IMAGE, IDENTITY AND QUALITY OF PLACE II
PUBLIC SPACES
PRESERVING PLACE MEANING IN FUNCTION OF TRANSFORMATION OF OPEN PUBLIC SPACES

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ABSTRACT
The process of urban transformation has changed dramatically in recent decades and modifications in urban areas have become rapid and not infrequently destructive. On the other hand, preserving identity attributes of urban places that people identify with while improving urban quality is one of the main concerns of planning practice dealing with urban transformation. Therefore, the main question is what place attributes to preserve and why? This paper deals with the problem of neglecting the various meanings that people associate with open public spaces, in the process of urban transformation which finally leads to threatening the personal identity construction. This issue arises from the ambiguous notion of place meaning which is difficult to grasp, as well as from the lack of appropriate planning tools for identifying and analysing place meanings that are valuable to preserve. This paper advocates for an approach to place meaning in which meaning is derived from the cognitive, behavioural and affective components of people’s attitude towards place and refers to the tangible and/or intangible aspects of place identity. The research draws on the theoretical framework of disciplines such as: architecture and urbanism, environmental psychology, human geography and related fields. The aim of this paper is to propose a conceptual framework for identifying and investigating significant meanings of open public spaces which contributes to decision making in the initial phase of planning process. The planning treatment of place meanings in the participatory process of open public space transformation on the example of Banjaluka is discussed in this paper.

Keywords: open public space, urban transformation, place meaning, citizen participation, Banjaluka

INTRODUCTION
Cities are facing continuous transformation. Unlike the traditional transformations which were slow and gradual, the modern changes are very often rapid and not infrequently destructive. Anyway, preserving urban heritage and identity have always been the main concern of planning practice dealing with urban transformation, and urban preservation has become the serious issue of urban studies from the second part of 20 century. This paper deals with a problem of open public space transformation within a context of contemporary urban development. More precisely, paper deals with the problem of preserving identity attributes, particularly intangible, of

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open public spaces in the process of urban transformation while improving urban quality. The significance of this problem lies within the contradiction between the open public space as a place of contemporary urban life and the open public space as a place with the inherited spatial, functional and cultural values important to the community. Therefore, the main planning task of sustainable transformation is finding the balance between preservation and change of open public spaces. In planning practice these changes are most often driven by economic and environmental interests, while cultural values as active components of material culture and urban memory of citizens are neglected. The result of these policies of urban transformation is neglecting the various meanings that people associate with open public spaces, which finally leads to threatening the personal identity construction. On the other hand, this problem arises from the ambiguous notion of place meaning which is difficult to grasp, as well as from the lack of appropriate planning tools for identifying and analysing place meanings that are valuable to preserve. Defining place meanings as one of the initial tasks of open public spaces transformation is usually done by urban planners and city authorities, without taking into consideration aspects of meaning deriving from people's interaction with space. This points to the need for improving the planning process of open public spaces transformation in phase of initial tasks setting thought substantive citizen participation.

The aim of this paper is to propose a conceptual framework for identifying and investigating significant meanings of open public spaces which contributes to decision making in the initial phase of planning process. The first part of the paper deals with a theoretical framework of concept of place for investigating the meaning of open public space. Place meaning as a component of place identity is derived from the cognitive, behavioural and affective components of people's attitude towards place. In second part, the planning treatment of meanings of places in the process of open public space transformation on the example of Banjaluka is discussed. The selected examples indicate certain disadvantages of the formal participatory process in terms of neglecting the effective citizen participation in initial programming process.

THE IMPORTANCE OF PRESERVING THE OPEN PUBLIC SPACES

The character of a city is determined by its parks, streets, squares and other open public spaces which are considered to be important part of urban heritage. Seen from a physical aspect, open spaces are defined as land and water that is not covered by buildings and is situated within an urban area (Gold, 1980). Regarding the ownership, the open spaces are usually classified as public, semi-public, and semi-private open space. On the other hand, open spaces allow different types of activities, including optional social activities. Gehl (Gehl, 1987 in Addas, 2015) describes optional activities as those taking place if there is a wish and time. According to same author these activities may include walking, standing, sitting or sunbathing. Social activities evolve from necessary and optional activities, which may include greetings, conversation and communal activities, as well as passive activities (Addas, 2015). Finally, cultural values of open public spaces arise from its meaning and significance they have for people.

Since open public spaces are important part of urban areas, their preservation contributes to improvement of identity of cities and their positioning in the global network and distinguishing compared to other cities. This is of particular importance in the period of globalization and homogenization of urban culture, identity and space. Besides, Lynch (Lynch, 1960) argues that social and physical functions of a public place can enhance the safety, pleasure and care of urban users. Open public spaces affect physical activities and health outcomes and often improve mental wellbeing.

Social, cultural and architectural values of open public spaces make them significant in formation of cultural identity of the community. The open public spaces give an essential dimension to the life of the city; also they give users a sense of attachment and civic identity, both emotionally and physically. The loss of physical character and identity of open public spaces affect people's perception and place attachment. Therefore, open public spaces transformation implies a
reconsidering of the history and the memory of citizens in terms of continuity of development and preservation of the identity of the local community. For the process of urban transformation it is important how residents use and experience open spaces within an urban context. Sustaining the meaning of urban elements and icons is important because of its contribution to self-identity, sense of community and sense of place (Hull et al., 1994).

CONCEPTUAL FRAMEWORK FOR INVESTIGATING THE OPEN PUBLIC SPACES MEANING

Critical examination of meaning of open public spaces within a broader context of its identity is of great importance for the urban transformation planning process. Identity can be characterized as the extent to which it is possible to recognize the space as different and special compared to other spaces because of its strong, clear and unique character (Lynch, 1981). Many social and cultural factors as well as the built environment are combined to shape identity. For analysing the identity of open public spaces it is important to understand the concept of place and place identity originating from the place theory which is studied in many disciplines concerned with space. This concept in a comprehensive way includes intangible values which are related to the experience of space as well as tangible, which are related to the specifics of the physical features of place that affect the experience (Castello, 2006). For thorough understanding of the concept of place it is valuable to make distinction between space and place. Space is usually perceived as a material embodiment of feelings, images and thoughts (Tuan, 1977), while place is centre of action and intention (Relph, 1976) and "focus were we experience the meaningful events of our existence" (Norberg-Schulz, 1971: 19). Places are included into "the intentional structures of all human consciousness and experience" (Relph, 1976: 42). The essence of place lies in experiencing it from inside, which greatly differs from experiencing it from outside (Relph, 1976). The primary intention behind the concept of place is to be inside (Norberg-Schulz, 1971). According to Relph (1976: 49), to be inside a place is "to belong to it and to identify with it, and the more profoundly inside you are the stronger is this identity with place". Thus, open public spaces are experienced from inside- this mode of experience means immediate and direct experience and implies unselfconscious commitment to place.

There are three main components of identity of place: the static physical setting, the activities, and the meanings (Relph, 1976). These fundamental components of place are "irreducible one to the other, yet are inseparably interwoven in our experiences of places" (Relph, 1976: 47). They are always interrelated in specific way affecting each other and forming dialectics that make specific place identity. According to Relph (1976), the first two of these components can be easily appreciated, but component of significance and meaning is difficult to grasp. Therefore, in the focus of this research is meaning as intangible cultural component of place identity which makes distinction between notion of space and place.

The meaning of places is not property of physical setting, objects and activities- rather it is a property of human intention and experience (Relph, 1976) and it arises from the interaction between people and spaces. Regarding this, Tuan (Tuan, 1974) introduced a concept topophilia which implies a strong link between person and environment in terms of mental, emotional and cognitive. Similarly, Norberg-Schulz (Norberg-Schulz, 1980) dealt with an important aspect of place identity that serves to link three mentioned components and has been variously termed spirit of place, sense of place or genius loci. Sense of place is more than simple summation of components of identity and can persist in spite of profound changes in these components (Norberg-Schulz, 1980). Besides, Altman argues that attachment to place is beyond cognitional and emotional experience of space, and that long time experience of place leads to the place attachment (Altman and Low, 1992). Place attachment is embedded in the feeling, emotion and behaviour that reflect people’s responses toward the environment (Ujangand Zakariya, 2015). Interaction between humans and places is in three dimensions: cognitive, behavioural and emotional (Hashem et al., 2013). According to same authors, cognition interaction refers to the
perception of formal aspects of place; behavioural interaction refers to the perception of the functional aspects and types of activities, while emotional interaction refers to emotional and meanings of place. Therefore, meaning of open public places arises from the individual and collective memory of local residents, as well as from the occasional and constant activities taking place in open public spaces. In support of this argument Castello (2006) highlights the importance of memories for people’s experience of space, which makes the memory a significant part of its structure. This is also supported by the fact that memory affects “good” or “bad” image which that place evokes (Boyer, 1994). Finally, identity of place can be described by image of place defined as a mental picture that is the product of experience, attitudes, memories and immediate sensations (Boulding, 1961 in Relph, 1976). By linking the concept of the identity of the urban landscape with the memory of society, Hayden argues that the place identity is inextricably tied to individual and collective memory (Hayden, 1995).

On the basis of all the above, places are containers of cultural, social and individual relationships (Low and Altman, 1992). Urban planners rarely incorporate environmental psychology concepts such as place in their research and practice. Yet, some authors studied people’s perceptions and attitudes toward place and explored place meanings aiming to inform the planning process (Appleyard, 1979). In field of urban planning and design, the concept of place is understood as an mediator that enables communication between the various disciplines involved in the transformation of open public spaces, of which the most important are: architecture, urban planning, psychology, sociology and cultural studies.

The thorough understanding of conceptual framework proposed in this paper contributes to the planning the transformation of open public spaces focusing attention on the meaning as intangible aspects of these places. In the process of urban transformation it is imperative to understand the level and form of attachment and meanings associated with the places. Involving this concept in planning practice can provide a better understanding how planning impacts people’s experience of place and how meanings that people associate with places impact planning and development. Since the place meaning arises from the cognitive, behavioural and affective components of people’s attitude towards place, the citizen participation in planning the transformation of open public spaces is very important for investigating the meaning of these places. Therefore, application of this concept can improve the process of setting the initial tasks of planning the open public spaces transformation through active citizen participation.

PRESERVING THE MEANING OF OPEN PUBLIC SPACES IN BANJALUKA

Considering the people’s active role in creation of place meaning, the active citizen participation in the process of urban transformation planning is of great importance for preserving open public spaces meaning and creating sustainable solutions. Therefore, the short overview of urban planning process in Republic of Srpska with some disadvantages of initial programming process is shown in next lines.

The methodological framework of planning process in Republic of Srpska is regulated by Planning and Building Law. Prior to preparation of implementing planning documents the law entails preparation of the strategic planning documents. Due to the fact that strategic planning documents are commonly missing or outdated, planning practice dealing with transformation of open public spaces is again commonly based on preparing the implementing planning documents at the municipal level (preparing physical and urban planning documents as regulatory plans, urban planning and design and parcelling out plans). This underlines the importance of the initial stage of preparing the implementing planning documents, and necessity of the effective citizen participation in initial programming process.
The formal participatory processes are regulated by above-mentioned law, which requires the public to be informed through the public enquiry prior to preliminary draft preparation. The public has 15 days to express its attitude towards exposed documents. The exposed documents include decision of the City assembly with text that provides an explanation of initiative, excerpt of strategic planning document and drawing of pre-existing state. After the closing date of the informing the public without effective collaboration, the process of initial tasks setting is completed and planners start with preparing the preliminary draft.

During public insight into draft plan, the public is allowed to make objections to the plan proposal within the 30 days. After public insight is closed, public is invited to discussion about objections filed to the proposed plan. Planning practice dealing with implementing planning documents indicates that plan proposal prepared in accordance with initial tasks, shall not be substantially transformed in final stage of planning process regardless of public opinion. Regarding this, the importance of citizen active participation in the initial stage of planning process and preparing initial tasks in case of transformation of open public spaces is more accented.

Considering the scope of information provided by exposed documents on the basis of public enquiry in initial stage of planning process, public is just informed that process is taken place but visual and physical effects of transformation (in particular transformation of open public space) are still missing. Related to this statement, the public opinion is commonly delayed to the construction stage. The public is with delay aware of something with what is supposed to be aware in the initial stage of planning process. This results in public dissatisfaction.

The recent civic initiatives with the efforts to preserve the open public spaces in Banjaluka could be indications for strengthening of civil society, but also indicate the public dissatisfaction with the formal participatory processes. “Civic initiatives for Borik” is civic initiative for preserving pre-existing children’s playground instead of constructing the Orthodox Church facilities. The associated group of citizens were undertaking initiative for preserving pre-existing public use of place in accordance with formal participatory process, but during the planning process this was qualified as an informal attempt to participate. This planning process from 2015 has not been ended yet, but one has. The civic initiative “Park is ours” from 2012 is an example when the formal aspect of planning process was fulfilled, but still delayed public reaction at the beginning of building construction few years latter indicates that formal participatory process in transformation of open public space is only formal with no substantial public participation.

Within the context of previous statements some disadvantages of formal participatory process can be observed: the processes do not differ according to the level of public importance of urban spaces; the general public is not considered to be a stakeholder in decision making within the formal participatory process; informing the public in initial stage of planning process with no visual and physical presentation of transformation results is inadequate.

Based on the previous it can be concluded that there is a need for formal participatory process improvement, as well as introduction of informal participatory processes in the context of planning the transformation of open public spaces. Following the listed disadvantages of formal participatory processes regulated by the law of Republic of Srpska, making more effort to understanding and grasping the meaning of open public spaces is needed. Examples of good planning practices of European countries can be useful. For example, practice and legislative framework in Swiss can be perceived as good binding of formal and informal participation processes, where formally applied participative process are supported by the informal ones. Besides, formal participatory process should differ according to the level of public importance of urban spaces and be differentiated by groups of activities: informing, consulting, participation in the decision-making process and self-organization. Finally, only substantial informing the public at the initial stage of planning process using adequate visual and physical methods assures preserving the meaning of the open public spaces.
CONCLUSIONS

Preserving the place meaning, and more widely place identity, is one of the main tasks of planning practice dealing with a transformation of open public spaces. In the process of urban transformation, it is imperative to understand the level and form of attachment and meanings associated with the places. This implies reviewing of tangible and particularly intangible or symbolic values and meanings of open public spaces which facilitates making decisions on the treatment of its material assets and contemporary planning interventions. In projects and plans of urban transformation these values, as active components of material culture and urban memory of citizens, are very often neglected which leads to permanent destruction of the cultural values and urban identity. The reason for this is the lack of understanding of the multitude of intangible values that open public places possess and messages they carry. Besides, aspects of meaning that derive from people's interaction with space are not usually considered in the planning process of urban transformation. In this connection, not only the fundamental and theoretical frameworks of place meaning within the context of urban transformation, but also the practical and analytical methods of approach to the issue seem inadequate.

This paper highlights the importance of place-based approach to the open public spaces transformation and its implication to preservation of place meaning and creation of sustainable solutions. Concept of place provides a focus on the meaning as intangible aspect of place identity that arises from the cognitive, behavioural and affective components of people's attitude towards place. In practical terms, application of this concept could contribute to raising effectiveness of the citizen participation in initial programming process of planning the open public spaces transformation.

