sacral).

#### 4. RESULTS AND CONCLUSION

The result of the research concept and the outlined analyses could act as individual studies, but the combination of these could code the urban and architectural planning activities and enrich the general urban knowledge of the era with supplementation of the planning principles and historical and social aspects. The research opens a new chapter in urban and architectural research: a combination of urban morphology and architectural typomorphology research. Numerous studies deal with the architecture, landscape architecture, urban architecture, society and history of the turn of the 19<sup>th</sup> and 20<sup>th</sup> centuries, but the research in the framework of the "Право на прву шансу" reveals new layers and relationships that put the era into a new context. The creative activities - structural and morphological relationships are going to be explored in a readable and image-like manner, bearing in mind the diverse and expressive visual development of the era and the complex ideology and practical tasks behind them.

The practical result of the study, which concept, aspects and primary methodologies are summarized in the very paper, is going to be a complex study with typology, inter-relations and site-specific examples of the planning decisions.

The taxonomy is going to present the interactions of building fabric/wider context: built environment and urban structure expressed both visually and textually (by drawings, photographs, text) through case studies, in order to create general conclusions about the phenomenon of micro-urbanism.

#### 5. ACKNOWLEDGEMENTS

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### МИКРОУРБАНИЗАМ У ЦЕНТРАЛНОЈ ЕВРОПИ (1867-1918) - КОНЦЕПТ

*Резиме: Урбана структура и архитектура, било да се ради о јединственом манифесту или кохерентном ансамблу, може се испитати само у међусобној интеракцији, уколико за циљ има да створи целовиту слику на нивоу микроурбанизма. Микроурбанизам је комплексна област архитектуре и урбанизма, делује као нова дисциплина и приступ у урбаној морфологији. Систематизовала сам типове урбаних ткива, анализирала сам модел уличних мрежа, облик парцела и зграда; утврдила сам унутрашњи однос између урбаних елемената, а анализе су завршене одређивањем узорака зелених и отворених подручја. Задатак истраживања се темељи на проучавању архитектонских манифеста (јавни објекти, стамбене зграде, палате, виле) и распоређивању урбаних типова ткива. Истраживање је интердисциплинарно и бави се не само структуром, већ и архитектонским контекстом одабраних градова преко макро и микро скала: на који начин може зграда да се повеже са структуром и обрнуто.*

*Кључне речи: микроурбанизам, 1867-1918, централна Европа*