Second part of paper deals with the treatment of meaning in planning the transformation of open public spaces in Banjaluka. It is emphasized that citizen participation in planning process is important for investigating the open public spaces meaning and setting the initial tasks of planning the transformation of these places. The short overview of planning process in Republic of Srpska still indicates a deficiency of the process of public participation. Besides, this process is neglected in initial stage of planning process which is confirmed on the example of Banjaluka where civic initiatives for preserving the open public spaces usually occur with delay. All this points to the need to improve the legal framework of public participation and introduce planning tools for determining the meanings and values of open public spaces based on proposed theoretical framework.

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STREET LIFE DIVERSITY AND PLANNING THE URBAN ENVIRONMENT. COMPARATIVE STUDY OF SOFIA AND MELBOURNE

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ABSTRACT
Before the Industrial Revolution the urban environment had been naturally shaped around pedestrian’s needs and abilities. Because of the technological, social and economic changes in the cities during the 20th century and due to influences by modernist and technocratic ideas, the human scale of the urban development was highly neglected in urban planning and design policies and practices. Today, there is already a growing amount of research in the planning and design field highlighting the importance of walking in cities for variety of social, cultural, physical, economic and environmental reasons. Yet, the challenge of achieving more pedestrian-friendly cities in practice still remains. The paper presents part of an ongoing PhD research on urban planning and design approaches towards reviving the city culture of walking in contemporary urban development. The research project addresses three perspectives on walking in cities: (1) street life and urban environment, (2) urban planning and design framework, and (3) pedestrians’ personal perceptions of walkability. The current paper discusses the empirical findings on the street life and urban environment of Sofia and Melbourne. The methods used are document analysis and comparative study of strategies, policies and practices related to walking in the two cities; non-participant observations, and mapping of selected urban environments. The author emphasises on specific differences regarding pedestrian diversity and urban environment characteristics observed in both cities. These are then related to the particular local cultural and planning context. The paper concludes by summarising current challenges and outlining needed urban planning and design approaches for further enabling pedestrian-friendly environments.

Keywords: street life, pedestrians, urban environment, urban planning, urban design

INTRODUCTION
Before the Industrial Revolution the urban environment had been naturally shaped around pedestrian’s needs and abilities. The human scale of urban development was, however, highly neglected by the technological, social and economic changes in the cities during the 20th century and the influences by modernist and technocratic ideas. Today, there is already a growing amount of research in the planning and design field highlighting the importance of walking in cities for variety of reasons. Yet, the challenge of achieving more pedestrian-friendly cities in practice still remains. The paper presents part of an ongoing PhD research on urban planning and design approaches towards reviving the city culture of walking in contemporary urban development. The research project addresses three perspectives on walking in cities: (1) street life and urban environment, (2) urban planning and design framework, and (3) pedestrians’

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personal perceptions of walkability. The current paper discusses the empirical findings regarding the first two aspects.

BACKGROUND

Walking in cities

Walking is the most basic means of human mobility but is often perceived as restrictive, straightforward or not for people of high social status (Hodgson 2012, 17). It is praised for its importance for people's physical health (e.g. World Health Organization 2011; U.S. Department of Health and Human Services 2008; Lee and Buncher 2008; Jeremy N. Morris 1997) and the variety of social skills and abilities that people gain from walking. Ingold refers to it as an important "intrinsically social activity" (2004, 328) and "a highly intelligent activity" (2004, 332) but intelligence which is gained and manifested through the whole human body, not only the brain. This intelligence is the whole-body (body and mind) experience which people have when walking and being in public spaces. Walking consciously or unconsciously engages and stimulates our senses – we listen/hear, look/see, touch, feel, and sniff. Moving on foot mediates the emotional connection between people and cities.

Lynch (1960) and Jacobs (1961) have both identified the streets as the main element which constructs the image of the city because they are the main space where people observe cities and construct the urban realm picture in their minds. Lynch (1960, 47) argues that "[p]eople observe the city while moving through it". Later on Ingold, drawing on Gibson (1979), argues that not only observation, but "perception is ... a function of movement" (Ingold 2004, 331) and that people perceive the surrounding environment in motion and not from static points. Observing and perceiving the city while moving through it is not only a prerequisite for creating a personal image or for sharing the public image of the city, but also for gaining awareness of the built environment and the processes it accommodates. Such awareness is also considered to be beneficial for enhancing citizens' activity and participation.

Promoting walking in large cities and enabling an environment which would make people choose walking instead of other means of transportation helps to create an unconscious preference towards walking. Similar to the bicycle consciousness which Enrique Peñalosa talks about (2002, as cited in Cervero et al. 2009), enabling and promoting walking in cities could be referred to as unintentional creation of walking consciousness. It needs to be engrained in the minds of the young and carless generation. If they grew up with this attitude towards the built environment and mobility behaviour in cities, walking could be transferred from a conscious choice to unconscious behaviour.

Hodgson (2012, 20) describes the rich "repertoire" of social and physical competencies people gain through and while walking – body synchronisation, negotiation of space, traffic consciousness, observation of the environment, danger-reducing skills, etc. People learn to be responsive to others' behaviour on the streets (Ingold 2004). Walking in cities also gives opportunities for chance and unplanned encounter with strangers and otherness (Bauman 2000) that could be important factors for understanding and accepting otherness.

Apparently walking is not a simple act of "going on foot" and the pedestrian is a complex and important creator and actor in public life. Indeed, a walking city is a city that increases the opportunities of and welcomes every person to enjoy and participate, to explore and observe, to interact and constitute the diverse public life.

Human scale approach in urban planning and design

In the 20th century technology and machines conquered the cities and established the dominance of big scale and fast speed in many aspects of people's lives – space, buildings, dwellings,
mobility. The automobile was admired for the illusionary freedom, speed and comfort it gave to people and became desired and dominant mode of transportation in cities. Walking and biking in cities were seen as outdated, mundane, and for people from lower social classes (Hodgson 2012; Litman 2003). Thus, moving in cities on foot was downgraded, its presence in the urban environment faded away and it was neglected in urban planning and design projects until the end of the 20th century (Southworth 2005). The pedestrian-friendly and human-scale urban streets previously full of diverse and intensive public life turned into mere transportation and service roads (Lefebvre 1995; Southworth 2005). It was considered that walking “will take care of itself” (Litman 2003, 4) which is proved by travel surveys serving planning and design decisions that fail to trace non-motorised everyday travels (Litman 2003) and the limited data on pedestrian numbers (Gehl Architects, n.d.), behaviour and needs (Schwartz and Porter 2000). As a result, currently walking remains largely invisible in statistics and planning and design decisions.

The shift toward more people-based, human-scale, context-sensitive planning and design emerged in the beginning of the 1960s (Jacobs 1961; Whyte 1980; Gehl 1987) and continues to push for change in the established technocratic approaches. Promoting walking in large cities and enabling an environment which would make people choose walking instead of other means of transportation helps to create an unconscious preference towards walking. Encouraging and managing a walking city, however, is a great challenge. This means focusing on the pedestrian, and his/her experience in the city environment as a central planning and design principle.

Despite the considerable amount of literature on different aspects of walking and its importance as a whole, there is certain ambiguity in defining walkability as a city and place characteristic. Some scholars have defined walkability through variety of quantitative and qualitative factors (see Litman 2003; Southworth 2005; Ewing et al. 2006). The diversity of their definitions only proves that “walkability … is very location specific” (Kelly et al. 2011, 1506) and it requires place-based assessments and contextual approaches.

**METHODS**

The complexity of the research problem requires the use of multiple research methods. Document analysis and comparative study of strategies, policies and practices related to walking are used in order to understand the planning context in the two case studies of the present PhD research. For Sofia, the most recent development plans and projects for the city centre are analysed – *The Integrated Plan for Urban Regeneration and Development 2012-2020* (IPURD 2012-2020) and the winning entries from a competition for *Projects for construction, regeneration and renewal of public spaces in the city centre* (CCP 1, 2 and 4) held in late 2013. For Melbourne, the three consecutive studies *Places for People* – 1994, 2004, and 2015, and *The City of Melbourne’s Walking Plan 2015* were studied.

Non-participant observations of the studied public spaces are undertaken in order to obtain a variety of evidence about street life. The field work in Sofia was undertaken in October 2015 and the one in Melbourne in March 2015. For both cities public life flows were studied on one weekday (Friday) and one weekend day (Saturday) at key street sections. The observed participants in the street life were classified in 7 separate types: pedestrians with general needs, disabled people, people with prams, cyclists, skaters, trams and motor vehicles.

Mapping is used in this research as a tool for analysing different spatial and non-spatial aspects of the case studies – public transport walking catchments, street network and building footprints. For each of the case study areas, 500x500 m and 2x2 km sections were selected for the analyses. These dimensions are taken as representing the walkable neighbourhood scale and the extended neighbourhood scale respectively.
RESULTS

Pedestrian diversity

Street life counting shows a high dominance of pedestrians with general needs (PGN) over all other participants (Table 1). Big difference is observed regarding the number of people with disabilities in the two cities with Sofia having almost 4 times less (as percentage from the number of all pedestrians) disabled people using the streets than Melbourne (Table 2). In contrast, the share of people with prams in Sofia is 1.6 times higher than the one in Melbourne, and the cyclists – 1.4 times (Table 1). The observations in place showed that the combination of high pedestrian and cycling flows in predominantly pedestrian streets causes conflicts between these two user groups. Due to the big number of people with dogs on leash (0.30% of all pedestrians) in Vitosha Blvd such data was gathered only for Sofia. This was considered a local characteristic which was not observed in Melbourne to such extent. The counting indicates a higher number of motor vehicles in Sofia than in Melbourne (Table 1).

<table>
<thead>
<tr>
<th>TOTAL</th>
<th>Pedestrians with GN</th>
<th>disabled people</th>
<th>people with prams</th>
<th>cyclists</th>
<th>skaters</th>
<th>trams</th>
<th>motor vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sofia</td>
<td>121218</td>
<td>115098</td>
<td>30</td>
<td>1746</td>
<td>2568</td>
<td>336</td>
<td>840</td>
</tr>
<tr>
<td></td>
<td>100%</td>
<td>94.95%</td>
<td>0.02%</td>
<td>1.44%</td>
<td>2.12%</td>
<td>0.28%</td>
<td>0.69%</td>
</tr>
<tr>
<td>Melbourne</td>
<td>300474</td>
<td>288114</td>
<td>306</td>
<td>2724</td>
<td>4692</td>
<td>516</td>
<td>3414</td>
</tr>
<tr>
<td></td>
<td>100%</td>
<td>95.89%</td>
<td>0.10%</td>
<td>0.91%</td>
<td>1.56%</td>
<td>0.17%</td>
<td>1.14%</td>
</tr>
</tbody>
</table>

Table 2: Sofia and Melbourne: street life data - distribution of the different types of pedestrians (as a percent of all pedestrians)

<table>
<thead>
<tr>
<th>all pedestrians</th>
<th>pedestrians</th>
<th>disabled people</th>
<th>people with prams</th>
</tr>
</thead>
<tbody>
<tr>
<td>number</td>
<td>%</td>
<td>number</td>
<td>%</td>
</tr>
<tr>
<td>Sofia</td>
<td>116874</td>
<td>115098</td>
<td>30</td>
</tr>
<tr>
<td>Melbourne</td>
<td>291144</td>
<td>288114</td>
<td>306</td>
</tr>
</tbody>
</table>

Urban environment characteristics

Three aspects of the urban environment are presented in the paper: public transport walking catchments, street network, and building footprints. The public transport walking catchments are defined as 200/400 m “as-the-crow-flies” catchments that represent the neighbourhood walking level (Figure 1). The 200 m catchments were added for a more precise investigation of the immediate pedestrian coverage around public transport stops as the 400 m catchments in the two cities cover all parts of the areas.
The street network is used to assess the permeability and connectedness of the case study areas (Figure 2). The central part of Sofia is characterised by smaller and more intricate blocks compared to Melbourne’s prominent grid (the Hoddle grid) with its big blocks (200x100 m) subdivided by lanes and arcades. Building footprints are used for visualising the grain size and building density on ground floor level (Figure 3). The smaller the grain size and building density, the more human-scale environment is observed in the streets.
Urban planning and design framework

The document study is structured in 2 groups – analyses and proposals (Table 3), both considered to be important for assessing current planning and design approaches in Sofia and Melbourne.

Table 3: Sofia and Melbourne - comparison of planning and design documents

<table>
<thead>
<tr>
<th>Sofia Scope</th>
<th>Analyses</th>
<th>Proposals</th>
</tr>
</thead>
</table>
| IPURD 2020  | Scope: the city centre  
             | Content: General analyses of location; demographic profile; general profile; social infrastructure; public services; public spaces; work-dominated areas; assessment of physical environment; transport; green system; ecology | Groups of projects for future interventions  
             | General priorities:  
             | - Human-oriented development and regeneration of urban environment  
             | - Development of economy based on knowledge, innovations and creativity  
             | - Preservation of authenticity and enhancement of the city centre vitality  
             | - Preservation and efficient use of natural resources |
| CCP 1       | Scope: Evlogiy and Hristo Georgievi Blvd  
             | Content: No analysis is made for the area | - More car lanes and parking spaces; new roundabout  
             | - Recreational facilities along the canal; new thematic alleys and spaces; urban art  
             | - Street furniture and pavement |
| CCP 2       | Scope: Graf Ignatiev St, Tsar Shishman St and adjacent areas  
             | Content: Zones; Car traffic, public transport and parking; Pavements – types, condition and interventions; Pedestrian spaces, places attracting people and gathering places; Public spaces and ground floor uses; Permanent and temporary street elements and furniture; Heritage and urban art; Green system; Lighting | - Clearance of inappropriate elements on streets  
             | - Transformation into a pedestrian-predominantly zone  
             | - Tram improvements  
             | - Tsar Shishman St and Solunska St as shared spaces  
             | - Pavement improvements  
             | - Restructuring of the two open-air markets  
             | - Regeneration of green areas  
             | - Energy-efficient lightning and Wi-Fi zones |
| CCP 4       | Scope: Alexander Nevsky Cathedral and Tsar Osoboditel Blvd Area  
             | Content: Zones; Car traffic, public transport and parking; Pavements – types, condition and interventions; Pedestrian spaces, places attracting people and gathering places; Public spaces and ground floor uses; Permanent and temporary street elements and furniture; Heritage and urban art; Green system; Lighting | - Car-free areas  
             | - Reduction of on-ground parking places and construction of underground parking garages  
             | - Renovation and decoration of pavement  
             | - Decorative lightning  
             | - Transformation of public spaces  
             | - Renovation of green areas  
<pre><code>         | - Energy-efficient lightning and Wi-Fi zones |
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<table>
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<th>Type</th>
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| PP 1994 | The CBD and parts of Southbank; district level | People using public spaces – pedestrian and cyclist counting, and stationary activities (on some major streets only); Patterns of use of public spaces and built environment characteristics | - 25% increase of people and activities numbers  
- Improving the pedestrian network  
- Making gathering spaces of excellent quality  
- Strengthening street activity by physical changes  
- Encouraging more people to use the city |
| PP 2004 | The CBD, bigger part of Southbank and Birrarung Marr; district level | People using public spaces (on some major streets only) and Patterns of use of public spaces and built environment characteristics – extended from 1994; Comparison between Key recommendations 1994 and Key findings 2004 | - Major challenges;  
- Expand and improve the pedestrian network;  
- Reinforce and improve the cycle network;  
- Develop better links to public transport;  
- Upgrade streets abutting major transport and retail corridors;  
- Link Southbank and Docklands with the city;  
- Control building heights and form;  
- Moderate commercial advertising in the city;  
- Extend city improvements to adjacent neighbourhoods;  
- Build a sustainable city; |
| PP 2015 | The CBD, Southbank and Dockland; district level and introduction of a local level | Extended 1994 and 2004 studies and compared findings 1994-2013 at district level; added historic analyses  
- Extensive local level study: introduction, liveability indicators, research with the community, catchment profiles; | Recommendations on local level regarding  
- Urban structure  
- Population density  
- Local land uses  
- Local move  
- Built form |
| WP | the City of Melbourne | The walking city  
- Achievements to date  
- Challenges for walking in Melbourne | Focus on walking as a primary mode of transportation.  
Recommendations regarding:  
- Planning  
- Street management  
- Capital works |

**DISCUSSION**

The results from the study show general similarities and specific differences regarding pedestrian diversity and urban environment characteristics observed in Sofia and Melbourne. The small number of disabled people in Sofia is believed not to be due to the small number of disabled people in general but rather a sign of the incomplete and inconvenient street network for disabled people in the city. The high number of cyclists, especially in Vitosha Blvd and the different speed and movement patterns between pedestrians and cyclists cause conflicts between these two groups of users. Although a street parallel to Vitosha Blvd is designated as a shared (bikes and cars) street it seems like cyclists are attracted by the more vibrant and intricate public life in Vitosha Blvd. There is no regulation or action to date addressing that particular challenge in sharing this public space. The counting also shows a higher number of motor vehicles in Sofia than in Melbourne which could be due to the fact that Graf Ignatiev St is not a completely car-free area. Given the width of the street the motor traffic makes walking in it dangerous and inconvenient for pedestrians. The considerable number of people with dogs on leash in Vitosha Blvd is considered as an unusual but important sign. On one hand, the street connects the city centre with one of the largest city parks (South Park). On the other hand, it remains one of the few streets in the area designated for pedestrians. In the study the choice of pedestrians with general
needs to walk seems to be less influenced by the urban environment characteristics than the choice of people with specific needs. Fragmented improvements in public spaces, therefore, might attract the general pedestrians and people with prams but fail to provide accessible environment for people with disabilities.

Public transport coverage is sufficient in the two cities and this is a positive factor for sustaining and increasing walking trips. A downside of Melbourne public transport is the introduction of the Free Tram Zone within the grid which might have a negative impact on walking trips in the City. In Melbourne, the larger scale of urban blocks and grain size (partly due to neo-liberal developments) do not correspond to the human scale and might have a negative impact on the number of people walking and staying in the area. However, the city authority has persistently developed policies towards preserving and further developing conditions which enable and support walkability which is evident from the document analysis. Sofia, on the contrary, has more favourable urban morphology but lacks policies and approaches targeting the development and management of a more pedestrian-friendly environment. The document analysis indicates limited and fragmented research of built environment and people’s behaviour in planning and design practice. Sofia’s planning and design professionals and authorities need to be proactive in acknowledging and preserving the existing social and cultural values and assets (Dimitrova 2007), while adopting contemporary approaches for planning and managing the urban environment.

Gehl and Svarre (2013) talk about the challenges cities face when reinvigorating public life and describe two types of cities which resemble the current case studies. Melbourne is a city where public life has been highly diluted through time but going through significant transformations the past decades, while Sofia is a city with vibrant street life which currently suffers bad economy and lack of appropriate planning and management.

CONCLUSIONS

The current study provides valuable insights into the relationship between urban planning and design policies, urban environment characteristics and street life diversity. The findings from the study show that fragmented actions for improving public spaces and lack of pedestrian-oriented and context-specific approaches in planning and design have negative impacts on pedestrian diversity. Profound analyses of the complexity of local characteristics and people’s subjective perceptions are needed when developing planning and design policies and projects in order to ensure a people-friendly environment.

The results of this study could have variety of applications. They could be a basis for further studies on the specific local characteristics which influence physical and socially perceived walkability of public spaces. Street life data could be collected on a bigger scale to provide for a better and more precise understanding of pedestrians’ behaviour and choices, and of factors influencing them. Methods and findings from this study could be useful in developing human-scale and pedestrian-oriented planning and design policies and practice in Bulgaria and other Eastern European countries. The current study on walkability in Sofia could be the beginning of a more comprehensive study on trends and practices in other Eastern European cities in order to build a regional profile of the ways cities adapt and respond to the contemporary challenges in urban development with regard to providing a pedestrian-friendly environment. Adopting such approaches would be an important contribution to guaranteeing the high quality of urban life by respecting and keeping the socio-cultural identity of Eastern European cities.

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REFERENCES


THE IMAGE, TRANSFORMATIONS AND PERMANENCE OF REPUBLÍC SQUARE

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ABSTRACT

At the beginning of the XX century, the open public spaces of the city experienced functional modification by introduction of vehicular traffic as its integral part and simultaneous loss of pedestrians as the main users. Consequently, squares of the Novi Sad have become contested public spaces which are constantly undergoing various changes, and many of them have been transformed into the parking lots, traffic roads or bus roundabouts. This paper explores Republic Square in Novi Sad, an important fragment of the central pedestrian zone, which has not reached full potential as identifiable space. A structured image of the square, as a measure of success in the design of public spaces, establishes a coordinated interrelationship between city and users. The research is based on a study of architectural, urban and traffic elements, exploring relationship between the quality of outdoor spaces of the city and the rate of occurrence of outdoor activities and users. The aim of the research is to reassess parameters that identify public space as a square, and to analyse the relations within the existing physical structure of the square. The study indicates how different alterations of Republic Square ranging from its historical phase as the space intended for people, transformation to the bus turntable and car parking lot, to its final phase of the reconstruction in 2015, all have influenced image ability of square. Infrequent investments envisioned for public spaces in Serbia highlight the importance of each intervention with its outcomes, as well as whether it is designed in the line with needs of city’s inhabitants.

Keywords: public space, image ability, Republic Square, Novi Sad

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INTRODUCTION

The square is a unique urban element that has played an important role not only as a structural element of the urban matrix, but also as an important place of various social and historical events, as well as a centre of urban life. Squares are designed as components of the urban space intended for gatherings of people, variety of outdoor activities and events, and as such are essential for the public and social life of the city. Gordon Cullen indicated that ‘space created between buildings is seen as something that has its own life beside buildings that create it’ (Kalen, 2007: 5), meaning that the open public space was the basis for urban life and the creation of social scene of the city. Recent years have introduced ongoing (de)construction of urban tissue by constant alterations, transformations and reconstructions of its structure and identity. Novi Sad claims a large number of squares in its old city centre, most of which have long been neglected, devastated, and highly contested public spaces. XXI century has presented different technological changes in new ways of interaction, dismissing direct meetings in public spaces in favour of indirect electronic communication, resulting that ‘what is missing in contemporary city is not a matter of any particular building or place, it is the spaces in between, the connections that make sense of forms’ (Sorkin, 1992: xii).

The development of vehicular traffic had a drastic impact on the character and functional processes of the squares, which are gradually losing their prior importance due to the emerging traffic demands. During the XX century many squares were transformed into congested bus stations, parking lots and traffic roundabouts. ‘River of vehicles has violated the life of the city in one of his less obvious but essential aspects, it has drastically limited the right to freedom of gathering’ (Kalen, 2007: 128), indicating that public spaces taken away by roads and parking lots are being congested by cars and not by the people. The enhanced traffic on the squares appeared during the XIX and XX century which led to the present day and the period that can be termed ‘autoscape’ (Venturi, Scott Brown and Izenour, 1977: 49). A large number of vehicles per capita, have resulted that today a significant proportion of the urban fabric belongs to the transport network. Respond to the tendency of increasing the number of cars is construction of new roads and parking garages, and adaptation of existing infrastructure to allow even more cars, generating additional traffic and a new series of issues.

This paper explores the case-study of Republic Square which represents a key element of the central pedestrian zone of Novi Sad, and an important ambient entity of the city containing the oldest market in Novi Sad - Fish Market. For decades, this space was a bus station and during recent years it was used as parking lot. The aim of the research is to define parameters that affect the identification of Republic Square as a square, in order to understand the historical alterations and the existing prominence of the square after the reconstruction in 2015. The research is based on the analysis of various stationary and dynamic parameters of the square, and on the relationship between the quality of outdoor space and the rate of occurrence of outdoor activities and users. The study indicates how the square was continually transformed by decades of rapid changes, from its historical phase as the space intended for people, transformation to the bus turntable and car parking lot, to its final phase, lastly presenting discontinuity as its main characteristic.

FUNCTIONAL AND STRUCTURAL ALTERATIONS OF REPUBLIC SQUARE AS THE ‘NEW SELLING POINT’

For centuries the squares were the very basis of urban lifecycle, nonetheless during the last decades large number of squares has lost original purpose of public space intended for city’s public life. ‘Public space is the canvas on which the political and social changes are painted on’ (Kostof, 1992: 124), denoting that alteration of social climate caused functional transformation of squares functioning as market places, which has also reflected in the frequent renaming of the popular squares. Republic Square was named right after the Second World War, however it was
known as Fish Square during the thirties of the last century. Multi-functionality of squares was established during XX century under influence of many various aspects among which the traffic was significant one. As respond to the emerging traffic demands, Republic Square have incorporated traffic as its integral component, and was transformed into the bus stations, roundabout and public parking lot (Fig. 1).

Republic Square is positioned near the popular pedestrian zone, and it is one of the oldest parts of the city. Although it is located in a compact part of the city, market place and bus terminal as major activities of the square had for a long resisted any notion of the functional and structural change. The western part of the square was a bus station for a few decades, until it was relocated in 2006, and it is currently partially organized as a public parking lot. Up to the most recent reconstruction in 2015, square plateau was greatly devastated, with ruined facades of buildings, damaged and abandoned buildings, and inadequate urban furniture, landscaping and greenery (Fig. 2). Square served as a parking lot since removal of the abandoned structure of the former bus station in 2008. Lack of parking spaces led to the conversion of this potentially valuable place of socialization into the space primarily reserved for the cars. As a result of transformation into bus station and parking lot (Fig. 3), square did not succeed to meet the general criteria to be classified as square.

The eastern part of the square, known as Fish Market, is market place with a various temporary structures and market stalls. The prevailing features of squares in Vojvodina region were the numerous forms of socialization and currency exchange, and squares as marketplaces were the most common typological group, eventually establishing another functions and meanings during
time (Tepavčević, 2008: 28). In the mid-nineteenth century it used to supply citizens with fresh fish, but it has evolved into the common market place during twentieth century. Fish Market is one of the most recognizable symbols of Novi Sad, and a depiction of local culture, as well as a potential tourist attraction which has been neglected in recent years. Urban identity of surrounding streets is based on the yellow clinker brick which was restored during the reconstruction in 2015 in order to preserve the authentic appearance of Republic Square Street and Milosa Bajica Street, as part of the distant and almost extinct architectural tradition of Novi Sad.

Urban space has 'increasingly become instrumentalized in creative city branding efforts in the competitive entrepreneurial urban policy game' (Mayer, 2012: 64), which has correspondingly led to the final phase of the Republic Square reconstruction in 2015. As a part of the protected old town centre, square has great potential to become tourist attraction, on the other hand, it has given away the impression of negligence towards the most precious urban space in the vicinity of pedestrian zone and major institutions of Novi Sad.

Urban symbols receive important place in the economy of the city with their specific role of non-verbal advertisement, meaning that spaces of urban identity play a crucial role in urban marketing and branding of the image of the city. Novi Sad is competing for the title of the European Capital of Culture 2021, which can be an opportunity for 'raising the international profile of cities, enhancing the image of cities in the eyes of their own inhabitants, breathing new life into a city's culture and boosting tourism' (European Commission, 2016). In this competitive game, cities self-promote themselves and their 'imageability' becomes the new selling point, while restoration of the old public spaces and creation of new ones could help in creation of the new image of the city.

DISTINCTIVE ELEMENTS OF REPUBLIC SQUARE STRUCTURE AND IDENTITY

The final phase of the Republic Square reconstruction has occurred in 2015, reshaping the physical structure and identity of the square. Reassessment of the physical parameters and the relations within the physical structure of the square is one aspect of the analysis, in order to point out a set of parameters for its future development. Rob Krier points out that 'only clear recognition of their basic geometric properties and aesthetic qualities allows us to consciously experience outer space as a city space' (Krier, 2007: 2). Republic Square has enclosed rectangular shape with aspect ratio 1:4, physically divided into two parts, resulting that this fragmented public area is not fully recognized as a square. Perception of the square as a whole is prevented due to the elongated shape of the square and great number of various temporary structures. Kevin Lynch analyses an environmental image into three components - identity, structure, and meaning, clarifying 'image ability' as 'that quality in a physical object which gives it a high probability of evoking a strong image in any given observer' (Lynch, 1960: 8). On the other hand, Republic Square partially lacks in some of the components of its 'image'.

Figure 4: Appearance of Republic Square the after the reconstruction in 2015
Square (Fig. 4) has rich architectural framework assembled with the historically important gymnasium Jovan Jovanovic Zmaj (1), Congregational Church (2), and Bishop’s Palace (3) on the western side. Other important buildings are city library branch Anica Savic-Rebac (4) on the south-western corner of the square, Military Headquarters (5) in the south-eastern corner, and Archives of Vojvodina (6) in the eastern part of the square. Republic Square is still partially parking lot (a), with a minor portion devoted to pedestrians (b), while the eastern part is the market place (c). Most of the ground floors are closed and without public contents, nevertheless the reconstructed square has attracted a number of new commercial contents, increasing the number of users. According to Montgomery (2003: 296) key to the success of public places is the economic, social and cultural ‘exchange’ that needs to be as complex as possible. The presence of traffic in the square have conditioned developing of business contents in the surrounding buildings, and a revitalized square intended for gatherings of people have promoted the introduction of commercial, catering and cultural contents.

After the reconstruction of the former bus terminal, Republic Square was turned into a temporary parking space, whereas the southern part of the square, connected with pedestrian zone, was adequately paved and equipped with benches, litter bins, protective bollards and parking places for bicycles, completing the new look of the square (Fig. 5). Final phase of reconstruction has implemented landscaping solution and refurbishment of dilapidated market stalls of Fish Market. Elements of street furniture were introduced only after renovation in 2015, however their position, layout and design have not managed to respond to people’s needs, and square has failed to solve the lack of elements of public spaces such as green areas, water surfaces, fountains, sculptures or monuments. Quality improvements have served as a direct invitation for increased number of users and public activities at the Republic Square.

**LIVELINESS OF SQUARE: PEOPLE AND OUTDOOR ACTIVITIES**

Another aspect of the study is liveliness of Republic square, as life of the square comprises the entire spectrum of combine activities. The open public space needs to accommodate basic human activities and as such it is ‘a moment of internal dynamics in the life of the city’ (Rossi, 2008: 65). People and their public activities attract other people, and represent a magnet that raise the value of the attractiveness of open public space. A concept of 'life between buildings' includes all of the very different activities people engage in when they use common city space: purposeful walks from place to place, promenades, short stops, longer stays, window shopping, conversations and meetings, exercise, dancing, recreation, street trade, children’s play, begging and street entertainment (Gehl, 2010: 19). When conditions for pedestrians are improved, the extent of walking activities increases significantly and a multitude of valuable social activities emerge. In such manner, improvements in physical qualities of Republic Square have only partially attracted new public activities and users.

Open public spaces had played an important part of daily life, whereat people were engaged in some kind of activities regardless whether the quality of the space is provided, different from the present-day when most of the people are not using public spaces out of necessity, but because
they want to. Jan Gehl introduces the different concepts of necessary, optional and social activities (Gehl, 2011: 9). Necessary activities (going to work or school, waiting for the bus, etc.) are activities that have to be done regardless of the quality of the public space, while optional activities (walking down the promenade, sitting down to enjoy the view, etc.) are probable only when quality of public space, weather conditions, and all other features are met. The optional character of the most public activities sets demands on the quality of public spaces, and it is why analysed stationary parameters of Republic Square are defining the quality of space and offering valuable opportunities to a people in present-day society.

Function of the square is the dominant human activity/activities that takes place on it, and in that sense Republic Square establishes market, traffic and social functions as its main occupations. It seems that open spaces of Novi Sad were not able to articulate its urbanity and cope as the kind of social space of the city that built the city’s image of authenticity, whereas market places were possibly those social spaces by which Novi Sad is in a way known for (Pušić, 2009: 38). The market place renovation had started in late 2014 in order to preserve the distinctive spirit of Fish Market and to include it in the tourist offer of the city (Fig. 6). Although the quality of outdoor space and the rate of occurrence of outdoor activities have increased, Republic Square still lacks of some urban elements. The success rate of public space depends on the relationship between the quality of space and outdoor activities, and whether it is encouraging people to use Republic Square’s ambiance, with a various happenings being held there, as a significant part of everyday life.

**CONCLUSIONS**

Republic Square lacks coherence and identity, and needs to be restructured to meet certain parameters that will enable its clear perception as a square and identifiable public space. It has not been used in its full capacity, and therefore has not yet reached its full potential as place of socialization that would change the character of the whole fragment of the city. Mistakes in design, inadequate maintenance and irresponsible behaviour of people have led to its deterioration during the last decades. In addition to the presence of people, certain physical qualities needed for willingly usage of public space, creation of unfavourable conditions for cars and favourable conditions for people, all must be aims of every future alteration of Republic Square.

Interrelation between urban quality of the square, dynamic character of various types of outdoor activities and different user groups, enables spontaneous public life that makes one square successful. Nowadays, citizens are rarely present in open spaces throughout the day, and in this sense, active and open ground floors, organization of public and spontaneous events and their extension to the open public spaces occurs as a primary factor of success. Square has to resolve the traffic issues, open ground floors to public context, and revive interaction between visitors and public space in order to have a prominent role in the social life of the city.

Valuable historical buildings as a cultural and urban heritage of Novi Sad represent important points of revitalization potential of Republic Square. Revitalization of Republic Square and other
public spaces in the central pedestrian zone would offer an articulated network of ambiences, which possess the potential for the emergence of a space that would be suitable for cultural and artistic contents and events. Usage of analysed elements of Republic Square could be starting points in its revitalization and incorporation in central pedestrian zone of the city, as well as for some alterations in order to meet the needs of the present-day way of life in Novi Sad.

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ILLUSTRATIONS

1 (l) - http://www.vojvodinacafe.rs; 1 (r) - https://www.facebook.com/Historical.Archives.of.Novi.Sad/; 3 (a) - www.mapanovisad.rs; 3 (b), 3 (c) - www.geosrbija.rs; 4 - https://www.google.rs/maps; 6 (l) - http://www.nstrznica.co.rs; 2 (l), 2 (r), 5 (l), 5 (r), 6 (r) - photographs by the authors.

REFERENCES


THE IMAGE OF THE CITY VS. SEMI-PUBLIC SPACES OF SHOPPING Malls: CASE STUDY OF BELGRADE

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ABSTRACT
In shopping malls, which lately have become one of the basic characteristics of cities, behavior and interactions are defined by the primary purpose of this space - consumption. Potential interactions are reduced to temporary, superficial formal communication. Simulation of city streets with shops and small squares, where cafés are covered by the roof of the shopping mall, takes over the role which downtown had, until recently. This paper is presenting in which ways shopping malls may simulate the city center to legitimize itself as a public space. How do shopping “cities” transform relationship of internal and external, public and private space? The paper aims to explore the ways in which the inner space of these centers dictates behavior of visitors and shape the way they spend their free time. What is the new image of the city that these centers create? It examines the issue of sustainability of architectural objects in addition to its primary function; at the same time can have a strong position in the communication, representing the tools of communication and carries the meaning in the service of consumption, marketing, promotion and spectacle. The role of cultural space of the mall, as a quasi-space is explored with the case study method of two dominant shopping malls in Belgrade. The study refers to dominant phenomena in architecture, which is the result of the influence of classic consumption power. The goal of the paper is to access important issue of different representation of an architectural experience in reality in relation to the experience of architecture through the mass media.

Keywords: shopping mall, identity, marketing, semi-public space, Belgrade

INTRODUCTION
During the last decade, as a visual sign of giving place the production process before the consumer amenities, shopping centers are starting to dominate the center of cities and suburbs. Victor Gruen as the architect of the first shopping mall proposed mall as a basic unit of urban planning, where the mall becomes a multi-purpose city center. He identifies shopping as a part of a larger network of human activity, arguing that the selling would be better if the commercial activities were integrated into the cultural as well as entertaining activities. Gruen saw designing of shopping malls as a way of producing new urban centers or, as he called them "shopping towns." He was encouraging designers to program a shopping mall, in which many activities

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would be included, cultural, artistic, as well as social events. He called this social integration of commercial activities "architecture of the environment."

Presence of the square and city streets representing a symbol of the real city content is what reminds us of Gruen's idea in every shopping mall. Shopping centers have encouraged the development of suburbs and became some kind of community centers; moreover, they have become a part of the American way of life causing changes in our daily lives and habits. Creating place for public, political, cultural and recreational events, and above all, places of leisure and socialization, they have become more than a "commercial city," but an alternative center of the city. In postmodern times former role of the square completely disappeared. To understand why, we should oppose city square as a meeting point with the modern shopping centers as a new "gathering point."2

SHOPPING MALL IS TAKING OVER MAIN CONTENT OF THE CITY

An increasing number of activities related to the traditional contents from the city center, such as work, play, shopping, recreation, public protests, culture, entertainment, health and education services are transferred to the "mall." These activities include even tourism, which was previously related exclusively to landmarks of urban city. The mall is a physical frame - the shell for the content, which is changing according to the capacity and content that is needed. The mall is no longer just a shopping center, but it becomes a city center itself. With evolution of the shopping center, the mall space becomes a meeting place and place of leisure activities, which is justifiably touted as social place. Although commercial functions continue to dominate, the designers of shopping malls are starting to create spaces for a variety of clients such as sports and athletic clubs, banks, offices, medical centers, hotels, and even a ski resort (Dubai, "Mall of the Emirates"6). Malls are becoming the place of growth for cultural institutions such as libraries, museums, theaters, cinemas or civil services as a branch of the city government, post office etc. However, this undeniable social vibrancy can be interpreted as a significantly limited one: although malls have become gathering places and held parties and shows, some of them even adopted churches, offices, administration, libraries and schools. But "unlike the bazaar, the mall is neither public place, nor a free market."10
CHARACTERISTICS OF URBAN DEVELOPMENT

A general phenomenon\(^{11}\) is that the numerous contents of the center are disappearing along with the opening of the new shopping center. The shopping mall is primarily a non-place.\(^{12}\) Marc Augé, who defined this term, indicates that the super modernity is producing non-places, which are transit and anonymous spaces that allow the fast flow of a larger number of individuals. Since they are deprived of identity, history and meaning as a social construct, non-spaces are not anthropological places. With transition of functions, which are primarily intended for an open public space into pseudo premises of the malls, purpose of the square is lost. The streets and the squares of the shopping mall have been designed to create the impression that these are public spaces. However, it is a privately owned space with movement restrictions and controlled behavior of consumers, with selective access and video surveillance. The privatization of public space with the appearance of so-called semi-public space, spaces that are only seemingly public is the general trend in modern society.

MARKETING TRICKS

The advertising message aims to be detected, understood and remembered. Mechanism of persuasion is one of the most important instruments and tools that advertising message uses. Slogans advertising the mall should awaken the public experience of the shopping center as an urban center, the center of social life, entertainment, recreation, and not just shopping experience. The obvious examples in Belgrade are slogans: "Ušće shopping center - the new center of the city", "Delta City", "Stadion shopping mall - two passions in one place" (football stadium on the roof of the shopping center). Shopping centers become "a new city centers", where is "the best party in town." With organization of special happenings that are related to certain events throughout the year, such as Easter, New Year's Eve and Christmas, visitors are enabled to feel the spirit of these events like nowhere else in the city.

In this paper the way of how shopping malls in Belgrade are presented to consumers will be explored with the case study method of two dominant shopping malls in Belgradeon samples taken from their websites.

Example of shopping mall Delta City

The value system that promotes randomly selected parts of the narrative program of this shopping mall is the focus of this analysis. On the web site of Delta City in the "About Us"\(^{13}\) section, there are a few topics that are being explored:

"Since its opening, this first real shopping mall in Serbia has been the main destination of choice for all those who would like to switch the busy city streets with pleasure."\(^{14}\)

It seems useful, relaxing and healthy to switch the busy city streets with pleasure. However, this shopping mall is situated in the middle of busy streets and crowds, and numerous activities and facilities offer just a replacement for the hustle and bustle of the city inside the cloistered shopping center. Shopping centers are becoming increasingly similar to traditional city centers and their owners cease being mere traders and become builders of new, controlled urban areas, which take precedence over the streets of the city center because they provide a higher order, cleanliness and safety, as well as an ideal climate without frost, rain and heat. Maybe for

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\(^{11}\) Борис Костуров. „Отворено о јавним просторима – чији су јавни простори“. Отворено о јавним просторима, рр. 42.

\(^{12}\) The author (Marc Augé) defines the non-space of the city as a space that unlike the city can not be identified either as with identity, not as a relational, not as historical space. Non-space are the places of alienation, spaces that occur as a result of post industrial and networked information society.

\(^{13}\) http://www.deltacity.rs/info/about_us.38.html

\(^{14}\) Ibid.
someone sitting on a bench in an artificial reality of a shopping center is nothing more unnatural than sitting on a park bench.

"Many shops, a multiplex cinema, a big children's playground, cafés and restaurants - all this together makes your shopping, dining and socializing a top fun experience. This is why the International Council of Shopping Centers (ICSC) announced Delta City as the best shopping mall in Europe, out of 41 competing shopping malls from 19 countries."15

We meet with the untruth: Delta City has incorrectly presented their award. The award, which has been assigned, was shared with four shopping malls in Europe which received the identical reward for "new development" in 2009 ICSC16 in the category of medium-sized centers. A total of 19 shopping centers in Europe received ICSC award in different categories of awards in 2009.

"Living up to this award, this city in a small package makes its 'citizens' happier every day with new offers. That's why Delta City is more than just a shopping mall. It's a lifestyle"17

Delta City calls consumers "citizens" because, following the example of Western countries, Belgrade citizens have succumbed to the trend of visiting shopping malls in the all-day "trips".18 Reproducing the city within its walls shopping center states that experience of the city is safer and cleaner in the climate-controlled and safe conditions, then on the real streets outside.19 Thus, the city is slowly distorting into the interior spaces, simulating in the manipulative and seductive way urban, fantastic and vital space. The disappearance of public space, the emergence of pseudo-public spaces with limited access occurs simultaneously with the aggression of commercial culture and emergence of cultural spectacle. "The difference between the public and pseudo-public space is that the pseudo-public space represents a privatized public sphere. It, however, seems like a public sphere, but the rules of the game are defined in a way that there are not many "public potentials."20 Among the first, notion of pseudo-public space was introduced by Mike Davis, explaining them as a special kind of public space where the admission and behavior of people are strongly constrained by a strong security system. Davis, explaining the fear of the crowds, said "the designers of malls and pseudo-public space attack the crowd by homogenizing it. They set up architectural and semiotic barriers to filter out 'undesirables'. They enclose the mass that remains, directing its circulation with behaviorist ferocity. It is lured by visual stimuli of all kinds, dulled by muzak21, sometimes even scented by invisible aromatizers."22 Davis presents an image of the total detention, which is the result of the city planning besieged with the security measures. Unlike the public space in the mall there are no dark, unsafe narrow streets. Significant development strategy is the development of shopping centers in the form of public spaces, but this creates only an illusion of "openness". Shopping centers are largely private, closed and guarded premises: pseudo-public spaces.

Example of shopping mall Ušće

The opening of the shopping center Ušće was accompanied by a marketing slogan: The new city center. In this sentence, as a basic text element of the campaign, a tendency to promote a specific cultural landscape clearly identifies. The consumer society, through diverse forms of

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15 Ibid.
16ICSC European Shopping Centre Awards 2009
17http://www.deltacity.rs/info/about_us.38.html
18Starting a day in the coffee shop, then going window-shopping, and if they get hungry they have restaurants, choosing from the traditional Serbian food to Thai food, and after that they can even spend a night at the cinema or bowling alley. And all this in one place – shopping mall.
21Muzak is recorded music that is played quietly and continuously in public places, such as airports, hotels, and shops, to make people feel relaxed
shops and multifunctional complex, developed concept of the city inside a city. Similar to the natural surroundings of the historical center, the “new” cities are now surrounded by the built urban structures.

“Shopping is the ultimate pleasure and UŠCE Shopping Center, the new city center - a favorite destination that offers all the best in one place.”

Shopping malls as closed boxes mimic the city center with minimal participation in the immediate surrounding area. The fact is that each of them is trying to keep their customers as long as possible, and, for this reason, music is playing in the parking lot, there are restaurants, bars and other leisure and entertainment opportunities. Almost all newest shopping malls have kindergartens where immediately after arrival customers can leave children and enjoy shopping undisturbed (Horvat connects that to the phenomenon of total space, especially important for the quality of today’s postmodern construction).

“Here you can spend your free time with your loved one, family or friends while shopping or relaxing and socializing – choose by yourself. While you are shopping, professional animators take care of the children in the children's playroom where children can socialize and meet with their peers. After a superb shopping, you can freshen up in one of the cozy cafes or restaurants and enjoy various dishes and outstanding service.”

The idea of the shopping center is compressing and intensifying public space by placing all necessary facilities under one roof, while those in the city are at a much greater distance. The mall is incorporating more and more of the city inside its walls. In this way, having access to all the necessary facilities, the need of the purchaser to return to everyday life is reduced, and shopping becomes recreational activity, and shopping mall a shelter.

**SHOPPING MALL AS CITY CENTRE**

The interior of the shopping centers are organized as the urban matrix, with streets and squares. The various events, exhibitions, performances, promotions, concerts etc. are organized on the streets of the shopping malls from time to time. The interior is furnished in a way that it resembles the urban space: benches are placed along the promenade, nature elements are deployed throughout the mall. To create the illusion of the urban environment and public space (outside of which there is no other public space) everything is arranged so that the corridors of the shopping center are converted into a pedestrian zone, street, square, park, public space. On the site of Delta City is written:

“In its dazzling modern interior, filled with palm trees and bathing in light, many visitors find enjoyment on working days, weekends and holidays, seven days a week, from 10 a.m. to 10 p.m.”

Plants are here to refresh interior as a reminiscent of nature, while on the other hand, the nature in an unnatural environment “the presence of nature, albeit tamed in a garden setting, naturalizes consumption, and mitigates the alienation inherent in commodity production and consumption.”

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28 In order to create a more natural environment in large shopping malls, designers are building spacious gardens with all the characteristics of real. Goss (1993: 44) gives an example of Tyson’s Corner in Virginia, whose administration has selected 29 large palm trees that were excavated in Florida and kept for 18 months in the shade in order to acclimatize to the conditions inside, before they are placed in the interior of the shopping center.
Shopping centers become the center of social, economic and cultural life. All events that are common for public space - gathering in front of the cinema, on the corner, a former walk from shop to shop in shopping streets – it all takes place on private land: the corridors of the shopping center.

CONCLUSIONS

Shopping mall, formed as an artificial center inside vast American urban sprawls, structurally does not correspond to European cities. There is a good reason that closed shopping malls are successfully replacing open public spaces in cold climate countries, like Canada. South European countries, nevertheless, are still resisting American thrust and artificial forms of consumerism. However, there was an additional transition shift in Serbia, and after that adopted American principle of false concentrated people gathering expanded to shopping malls instead of public squares.

The recent economic decline in Serbia extinguishes glow of consumerism from few decades ago. Only the largest and strongest shopping malls survive, while small local malls formed inside former department stores are shutting down. Former local shopping centers like Siti pasaž, Staklenac, Stari Merkator, Ćumićević Sokače, Robna kuća Beograd are an example of former glory and carriers of consumerism in Belgrade in 70’s of last century. Central axis of false consumerism in the era of global economy crisis in above-mentioned two shopping malls in Belgrade are low and middle category of consumer goods originated from Asian countries. Although, as a reaction to that, new shopping streets of high-class consumerism and elite are formed. For example, Kralja Petra street in Belgrade is intended for a small percent of wealthy people in Serbia.

By simulating the city, malls are adopting the criteria of the city in the marketing and becoming legitimized through it, falsely declaring itself as a public space. Squares and streets in these pseudo-public spaces are presented as symbols of the real city facilities. What was once a public square, a gathering place for citizens and collective cohesion - today is the shopping center, the pseudo-public space in which private interests completely overshadow any public office, and citizens are welcome as long as they adhere to established (consumerist) forms. Shopping center causes a certain structure, behavior, actions and attitude of consumers and it defines aspects of the purchase. In this sense, the consumer expects certain homogeneity of the population. Purchases are motivated by qualitative factors combined with the implementation of free time, and the feeling of comfort and satisfaction. The malls are trying to imitate urban centers, to retain customers as long as possible, but are minimally involved in the vicinity. But imitation of physical context leads us to the negligence of new layers of culture, new needs, new constructions, and sensibility, even to the negation of any developed and transformed identity.

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THE MARKET HALL OF PÉCS

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ABSTRACT

In the summer of 2015 an architectural competition was announced for a new market hall and short food supply chain in Pécs, Hungary. The task was not only to create a new market hall but to organize the whole block around the building plot. The area – that contains an existing market hall – is run down and somehow chaotic yet it’s an important junction with diverse public functions. According to the competition brief it should function as an inviting public area and a "gate" to the city in a long term vision of urban development.

The railroad network runs near the intervention area that cuts the city in half. Somehow the northern-southern axis of the city has to be strengthened to connect the centre with the rest of the city. Reinterpreting the whole railroad area and connecting it to the surrounding area would be also important. And of course designing a contemporary new market hall, and organizing a new sub-centre of the city are goals of the competition. These were the statements that determined the planning process of this complex project.

Keywords: market hall, urban development, public transport, city sub centre, Pécs
INTRODUCTION

In the summer of 2015 an architectural competition was announced for a new market hall and short food supply chain in Pécs, Hungary. The task was not only to create a new market hall but to organize the whole block around the building plot. This organisation also affects the complex transportation situation in the area. The site - that contains an existing market hall - is run down and somehow chaotic yet it’s an important junction with diverse public functions. [Figure 1] In the north-western area of the plot, an old residential building stands that is protected. As so it had to remain in the area even though it became an insulated residential spot in a public commercial area. It was an interesting question how to handle this problem. According to the competition brief the neighbourhood should function as an inviting public area and a “gate” to the city in a long term vision of urban development.

Figure 1: Current state of the intervention area - A: residential buildings B: bus station C: existing market hall D: building plot E: railroad / future intermodal node area F: mall
PROBLEMS OF THE REGION

An architectural intervention like this can have many effects. In this case it can help solving some serious problems of the region. These issues can be divided into two groups. The first contains general elements that affect the whole region around Pécs. In the second group we find the problems that affect the city and its denizens.

Regional issues

In Hungary agriculture has a long tradition. The climate and the quality of the soil is ideal for growing various kinds of plants. Unfortunately less and less people can make a living of agriculture in the country. This is caused by the trend that we buy the cheapest and the most easily reachable products. And in a lot of cases these come from far away. Local farmers and manufacturers simply don’t have a chance - and a place - to sell their products.

However, the local manufacturers could be competitive again, if a market was provided for them. A short food supply chain is a good example of solving these issues. Short food supply chains are an alternative to long globalised food chains and play an increasingly important role in food networks.

Local issues

Maybe the most urgent problem is the case of transportation. The train and the bus station is separated, the current bus station is hidden behind the existing market hall. This causes a lot of people to group in the block. Pedestrians walk all over the streets, crossing the way of cars and buses. Simply there is not enough space for that many people in the area. Nowadays there are more and more cyclists around the city, but there is insufficient infrastructure for them. They also have to use the roads, creating another dangerous situation. These problems can be found all around Pécs, but they are condensed in the intervention area. If we solve them here, it could start a chain reaction in the city.

The other local issue is the lack of green areas. We don’t have enough parks and places for relaxation in the city centre. The intervention area lies near the city centre so if it could contain a new green zone it could work as a true extension of the centre.

The last issue that has to be mentioned is in connection with the transportation problems. Maybe the most important income of the city comes from tourism. In spite of this the current train and bus stations are run down, when people arrive they simply have no clue where to go and how to get there. There is a plan for an intermodal node in the city that would be located near the intervention area of the competition. If the program succeeds a new inviting, quality entrance of the city would open for anyone who arrives by public transportation.

URBAN AND ARCHITECTURAL THOUGHTS

The solution provided in the project is multi phased. In the end it leads to a long term vision of a sub-city centre. This contains the new intermodal node, the relocation of the current bus station and the reorganization of traffic.

The competition brief suggests that it is an intension of the city to renew the historical northern-southern axis of Pécs. This axis is technically the Bajcsy-Zsilinszky Street. As mentioned before, if the intermodal node program succeeds the southern end of the Bajcsy-Zsilinszky Street becomes a new type of city gate. From this gate the first impression of the city is shown to practically every pedestrian who arrives by train or bus from outside the city. The same stands for those who arrive to the newly created "Park and Pass” zone by car. From here, they can get to the city's main square on a renewed, green pedestrian zone.
Figure 2: Installation of the new buildings

With the relocation of the current bus station, a large area is freed that can be used as a green area. This can function as a central park area for the city that on one hand can be a place of relaxation for the visitors, on the other hand it can create a pleasant micro climate near the surrounding roads.

The installation of the new market hall and short supply chain building was mainly determined by the connections and possibilities of transportation. By considering these aspects two ways seemed possible for us: an installation parallel with the Bajcsy-Zsilinszky Street or a perpendicular one. Two reasons were found that strengthen the parallel concept. This was our second reason to create the parallel installation. The new northern-southern axis, the pedestrian traffic related to the intermodal node and the parallel installation of the new market hall are all elements that strengthen each other. Also this kind of installation lets us the opening of the south-western corner of the block. This opening lets people enter to the inside of the block. This space forms a parallel secondary axis. [Figure 2] This situation can be interpreted as a widening of the original street that creates an interesting entry situation for the market hall.
INSTALLATION

Pedestrians and cyclists coming from the north (from the city centre) arrive to a new public space, a new square located on the northern side of the new market hall. This area is also an important widening of the mentioned axis. A goal of the concept is to extend the city centre to the south and to create a vibrating new public space around the market hall that attracts people to the area. The orientation of the buildings on the plot is based on these thoughts. As so the whole customer area of the building is in strong connection with the mentioned secondary axis that functions as an occasional market place beside being a public space. This public space and meeting place turns around the existing residential building creating a smaller unique space that would serve as a local bio-market. At this point the secondary and the main axis meets creating the mentioned “southern city gate” area. This is not only a physical element in the city but also an interesting new spot on the mental map of Pécs.

Creating the secondary axis defined the exact location of the new market hall. Beside that a smaller area appeared south of the existing residential building. Building on this smaller area was imagined in several phases. In a long term vision [Figure 3] this spot would finish the facade of the Bajcsy-Zsilinszky Street while creating a new corner situation with a covered-open marketplace and also the city gate with high architectural quality. The functional diversity of the block is completed with this building’s commercial and residential functions – restaurants, pleasure ground and apartments on the top levels. The materialized structure in the first phase is a provisional, light and aerial covering that defines the bio-market area near the new market hall, giving an identity to the location. If people mark this spot on their mental maps the success of the later phases and ideas can be guaranteed.

Figure 3: Site plan of a long term “vision” of city development – A: new market hall B: commercial / residential buildings C: new paved public space D: city axis E: intermodal node and Park & Pass zone
SHAPING THE MASS OF THE BUILDING

The scale and the architectural quality of the surrounding area is very heterogeneous we can say the location is an intersection of different worlds. The primary demand about the new buildings form was to create an „organizing force“ in the neighbourhood. We chose architectural solutions that were simple, liberal and that also suggested stability. With these elements we wanted to affect the characteristics of the location and create a building that could serve as a starting point for the long term intensions of the city. We thought that the basis of the previously mentioned southern city centre extension was the contemporary high quality architecture. This thought affected the shaping of the building, the usage of materials and also the creation of green areas. An essential part of the concept was to make the new architectural elements somehow human both in the exterior and the interior spaces. The downscaling of the traditional form and ratio of a market hall was a basic intension. [Figure 4] A traditional hall building has something sacred about it. We wanted to keep this sacrality in a subtle form by interesting natural lighting and liberal forming of the building shape. Proper natural lighting, ventilation and its imprint on the building basically determined where to put the openings on the mass.

Figure 4: Formation of the building mass
The size and location of the market hall causes the top view of the building into an important factor. Maybe even a fifth facade as it can be seen from around the city. That’s why it was decided to use a green roof on the new building.

Figure 5: South-western view of the site - the "city gate"

Figure 6: South-western view of the site - the "city gate"

CONCLUSIONS

The goal of the competition was to organize the run down area of the existing market hall and its surroundings in Pécs. The present state of the area shows that a huge diversity of public functions is not enough by itself to create a vibrant and attractive place for the citizens and even less for the tourists. However adding high quality architectural elements marks the area on the visitors’ mental maps. That is the basis of creating a popular public area that exceeds its pure functions where people spend more time than they have to. The other important thing that makes a public area functional is its connection to the city, its reachability.

The city gate

In this particular case the newly reformed public area has two important connections. It is joint to the city's recreated northern-southern axis. In the long term urban development of the area the intermodal node is built near the site. This finishes the organizing of the zone and gives the other important connection to the intervention area. With that the new southern city gate is created.

It is hoped that this new city gate can help improving the city’s image, maybe rising its reputation to a wider international level.
The market hall's effects

An impressive and also highly usable market hall can make the usage of the building and the neighbouring public spaces more inviting for a wider range of people. This new market hall mainly serves the local denizens but it can be an attractive target for the visiting tourists. This carries within an economical effect, the possibility of an increase of the located spending power. This by itself can positively affect the region’s agriculture but maybe the most important economical effect of the building comes from the implemented short food supply chain. Buying up products of the local growers and manufacturers - and solving this logistically - can be a base for the living of the region’s inhabitants. A model that is based on local force instead of global can result in a more sustainable increase of local economy.

An early step in overcoming the economic problems of Pécs can be the increase of the touristic attractiveness of the city and the support of regional agriculture. The project tries to transform and enhance an important location in the city that is in tight connection with both subjects. The success of the project could be the starting point of a long term change in the city’s life.

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INNOVATIVE PUBLIC SPACE REHABILITATION MODELS TO CREATE COGNITIVE – CULTURAL URBAN ECONOMY IN THE AGE OF MASS INDIVIDUALISATION

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ABSTRACT

This paper deals with the issue of sustainable urban rehabilitation interventions in city cores focused on value creation through creative culture-led development as a tool for building a cognitive city. The objective is to analyse cases of rehabilitation of public space by culture-led interventions implemented in cooperation with communities and social organisations, indicating new citizenship model where communities are a part of a creative off-the-grid urban governance. In the current socio-economical situation cities face the challenge of adaptation to changing demands on the space quality and services provision in connection to cultural trends influencing the expectations of society. It is vital to acknowledge that community constitutes the cognitive network which fuels the innovative transformation of urban space adapted to their particular needs. Therefore it is particularly important to identify and describe culturally and socially innovative models of urban rehabilitation processes which will modify the face of the future city and to analyze them in the light of the mass individualisation paradigm.

Case study analysis presented in the paper, neighbourhood of Mouraria in Lisbon, Portugal, constitutes a part of an ongoing research and is an example of such innovative urban rehabilitation strategy. Study describes the culture-led public space renewal along with the brand building and community’s identity strengthening applied in the process of urban rehabilitation of the neighbourhood. The analysis serves the goal of investigating creative possibilities existing within active citizen networks which may serve as ‘open source’ database facilitating innovative change in the urban environment. The main aim is to analyze the place image enhancing and engagement of community networks and their influence on the shape and functioning of public space. The connection between value creation and the market demands based on mass individualisation trend is to be analysed in the context of the heritage and current cultural potential of the place. As a conclusion the study proposes that city is an ‘open product’ with a cognitive potential, which enables it to adapt to change and recreate itself according to the demands of its users.

Keywords: public space, culture-led rehabilitation, value creation, cultural trends, mass individualisation
INTRODUCTION

The objective of this paper is to discuss the role of innovative public space rehabilitation models in creating conditions for development of cognitive-cultural economy in degraded city core areas. New requirements on the city in the light of the cognitive-cultural economy paradigm are examined together with the investigation of the meaning of innovation within contemporary urban rehabilitation processes. It needs to be discussed how social innovation modifies the dynamics between state and civil society and where is the place of culture and identity in the innovative urban rehabilitation processes. The aim is also to analyze how the mass individualisation trend influences changes within the public space and how it can be used for enhancement of urban transitions. It can be also argued that shifts in the economy type and consumption style are linked to new citizenship model. This in turn requires to look at the city as a cognitive network with adaptive capacity depending strictly on the potential of it’s “users”. The need for new approach is suggested: in the age of increased heterogeneity and unpredictability, the city should be seen as an open, modifiable and user friendly system. As knowledge and creativity are now the vital resources, society requires more individualised offer. The question arises how cites can provide conditions for development of more robust cognitive-cultural economy which is a trigger for competitiveness of global urban market. How can public space become the urban platform to enable cities embracing the challenge of becoming a vibrant interactive system with open source database provided by users, and not remaining just a stagnant stage of events? In this paper urban rehabilitation processes are proposed as the means of achieving the enhanced competitiveness with innovation connected to socio-cultural sphere as a key factor of the process.

The paper is structured along following elements: in the first part of the text the theoretical background is shown. Firstly, conditions of the emergence of cognitive – cultural economy are highlighted and how the fact of it’s appearance influences the functioning of the contemporary city. Secondly, the nature of different innovation concepts is to be examined along with their relation to current urban rehabilitation processes. Also the terminology and concepts behind different urban models are reviewed and compared. The role of mass individualisation trend in the future urban development is further on described. In the second part of the paper, specific case study of a rehabilitation action plan implemented in one of the degraded neighbourhoods of the city of Lisbon will be presented and analyzed. Lastly, the assessment of the case study is conducted, followed by conclusions discussing the shift from traditional urban rehabilitation model to the innovative, individualized, citizen driven culture-led strategy.

This paper constitutes a part of an ongoing doctoral research. The case study of the action plan for rehabilitation of Mouraria neighbourhood was conducted at the University of Lisbon under the scope of Advanced PHD Program.

COGNITIVE – CULTURAL ECONOMY, THE RISE OF MASS INDIVIDUALISATION AND THE URBAN SPACE

Technological changes taking place through few past decades brought with them the emergence of phenomena influencing global economy and society. Toffler’s “third wave” from the late 1970’s and early 1980’s, has altered the direction and pace of global development. New technologies took over most of the areas of human functioning, making information the most sought for resource. „Such a change is the result of deep social, cultural, economic and technological”. Changes concern the “structure of society (ageing of society, migration flows) the structure of social groups (the crisis of the traditional family) and the physical and technological infrastructure that supports economic systems (networked societies, new environmental problems)” (Scott, 2010). Thus, contemporary city appears from two overlapping paradigms: the emergence of the cognitive, information based economy and the creative cultural economy, which is transmitting the „non-utilitarian aesthetic and semiotic signals” (Scott, 2010). The emergence
of the new economy is characterized by increased demand for „high levels of human capital in
gard to functions such as analytical thinking, judgement and decision-making, fluency of ideas,
social perceptiveness, capacities for interaction with others, and imaginativeness, as well as in
gard to substantive knowledge and expertise (in technology, medicine, business, policy analysis,
the arts, and so on)” (Scott, 2010). What inevitably follows is turning away from global mass
production towards a „flexible and specialised niche function based around specialisation in
specific localities” (Allmendinger, 2001), which is also connected to ‘the rise of individualism’
(Allmendinger, 2001) which is another important condition influencing the directions of
development of contemporary urban space.

It is very important to state here, that the very meaning of the word individualism is very often
misunderstood. Its’ connotations are commonly linked to fragmentarisation and disintegration of
the structure of society and therefore to negative impact on societal and, subsequently, on urban
processes. „Common opinion is that the natural effect of individualism as a process is that (...) society will fall completely apart and will become divided into isolated individuals who only pursue
their own goals. That is (probably) a misconception because we are not talking about separate
individuals, but rather about individuals who interact and develop coalitions. These (...) individuals
influence each other in certain ways and at certain moments” (van Asseldonk). As stated in the
World Bank’s World Development Report 2015 „humans are inherently social. In making decisions,
we are often affected by what others are thinking and doing and what they expect from us. Others
can pull us toward certain frames and patterns of collective behaviour”. So how the change will
shape our future urban space depends only on the approach which will be taken in order to
maintain the core values which cities embody: social interaction, knowledge, culture, equity,
economic activities, development, and innovation.

PUBLIC SPACE AND INNOVATION IN THE CONTEXT OF URBAN REHABILITATION

There is a broad discussion taking place presently as to the direction of development of the
planning process. Cities become more polarised in terms of income, social status and culture,
urban space becomes increasingly exclusive instead of inclusive, safety levels drop,
dissatisfaction grows, cities and societies age and mobility and accessibility become a serious
issue. Public space is the area of biggest concern in the context of the fast-paced transitions
affecting all these spheres. „Public space provides room for social and cultural interaction and
can foster a sense of belonging and pride in an area. A public space that is open to all, regardless
of ethnic origin, age or gender, provides a democratic forum for citizens and society. Public space
can bring communities together, provide meeting places and foster social ties. These spaces
shape the cultural identity of an area, are part of its unique character and provide a sense of place
for local communities. Sharing common spaces is the soul of the city”(UN Public Spaces for All,
2015).

This paper objective is to underline the need of innovation in the way of thinking about already
well known practices. Also, the text proposes to view the word „innovation” in a non-technology-
based light. The goal of this article is to focus on the degraded city core urban rehabilitation issue
in the context of social innovation. It is being argued, that as social innovation idea modifies the
dynamics between state and civil society, it is in this scope the contemporary planning should be
rooted. Therefore it is necessary to distinguish between different meanings behind the common
concept of innovation. Diana MacMallum suggests that this new innovation concept „rejects the
traditional, technology-focused application of the term ‘innovation’, „which has been central to
recent European development policy, in favour of a more nuanced reading which valorizes the
knowledge and cultural assets of communities and which foregrounds the creative
reconfiguration of social relations.”(MacCallum, 2009). „The (...) debate about the nature of
innovation led to the gradual recognition that innovation is (...) a process and/or a system of
innovation. (...) There is a growing consensus in (...) literature that innovation is a socio-
organisational process.” (EU Research on Social Sciences and Humanities, 2005).
Also, a very important factor must be considered when speaking about innovative urban processes: it’s the territory. In this paper, innovation in the context of urban rehabilitation models must relate to the specifically territorial factors and relationships and encompass a certain level of locality. The concept of Territorial Innovation Model formulated by EU contribute to even deeper understanding of the nature of the innovative urban processes. This model relates to innovations in strategies and policies in relationship to the „scale” and the perception of territorial “boundaries”, “empowering” the local society, bio-regionalism, social economy, the “Third sector” and non-market supply-delivery. What comes more with the territorial context is also the „focus on symbol-intensive production in the cultural economy” and „one important consequence of this shift of emphasis, as we shall see in due course, is the need to pay very special attention to the cultural resonances of place” (Scott, 2010).

However there is a void in the institutionalised framework regarding conditions of the cognitive-cultural economy paradigm and the individualised society. These two factors obviously ensure lack of predictability as they fall out of the traditional categories. Thus the participatory human-centred initiatives taking place in the contemporary urban space may be also criticized as random or disconnected, without fitting into a broader strategy. There are certain features of the process which make it difficult to incorporate in a clear working scheme. Firstly, processes employing the economical, political and socio-cultural factors taking place in the urban environment are complex. Secondly, multiplicity of actors involved in the process ensures setbacks. Thirdly, the innovation in its core inherently possesses the creative quality, which fails to be institutionalized.

Thus, the complexity of the issue may provide the necessary material for emerging of innovation: „collaborative partnerships, stake-holder networks, multi-partite institutional arrangements and other new governance formations have signalled a move away from the traditional commanding heights of state-based delivery to a collage of fuzzily organised formal and informal, but often highly innovative, practices.” (EU Research on Social Sciences and Humanities, 2005). This in turn may mark a shift from the higher level institutionalised governance form into more individualized project (objective) focused networks- ‘temporary systems’ with ‘institutionalized termination’ (Lundin and Söderholm, 1995). And as we operate within the mass individualisation paradigm, we need to consider the „ephemeral relationships of personal networking modes from communality to sociality and connectivity” (Grabher). The emergence of network society suggests „the importance of a renaissance of civil society movements and organisations and signal the considerable innovative potential” (EU, 2015) within the scope of mass individualisation.

WHY PUBLIC SPACE REHABILITATION? URBAN MODELS – TERMINOLOGY AND CONCEPTS

Since public space „is not characterized by stability and continuity, but is instead processual and situational” (Kathrin Wildner, 2003), its role is also to adapt and submit to transitions and in this way also to propel the growth of the city. For these spaces to be recreated several „re-“ strategies have been proposed since the 50’s of the previous century. Often the word „strategy” is being substituted by the word „model” to emphasize that specific values behind the concepts are universal and may be used as a point of reference. There exists a number of terms which are being used to describe activities connected to improvement of aspects of urban space and they vary according to particular actions and dimensions to which they refer to. This paper will mostly mention four of them: urban renewal, revitalisation, regeneration and rehabilitation, with the emphasis on the latter. As we read in Geise. B. Pasquottos article, urban renewal model possesses strongly modernist features: „the term "urban renewal", created by economist Miles Colean in 1950 according to studies by Weimer and Hoyt (1966) included different programs (...) with meaning to encompass the demolition operations, removal and rebuilding of an entire area” (Richardson, 1978 cited PICCINI, 1999”. Urban revitalisation term appears in the 1960’s and is „set in a historical context of obsolescence and degradation of the oldest areas of cities (especially in centers) due to the displacement of the resident population and public and private investments in
other parts of the city.” (G.B. Pasquotto, 2010). “In international literature, urban revitalization somehow overlaps with urban regeneration and there is no strong distinction between the two terms, if only on the side of "involvement and participation" which are unavoidable aspects of urban Regeneration. Revitalization has been connected with the welfare state concerning the urban area, i.e., with education, housing, health and general welfare programs. (...) Urban revitalization is highly interdisciplinary; it evolves with time and therefore requires a specific method of intervention. Unlike urban (...) renewal especially, urban revitalization is not of a "long-lasting" type (Roberts 2000): often, the efficiency of the intervention is deferred to the successful integration of diverse organizations (nonprofit, private and public), which are called upon to operate in a convergent way (Jacobs 2000; Evers 2008)” (Dalla Longa, 2010). In the scope of this paper urban rehabilitation model constitutes one of the most significant of the processes taking place in contemporary urban environment. Pasquotto in his article defines urban rehabilitation as a new trend of interventions and states, that it is the most used term in the new millennium. Certainly there are differences in reading the term which are dependent mostly on the territorial contexts, i.e. in the middle and eastern Europe, this term is relatively rare, while its commonly employed in the southern part of the continent. This paper objective is to emphasize the simultaneous actions on many levels with a specific focus on the cognitive contrast between the heritage and the dynamic interventions. The goal is to reflect upon innovation implemented within urban rehabilitation models in the context of the economical shift and to focus on fostering the creative capital building a fertile ground for cognitive and cultural urban development.

REHABILITATION ACTION PLAN FOR MOURARIA, LISBON - CASE STUDY ANALYSIS

Case study analysis presented in the paper, neighbourhood of Mouraria in Lisbon, Portugal, constitutes a part of an ongoing doctoral research and is an example of a site specific innovative urban rehabilitation strategy.

Fig. 1: Mouraria in Lisbon, Portugal

This research aims to describe and analyse the process of rehabilitation of a multicultural neighbourhood of Mouraria in Lisbon through application of a set of site specific interventions based on reintroducing original identity and improving the quality of public spaces. The project taking place in the neighbourhood is an continuous process and addresses overlapping, complex problems connected to social inequality, ageing and accessibility as well as inter-cultural tensions.
1. CONDITIONS

Mouraria is a neighbourhood located in strict historical centre of Lisbon and its territory is part of one of Santa Maria Maior parish. Santa Maria Maior represents 2% of the territory of the city of Lisbon, with an area of 1.49 km² with a population of 12,976 residents (based on the census 2011). Mouraria represents a high population density area where almost 20% of the population lives in overcrowded dwellings. Dwellings in 71.8% are rented. High percentage of buildings age is almost 90 years old, with economically inactive tenants (retirees with state pensions). Also about 1.4% of the buildings needs to be demolished, 9% of them are in the state of advanced degradation and 60% of the buildings need urgent repairs (figure 1.). The problem constitutes also a lack of proper street hygiene and waste collection system. There is a high level of overcrowded housing.

![Fig. 2: Proportion of buildings constructed in last 10 years; Fig. 3: Ageing ratio by place of residence](image)

Neighbourhood’s population is aged (figure 2), in comparison to the whole country, with relatively high percentage of younger population, amongst the immigrants. Mouraria hosts around 51 nationalities with most significant percentage of Bangladeshis (23.3%), Indians (13.4%), Chinese (13.1%) and Brazilians (8.7%) and also a great diversity in religion, with a large Muslim population. What is symptomatic, 3.8% of the residents have dual citizenship and within the scope of ten years between the 2001 and 2011 census foreign population of the neighbourhood increased 213.5%. Low level of education is accompanied by very high rate of illiteracy with highest level in the female population (6.81%) with significant percentage of school leavers: 4.17% in comparison to the entire city of Lisbon 1.81% and 1.71% for Portugal. Unemployment rate it is around 13%, higher for men (14%) than for women (12.5%). Problems of the area according to the Social Diagnosis of Santa Maria Maior are mainly ageing and mobility difficulties, addictive behaviour (main problems include addition to psychoactive substances, alcohol abuse as well as substance abuse) and connected to it psychiatric disorders and homelessness.

2. APPROACH

The action plan implemented in 2010 by the municipality of Lisbon put the emphasis on cross cultural and social-led development and the importance of inter-generational and inter-cultural integration within the neighbourhood. The active participate in the creation of the action plan was Associação Renovar a Mouraria (ARM), which was created in 2008 as a community organisation with a purpose of revitalisation of the degraded neighbourhood. Association have developed multiple projects, activating local community and enhancing the cultural, social, economic and touristic potential of the area with a great impact on improvement of local living conditions. In the scope of the rehabilitation plan the focus was put on combining interventions on various levels and in many dimensions, also involving multiple actors engaged in parallel actions under the umbrella project AiMouraria.
With the objective of enhancing livability through improving the quality of the urban image of stigmatized neighbourhood of Mouraria, a municipal action plan was developed which included participation of over 30 different organisations and associations. The main principle was defined as the creation of multifunctional high quality public spaces, with conceptual solutions adapted to the historic urban heritage of Mouraria. The project was based on the idea of creation of intercultural corridor connecting the neighbourhood with a system of quality public spaces to induce new behaviours within the neighbourhoods' community. The existing public space system was adapted to improve connectivity and to introduce of new activities which would strengthen conviviality. Another objective was the improvement of infrastructure and conditions of accessibility and mobility as well as streets hygiene. Educational actions were implemented providing information for inhabitants regarding local hygiene services. Great part of the process encompassed the Enhancement of cultural and artistic practice sites defined in the programme of action (pa) Mouraria, "cities within the city," with an objective of revitalizing the economic and social fabric of the neighbourhood. Concern with the hardware (urban rehabilitation) and the software (social revitalization) with simultaneous strong investment in individual and communitarian self esteem, sense of belonging and on strengthening the identity of the neighbourhood created a site specific action model. Multiple actions are taking place in the scope of the program aiming to introduce and disseminate the local culture, bringing forth the rich history of Mouraria as a cradle of Fado. Community kitchen initiative was introduced with the objective to animate and bring together individuals and create a community. The Mouraria Creative Hub was established - the first Lisbon incubator to support projects and business ideas in the creative industries. Innovation Center offers office space and various in-house services: mentoring, education, training and funding as well as substantial help for the participants through low loan rates.

CONCLUSIONS

A cognitive system is able to sense, perceive and respond to changes in the environment and can therefore improve a system's performance by increasing its adaptive capacity. In the cognitive computing reading of the expression, this kind of system must be adaptive, interactive, iterative and contextual. Must be able to evolve and tolerate unpredictability. It must understand, identify, and extract contextual elements such as meaning, syntax, time, location, appropriate domain, regulations, user’s profile. Cognitive systems are probabilistic, thus thrive in innovation and multiple iterations. Described process is an example of culture-led rehabilitation model which uses the cognitive-cultural potential of the rehabilitated site. The strategy proposed in the case of study shows consistency between design solutions which strengthen local identity and social activisation aimed at enhancing community.

Fig. 4. Proportion of professionals socially more valued %

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<tr>
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<tr>
<td>Lisbon</td>
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<tr>
<td>São Cristovão</td>
<td>31.02</td>
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Fig. 4. Proportion of professionals socially more valued %
The drastic increase in the percentage of professionals in the project area shown in Figure 3 proves that the process of creative culture-led improvement of public space quality may be a tool to construct an essential platform for cognitive economy development. This example also shows how heritage and local identity may be used to facilitate inter-cultural and inter-generational mediation through promotion of urban equity and community forming. Project answers to the objective of this paper showing the ways in which strengthening of singularities, identities and communities influences building the new citizenship. However it is important to underline, that the project described in the paper is still an ongoing process. There are certain conclusions which can be drawn at present moment, but a detailed overview is still impossible. It is clear that the neighbourhood gained a new dynamic, became a creative nod in the network structure of the city. The rehabilitation plan increased the energy flow in the area which in turn resulted in intense architectural development and touristic movement. However successful in economical terms, the intervention definitively causes rapid changes in many areas considered vital. The question for further research remains which direction the initiated changes will follow and what will be the overall socio-cultural impact on the community and urban development.

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ILLUMINATION OF FAÇADES OF PUBLIC BUILDINGS IN NOVI SAD AND ITS IMPACT ON SPATIAL PERCEPTION

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ABSTRACT

Visual perception of space most commonly represents the first and the most efficient contact between a user and its environment. Consideration of spatial elements, their reading, understanding of their meanings and the interrelationship between parts within the entirety begins with visual observation. Recent achievements in the field of lighting technology have contributed to the creation of new elements and possibilities in the design of buildings and public spaces in the city. Options provided with artificial lighting, in the design of building facades have a direct impact on the effects and the variability of the building’s image as well as on the ambience, uniqueness and identity of the immediate environment. Thanks to the lighting, night-time cityscape provides recognizable benchmarks that are perceivable from great distances, and stand out in the physical structure. The paper classifies different approaches to the use of lighting on the facades of public buildings in Novi Sad, Serbia, examining the technological and perceptual effects obtained in the exterior. The buildings are analysed, classified and valued based on the phase of existence of the facility in which their facades were illuminated; further, based on the way and the position of the lighting, as well as the effects achieved by lighting. The aim of the paper is to determine to what extent illumination of the façades used in the architectural practice affects the perception of the viewer and to what extent does it shape the image of the city, by application of various technological solutions in the field of lighting.

Keywords: perception, lighting, building, Novi Sad

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INTRODUCTION

The image of a city is shaped due to the successful synthesis of the physical structure of buildings, the typology of their style and elements; the street network, its directions and details it includes. The urban tissue that is formed in this way by use of many various elements, creates a unique and distinctive whole, allowing the perception of, and identification with a already known space. The image of the city is a dynamic component of the overall experience as it represents a scene that is constantly changing and evolving in their details. Street fronts, borders of squares, the atmosphere of the city blocks, are changing with each new building, a change in the façade, a new arrangement of vegetation, landscaping or unfolding events. The changes that are taking place in the city area are obvious indicators of life in it, of the changes in the society, the presence of users who, to greater or lesser degree, tailor the environment to their needs and preferences. “The physical structure of the city is reflected in, and based upon the ideas of social, economic, natural, engineering and technological structures” (Radovic, 2005: 7), and because of that, changes and progress in each of these fields are contributing to the development of the built environment. Considering the fact that the built environment emerges from the needs of all its users and tends to satisfy all of them, and the city truly represents the physical expression of everyday life, its image is actually formed through the perception of its elements by the observers.

Variability of views takes place at different levels and in different time periods, from the imperceptible long-term, to periodic changes within certain intervals up to sudden highlights in the space. Through the development of architecture, new ways of change were discovered, from radical to almost imperceptible innovations in the micro-environment. Each change aims to modify the experience of space, primarily focusing on the effect on the perception of the viewers, who valorise spatial novelty through sensory observation and cognitive processes. One of the most effective changes in the urban environment in the contemporary time, happens through the periodic shift of day and night images, where new technologies allow significant and very effective changes to the entire urban area. According to Kevin Lynch, “identity, structure, and meaning” (Lynch, 1960: 8) are contained in the intensive image of the environment, and from current point of view, all of three components could be improved by putting the adequate emphasis on light.

On the example of building structures in Novi Sad, the paper analyses different approaches to creating a nocturnal image of the city using artificial lighting on its urban elements, as well as the effects achieved by these approaches. The criteria on which the classification is defined, were the following: the phase of existence of the facility in which the lighting was set, the type of lighting, the symbolism achieved by placing the lights, the effects caused by different lighting. In the paper, the quality of the image and the experience are valorised, it is determined whether the given actions affect the recognisability and readability of space, as well as whether there are opportunities and further technological progresses that could improve the image of the city in the future in the same direction.

VISUAL PERCEPTION OF THE ENVIRONMENT AND LIGHT

Visual observation is usually the first contact between users of the space and their immediate environment and the most direct way for the observers to orient and get familiar with their surroundings. Spatial perception is one of the key factors, which are specifically influenced while shaping the city, because it is the instrument that will have the most intense impact on a person’s understanding of and response to the observed elements. For this reason, much attention is paid to the study of the effects that certain spatial elements have on the direct experience of the environment, and how the ambience and quality are valorised based on these effects.

The identity of the space, its attractiveness and the experience of its elements are the primary reason for improving the quality of space. The awareness of its positive characteristics with the
desired outcome increases the number of users, the interest of investors, the price of the location and the general recognizable values of the micro or macro environment.

Given that modern life is put in the role of "society of spectacle" (Debord, 1967) and that contemporary men adjust their perception to the demands of the spectacle, the urban fabric and its elements must also be imagined in accordance with this condition. Thus, the spatial structure of all typologies, the buildings, transport infrastructure, art installations must adapt to contemporary trends and achieve the effect of surprise, emphasis, enthusiasm and the unexpected in order to respond to the expectations of urban spectacle and meet the visual perception of modern society. Precisely this situation has caused many innovations in the technological progress as well as in the innovative way of their application, so that the relatively saturated perception of the users would be encouraged to further adopt and effectively experience their surroundings.

Light is a natural phenomenon that most people approach only from the perspective of the visual experience that it provides them with. Besides professionals dedicated to the study of light, most people still see light as a very attractive and somewhat mystical effect that is perceived rather than explained. According to Arnheim, the light is "the most fundamental and most powerful human experience." (Arnheim, 1987: 257) It is exactly this feature that allows for the effect of light and its absence to be successfully used in a targeted impact on the human senses and provoke different experiences in the viewer, whether it's related to a space and its users or the audience and an artistic work. "Visually, we commune with human beings, buildings or trees, and not with the medium that produces their figures" (Arnheim, 1987: 257). The play of light and shadow, the changing character and diversity of effects achieved by using light, paved the road for many researches in the field of targeted design and use of light in architecture.

NEW LIGHTING TECHNOLOGIES AS ELEMENTS OF MODERN ARCHITECTURE

FACADES

In addition to natural daylight, night lighting that includes lunar and artificial light, "whose sources today, unlike those in the not so distant past, are truly diverse and numerous" (Bogdanović 2004: 38), have been recognized as very important influential elements in the perception of the city. Artificial lighting, with its growing potential due to the rapid development and progress of technologies and the demands of the society of spectacle, plays a very important role in shaping the image of the city, building the identity of individual buildings and the entire environment, creating the ambience and an enthralling space, which together cause an increase in interest in certain places. For this reason, there are numerous new effects that are achieved by lighting in a nocturnal image of the city affecting the senses of observers and efficiently attracting them to the intense perceptual experience of architecture and urban fabric, as holders of the physical structure of the settlement.

With the progress in the field of technology, lighting has acquired a dynamic character, which can conjure up a completely new context of an object, tell a story, show the living motion and lightness of an object that, during the day, has a completely different character. A new spectrum of colours unexpectedly changes the image of the object, causing the effect of the spectacle in a place where it cannot be expected in the daylight, and thus structures with less than imposing and eloquent architectural language may overtake and dominate the silhouette in the night image of the city. Deliberate positioning can display hidden values and details of facilities, emphasize the symbolic character of the elements, accentuate it or inform about it.
Analysis Novi Sad is a city that has always been the representative of the progress of the society and throughout history was the bearer of development of the wider environment. In this context, for a long time it tends to maintain its position amongst prosperous and developed urban areas and to create the image of a city that will support the recognition and creation of strong identity of a successful and modern settlement. Accordingly, its image is changing with the characteristic steps of progress and the desire for a successful self-presentation in its narrower and wider environment. As a city that aspires to develop a strong and important cultural and touristic character, the visual effect of its constructed tissue is a very important factor in the creation of a representative character of the settlement and the community.

The pace with time is displayed through technological innovations that are being introduced in the field of architecture and the desire for effective and efficient influence on the perception and the visual benchmarks of the space. A contemporary contribution to this issue is reflected the most through artificial lighting and innovations that are introduced into the night image of the city, to show progress on the level of the city as a whole right at the entrance to the settlement, as well as through individual significant and unique structures on the city territory.

The classification of the methods and the effects of setting artificial lighting on buildings of various typologies in the city can be carried out on the basis of different criteria, each one indicating the consideration of individual aspects of the improvement of the illuminated buildings. In relation to the classification, possible improvements can be identified and the real quality of the building can be assessed, whether the desired effect of lighting has been achieved by using artificial light.

The first and initial classification is reduced to the determination of chronological parameters and the stages of existence of the facility in which the lighting is set. Thus, there are buildings in the city for which the idea of lighting was established in the stage of design and those illuminated later on, sometimes long after construction. This classification usually clearly indicates the division between the older buildings often under protection as historical heritage and the new ones with modern facilities. The level of technological progress is certainly a factor that influenced this division, however, it points to the possibility of using artificial lighting for the modernization of buildings on the one hand, and, on the other hand, emphasizing technological innovation, power and financial resources when it comes to new buildings, as was the case with buildings such as the Master center, Novi Sad Fair complex, the new building of the Clinical center of Vojvodina, or the bridge Varadinska duga. Novi Sad, thanks to its rich history and the power it had throughout its history, is adorned with many public buildings from different stylistic periods, which are still in the function of unique public urban typologies, such as the City Hall, Government of Vojvodina, The Name of Mary Church and many others. These types of buildings have recently been illuminated and therefore placed in a completely new position in the nocturnal image of the city. Consequently, significant public spaces in which they are located gained a new image, ambient values and a highly improved quality, safety and attractiveness of the area.

The following typological classification is introduced on the basis of symbolic effects achieved by setting lighting. Very often, mostly on historical buildings, illuminating glorifies the structure itself or its function. Also, the lighting emphasizes the monumentality of the architecture itself or the importance of both the building and the architecture for its wider or narrower environment. Highlighting the night image of the city contributes to the visibility and therefore memorability of the object, because as Arnheim explained, the gradient of brightness most successfully creates an effect of depth and spaciousness (Arnheim, 1967: 263). Further more, it is possible to spot a highlighting of the individual morphological elements of the entire facility. Thanks to the setting up of adequate lighting, significant elements of the building such as the entrance, the main body, and cornice are emphasized. Very often, the light highlights exactly those morphological elements
that are also highlighted in the architectural framework and that the architect has emphasized during the design and thus the element is assigned a constant emphasis on visibility regardless of the conditions. The next step in directional lighting is light designed to emphasize details, stylistically and symbolically, on the building itself, which will show the character of the epoch or indicate to the function of the architecture. Sending a specific message to the observer is possible in many ways, one of which, and perhaps the most common one in the analysed environment, is an advertisement that very explicitly points out the desired message to the viewer.

![Figure 1: Lighting of morphological elements in the Banovina building (left) and the glorification of the historic facility of the City Hall (right)](image)

From the previous classification arises the existence of highlighting in order to emphasize, even glorify, as there is, on the other hand, lighting in order to indicate technological advancement and lighting in order to raise the attractiveness of the object and its environment, where the focus is not on the architectural elements but rather on creating a picture on the object and thus attracting viewers. For these purposes, colourful lighting is often used with the addition of a dynamic character and variability of the image, in order to raise the attractiveness to the level of spectacle and emphasize the power of modern technologies and, indirectly, of the investor standing behind the building.

The arrangement and shape of illumination also represent a category within which there are different approaches according to which various effects are achieved. For the example of street lighting, Gordon Cullen lists three requests relating to artificial light in general, when it comes to achieving a harmonious urban landscape, which are "unity of proportion, kinetic unity and appropriateness" (Cullen, 2007: 144). The overlap with the previous classifications and the causal connection that exists between them indicates the need for complex consideration of the use of new technologies and ways of lighting in order to achieve exactly the desired effect and intense impact on the perception of people. Linear lighting may highlight the geometry of the object and point to the symbolism of the direction, or to emphasize the aesthetically shaped structural elements that contribute to the modern language of architecture, as it is the case with the bridges in Novi Sad. Surface lighting supports the emphasis of the entirety or its significant parts, while the point source of aimed light highlights the most important, often small details on the built structures. Each approach must be designed with reason, because "the quality of light must be both dimensioned and directed in a certain sense" (Halprin, 104).
CONCLUSIONS

Visual observation would have been impossible without the presence of light, which causes one of the strongest experiences in the perceptual process. Considering the significance of light, developments in technology have greatly improved the perception of space, introducing deliberate lighting using artificially illuminating bodies. Contemporary opportunities and the commitment to research the possibilities of their implementation improved the nocturnal landscape of man's environment and spread the effects, which can be used for targeted influence on the creation of the city image. Novelties in the field of artificial light provide varied lighting according to colour, intensity, shape, which is very consciously placed thus specifically stepping into a dialogue with the viewer’s perception.
In Novi Sad, artificial lighting on building structures is applied on the basis of a few well thought ideas and in order to achieve different effects on the users of the space. These principles participate in building of the image of the city and contribute to the distinctiveness and identity of buildings on which they are applied. Different approaches to lighting lead to different experiences of a certain place, and thus Novi Sad provides various environmental characteristics of its urban and architectural wholes. Important buildings of different typologies obtained a nocturnal face thanks to the setting of aimed artificial lights, and as an additional benefit to this action, the public space of the city around them have been revived.

In the world, much more attention is paid to this sector of technology, and application of artificial lighting on the outer face of architecture is much more intense and diverse. There is a much wider selection of lighting, and thus of the effects provided by the nightlight, and new ways of their implementation appear rapidly. Lighted facades, projections, dynamic light, living motion and variability represent a new step forward in shaping the image of the space, creating its identity and attractiveness. It is necessary to analyse the capacities and applicability of certain approaches and principles on the buildings in our cities. By selecting the appropriate and adequate solution, the face of the city could obtain a modern and more attractive image and be recognized as an area of intense visual experience.

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COGNITIVE PERFORMANCES OF PEDESTRIAN SPACES

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ABSTRACT

If the city and its physical structure are understood as some kind of an extended, external memory of the human mind, two aspects are observable. The first relates to the characteristics of the city and its places to help in the orientation and way finding of its citizens and visitors. They could be explored through mental or cognitive maps. The second aspect includes the elements involved in generating the image and identity of the city. Looking at the pedestrian space as an environment that achieves the most intimate relationship of users and the city, the paper would present the elements that can be seen as cognitive performances of pedestrian spaces. They will be analysed at the area of the City of Belgrade, central pedestrian network with the aim to identify existing and to propose future of the proposals elements that will contribute to its extension and intensive use.

Keywords: pedestrian spaces, communication, cognitive performances, City of Belgrade

INTRODUCTION

By observing the communication from the aspect of culture, every cultural phenomenon could be seen from the communicational perspective, i.e. as model or way of communication (Tomić 2003, 12). This is also the case with a pedestrian space. In contrast to the non-verbal communication, pedestrian space has cognitive dimension that is not based solely on interaction. In regards with this, it was noticed that people their physical environment associate with connotations that are more frequent subject of research.

According to IRN³, cognitive system in general and the one associated with cognitive maps extends beyond the individual mind in the external environment. This could be explained by the fact that the cognitive system is a network made up of internal and external representations. Internal representations are related to entities, constructed in the human mind, which represent the information (visual, olfactory, language, etc.) from the external environment. On the other hand, external representations refer to entities created on the basis of human mimetic, linguistic and manufacture capabilities that represent the information generated in the mind. They are

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¹ Corresponding author
² Landscape, cities of other geographical phenomena
³ Inter-Representational Network (IRN)
products of human abilities to represent the ideas, emotions and thoughts externally and can be divided on body and artificial representations. In contrast to body representations, which cannot extend outside the body, the artificial ones expand outside the human body and become independent artefacts (objects).

![Diagram of Representation]

**Figure 1: Human representative abilities (Portugali 2011, 142)**

By observing the pedestrian space on presented way, the model of synergetic inter-representative network - SIRN (Portugali 2011, 142) 1) establish the relations on the basis of official selforganising mediator that is a subject of the operation of two streams of information (internal and external) and 2) explains the ways in which performances are entered into the external world (the city) and the ways people understand them (as intermediaries). In accordance with that, the result of the SIRN is two fields of information – internal and external. Each of these fields is accessible and legible to its creator. However, the field of the external information is also accessible and legible to other people. Thus, the interaction of internal and external information is called a common reservoir and can take forms like text, Internet, objects or entire cities. Therefore, the city users with their activities and behaviour define the city4.

This paper covers three parts. The first part is dealing with the general presentation of the communication of urban environment with the focus on its cognitive dimension. In the second part the specificity and physical characteristics of the pedestrian space network, as a communicational instrument will be presented. And in the third, the case study of pedestrian network in Belgrade central area will be used as an illustration of the presented findings.

**COMMUNICATION OF THE PEDESTRIAN ENVIRONMENT**

Walking is the most intimate with the environment and allows much more articulate processes of interpretation and memory (Madanipour 1996, 64-65). Observing the architecture and urban design as a visual art, Cullen (1971, 194) is focusing on personal and emotional reactions of the urban environment, because they are “captured” by sense of sight. He was presented the series of visual techniques that was used to show the walk through the environment by capturing current and future views of the observer during the motion. These findings are supplemented by the understanding of the position of the body in the environment, its awareness of the space and the mood and the character of the individual. However, the disadvantage of this approach is seen in the fact that the urban environment is exercised the stimulus other senses, especially if one takes into account pedestrian movement.

In order to form a humane approach to urban form, theorists have been searched for an image of the city and its legibility. The technique that was used in the study of ways that people remember

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4 In the language of synergetic this process is called circular causality, while in social theory, the same term is known as socio-spatial reproduction and structuring (Portugali 2011, 164).
the environment is mental mapping, i.e. detection of mental images created by the individuals when uses the city (Madanipour 1996, 66). Interested in the visual quality of American cities represented in the mental maps of its citizens, Lynch (1979) has distinguished five elements of the image of a city: paths, edges, nodes, landmarks and districts. It was noted that the cities in which the five elements are clearly observed offer much more than a visual pleasure, but emotional security, because they increase the depth and intensity of human experience.

Golledge (1978) has concluded that people first remember locations with landmarks, then come the links between locations and at the end areas as a surrounding of the locations. This resulted in the determination of three or four elements that affect the level of legibility of the city: points, lines, areas and surfaces. Accordingly, the knowledge of the environment acquired during the physical movement cover recording parts of the network structure (planned or strip-folders) and cognitive processing and storage of knowledge gained from observations made during the movement and path finding. Other studies suggest that people, instead of the subtle factors of design, are also interested in what is happening in a certain area. Thus the importance is given to the specific use of a certain area.

Potugali (2011, 199) noticed that the face of the city os formed by elements – external representations – that have the ability to encompass and transfer the information – Shannon and semantic. Shannon information has the information capacity of the communication channel, regardless of the quality or meaning of information. On the other sode, semantic information refers to the meaning that is transmitted through representation of the experience specific receiver. Thus, in addition Lynch’s five elements, there are also other buildings, streets, parks, etc. The difference between them is reflected in the quantity of information they contain, and are thus more or less important for the legibility of the city. Accordingly the face of the city is the message that transmits different level of Shannon’s information which depends on semantic information. And, that is how people cognitively and actively give the meaning to the elements from which the city is made, as well as the city as whole.

By detailed research of the face of the city, another way of analysing the semantic information is established. This is the observation of urban artefacts as unique and redundant (see table 1). Unique artefacts are elements in the environment that carry high value Shannon’s information, and because of that it are easy to remember them. As a result, unique artefacts are much more intensively involved in shaping the face of the city. However, among them, it could be made a difference in relation to the character of the semantic information that defines the source of the uniqueness of particular element. Based on that, they are divided into geometric, symbolic and legendary unique artefacts. Redundant artefacts include those items which, due to their multiplicities and repetition, form categories with different characteristics. A convenient way to make a difference among them is the establishment of a category in relation to the scale. Thus four subtypes are distinguished and they include urban furniture, buildings, urban scenes and street network.

**Table 1: Urban artefacts: Unique vs. Redundant (Portugali 2011)**

<table>
<thead>
<tr>
<th>UNIQUE ARTEFACTS</th>
<th>Geometric uniqueness</th>
<th>Symbolic uniqueness</th>
<th>Legendary uniqueness</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Urban furniture</td>
<td>Buildings</td>
<td>Urban scenes</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Street network</td>
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</tbody>
</table>
By observing the city in general, its face is not determined only by buildings, but also by the streets, rivers, waterfronts, squares, etc. (Vukmirovic 2014). Given the above, similar approach that determines the quantity of information carried by the object can be used for the streets. In contrast to buildings, for the street it can be observed the geometry of the street network, the dominant content and distribution of open public spaces.

SPECIFICS AND PHYSICAL CHARACTERISTICS OF PEDESTRIAN NETWORK

As mentioned above, the analysis of the cognitive maps of the cities has shown a series of elements that could represent key physical characteristics of a particular area. The reason for this is seen in the ways in which an individual acquires knowledge of a particular city, or the amount of information that is carried by the elements of the urban area (Portugali 2011). The researches in the field of memory and categorization have shown that people employ a different type of memory considering the circumstances and cognitive tasks. Thus, the short-term cognitive maps are engaged when somebody asks another one to explain how to get from one place to another. Autobiographical cognitive maps are called to describe the place where we grew up or the neighbourhood, while C-maps are used when people find themselves in the city where they never were before.

The difference between the ways in which citizens and new residents formed their own mental maps of the area, can be seen in the examples of autobiographical cognitive maps. While researching that kind of memories, it was thought that autobiographical cities are dynamic entities that change over time and that are sensitive to signals that generate them. Thus, the mental map on which is presented the place where the respondent lived is richer than the map of the new place of residence. Landmarks and districts dominate the first maps, while paths dominate the second.

Figure 2: Place where the respondent has lived (left) and the new place of residence (right) (Portugali 2011, 126).

Considering the ways of constructing cognitive maps, the formation of the network of pedestrian spaces could be analysed on the basis of its simplified structure, which includes identification of paths/connections and destinations/nodes. This approach was used in Spatial Metro Project that has the objective to improve the centre of the city for pedestrians (van der Spek 2007).

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5Paths, edges, nodes, landmarks and districts (Lynch 1960); points, lines, areas and surfaces (Gollege 1990); centres and corridors (Ellin 2006); connections and destinations, etc.
Destinations are the places with the greatest intensity of users and correspond to the places that are located at the corners of the streets, main public spaces or dotted along the paths. On the other side, connections, function as water canals and correspond to the streets in which the most of the movement takes place.

Connections and destination are analysed in relation to the spatial coverage determined by the value of acceptable length/duration of walking. It is determined by unit of time (15 minutes) or the unit of length (up to 1,000m). Thus reasonable walking length determine the walking area, which corresponds to a square mile, or 1km2 and in relation to walking we are interested in places that generate the highest level of life in open public spaces. Thus, the most successful urban areas could be analysed on different scales, but their common characteristics are that they could be reached in 10 minutes walk and that they have a large number of intersections (Montgomery 1998). The most successful urban areas cover an area of about 1km2 and have about 250 intersections, sometimes much more6 (Jacobs 1995).

On the other side, the experience of the city as well as pedestrian space corresponds to the area covered by the frame of sight of pedestrians, which has its optimum width, height and depth. Pedestrian frame of sight could be also characterised as its sensory field, because this space is rich of stimuli that acts on other senses, through which it is possible to achieve a significant effect on the formation of experience. The sight, determined by pedestrian field of view provides an overview of the existence of landmarks that are associated with the beginning and end paths intense interaction with the environment in the immediate vicinity. Thus the face of the city that is displayed to pedestrian covers also unique and redundant urban artefacts.

Considering the elements of cognitive maps that show the key elements of the physical structure of the city, as well as the character of the unique and redundant urban artefacts, cognitive performances of the pedestrian network will be analysed on the city level on the case study of pedestrian network of the City of Belgrade central area.

**CASE STUDY BELGRADE**

The pedestrian network in the Belgrade city centre covers the area of 0.79m2 that is 0.22% of the total surface of the city. On that polygon it was identified 13.718m of vehicle routes and 2.781m of paths that are pedestrian only. Considering the mentioned lengths of the paths and by comparing the relation between them, there is a conclusion that the ration of 5:1 in favour of vehicle routes.

![](image)

**Figure 3: The pedestrian network in Belgrade city centre _ a) Paths and intersections and b) Attractors. Source: Vukmirovic**

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6Amsterdam 600, Toulouse 330, Mayfair in London 420, etc.
The network is formed of 40 vehicular and 19 pedestrian paths whose traverse creates 112 intersections (see Figure 3a). Compared with the optimal number of intersection of 250, it is concluded that there are 138 intersections less than necessary.

By an examination of the strip-map of Belgrade (see Figure 4) it was found that the area covered by the imaginary circle of 500m in radius includes 27 attractors, distinct to the space of 1000m in radius where 71 attractors are mapped (see Figure 3b). Besides the objects that have been noted as unique artefacts (geographic, symbolic or legendary), there are buildings that are protected cultural monuments. The buildings of great importance for the Republic of Serbia at the research polygon are Belgrade’s Fortress, Dositej’s Lyceum (Dositejev licej), Captain Misa’s Mansion (Kapetan Misino zdanie), Princess Ljubica’s Residence (Konak kneginje Ljubice) and the Congregational Church (Saborna crkva) (Универзитет у Београду, Шумарски факултет и Институт за архитектуру и урбанизам Србије 2012, 21). In addition, there are also allocated a dozen of monuments of big importance and dozens of cultural monuments.

Figure 4: Belgrade city centre strip map. Source: Mia Luzajic

Belgrade tourist map presented at the Trip advisor’s web portal shows 67 localities that have been identified as Belgrade’s attractions allocated by the visitors. The most selected of all the mentioned attractions is Belgrade’s Fortress (see Figure 5). Other locations that visitors have been singled out are Republic Square, followed by Skadarlija (3), Church of St. Petka (4), Knez Mihailova Street (6), National Theatre (8), the Danube (11), Belgrade Zoo (14) Congregational Church (17), the Church of the Holy Mother of God (18) Đorđićol (20) and Princess Ljubica Residence (24).

Figure 5: Belgrade’s Fortress – the most selected attraction by the visitors. Source: Serbia4Youth

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7 Bajrakli džamija, Jevrem Grujičić’s home, Narodna banka, National museum, Moskva hotel, National theatre, etc.
8 Agrar bank, Balkan ciname, Ćukur česma, Mika Alas’s home, Ethnographic museum, Ruski car cafe, Iguman’s palace, Cafe ?, etc.
Diagram created by Eric Fischer shows which parts of the wider area of Belgrade are the most visited by tourists. It clearly shows the path of Knez Mihailova Street, Terazije and Republic Square, the area around the Princess Ljubica’s Residence and the Congregational Church and the path of Paris streets with the upper part of the Belgrade Fortress (see Figure 6). In addition to the isolated location, the movement takes place in the wider area of the mentioned places and extends towards the Danube and the Sava waterfronts and along the Boulevard of King Alexander.

Figure 6: Belgrade _ Locals vs. Tourists. Source: Eric Fisher

The results of the analysis (see Figure 7) of the research area have shown that there is no unique content that dominates the location, i.e. defines the character it. They also has shown that within the selected network of pedestrian spaces the most frequent are cafes (30 in the radius of 500 m or 47 within a radius of 1,000m), on the second place are restaurants (13 in a radius of 500m, or 23 in a radius of 1,000m) and the third are banks (a total of 15 banks within a radius of 1,000m). Cinemas and major retails are the least present at the location.

Figure 7: Contents present at the research location. Source: Vukmirovic

During the year, 40 public events are happening at the location covered by the network of pedestrian spaces in the city centre (Vukmirovic 2013). Considering the period when they occur at the monthly basis (see Figure 8), the largest number of the events 6) is held in April and October. On the other side, the lowest number of the events took place during the February (1), January, July, August, September and November (2).
In accordance to their thematic category, the most of the events belongs to the category of art and design (16) followed by the category of music and dancing (6). The most of them has decades long tradition like Belgrade Summer Festival (BELEF), International gathering of the children from Europe, Belgrade Music Festival (BEMUS), October salon, The May Exhibition, Belgrade Jazz Festival, etc. In addition to the mentioned events in the field of culture, the past few years has triggered by the developments of design events such as Belgrade Design Week festival Mikser, Resonate festival, etc. By keeping regular the occurrence Belgrade Fashion Week aims to present the Belgrade fashion scene - young less-known authors and those who have already positioned on the local fashion scene.

In addition to the mentioned, Belgrade is also known by the events organised in the form of political protests (demonstrations, engaged performances, carnival celebrations, etc.) that have occasionally occurred in late XX and early XXI century. Because of that, the city is represented as the capital of historical initiatives in terms of organised mass protests and strong civic passions of social action. The most common gathering for political purposes happened at Republic Square and Plateau in front of the Faculty of Philosophy in Belgrade.

CONCLUSIONS

On the basis of the presented results it could be defined general recommendation that need to be implemented in order to improve the quality of the network of pedestrian spaces in the Belgrade central area with the special attention paid on the cognitive performances of the pedestrian space seen form the city level. This need to be done simultaneously, in the domain of physical as well as in the functional domain, because they both participate in the creation of the pedestrian experience.

Having in mind the complex character of cognitive maps that include the most important elements of the physical as well as functional character of the city understood as unique and redundant artefacts the recommendations for the network of pedestrian spaces in the city of Belgrade include:

- The correction of the ration between pedestrian and vehicle paths in favour of pedestrian routes
- Increasing the number and balanced distribution of urban attractors
• Stimulation of the appearance of contents that increase the attractiveness and usage period of pedestrian/public space

• Gradual expansion of pedestrian routes and the intensity of everyday movement in pedestrian area.

• Establishing balanced relations between events that aim to generate a collective and cultural identity with events that represent the city.

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