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URBAN FORM AND PUBLIC SAFETY: HOW PUBLIC OPEN SPACE SHAPES SOCIAL BEHAVIOUR IN PUBLIC HOUSING NEIGHBOURHOODS

Abstract: This paper points out the relationship between urban form characteristics and social behaviour in public open space of public housing neighbourhoods in the context of safety and security issues. It is based on theoretical assumptions according to which the organization of space and its physical characteristics influence the relationship between people, their activities and ideas. The spatial configuration of neighbourhoods and their public space can affect the individual and collective patterns of their daily use which support local community identity and its integration into the global system of a city. At the same time it can be a generator of urban segregation and experience of insecurity.

The paper is a brief overview of several urban theories as critical rethinking of spatial and social basis of the concept of the neighbourhood unit. These theories are dealing with the relations between urban form and forms of sociability, at the same time concerning the safety issue of neighbourhoods and public spaces. Analytical concepts of these theories of urban heterogeneity and configurational characteristics of the space are often used in contemporary urban studies as a tool to measure the spatial performativity in the context of safety problems. Patterns of human co-presence, spontaneous surveillance and mixing of residents and strangers, who can be supported and generated through the configuration of urban structures, are considered as the mediators of experience of safety. Pointing out the safety issue in these theories, the argument of this paper is that urban form can be considered as a useful instrument for achievement of individual and community safety.

Keywords: *public housing neighbourhoods, spatial configuration, public open space, public safety, co-presence, spontaneous surveillance*

1. INTRODUCTION: THE ORIGIN OF THE CONCEPT OF THE NEIGHBOURHOOD UNIT

Familiar pattern of multi-storey residential buildings in the form of towers or slabs arranged in a generous open space, often with greenery, can be found in cities and towns all

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over Europe and beyond. According to some estimates made during 1990s approximately 6 million people in Western Europe live in housing complexes that have more than 2,500 dwellings and over 34 million in Central and Eastern Europe with residential buildings which have over five floors, without the countries of former Soviet Union (Turkington et al. 2004:1). The numbers indicate the importance of the subject of inherited collective neighbourhoods and regeneration of their urban models, especially in the eastern part of Europe, where these complexes are the dominant model of urban housing.

The concept of the neighbourhood unit is connected with the problem of public safety from its first spatial conceptualizations to their construction and experience of life in them. In fact, the criticism of effects of social life in collective neighbourhoods and the deprivation of urbanity after World War II led to the development of social and spatial theories of urban heterogeneity and complexity. The problem of public safety is at the centre of discourse about the relations between spatial form and vitality and liveability of urban areas.

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Figure 1: Photography of “Borik” neighborhood, Banjaluka, 1974.
(Karabegović 1974:115.)

The concept of the Neighbourhood Unit was formulated in the early 20th century in the United States as a model for urban planning of housing units in cities. As an instrument of urban planning, and very often the regeneration of urban space, it has evolved over the last century through different interpretations, different use, practical applications and reviews (Brody 2013). The broadest explanation of the concept that it contains a universal meaning in the context of architecture and urbanism is that the neighbourhood unit is a methodological framework for the planning and design of urban areas with defined spatial or demographic size and dwelling as a dominant function.

American planner Clarence Arthur Perry devised the concept of the Neighbourhood Unit on the empirically recognized relation between the spatial characteristics of a large city and the quality of social life (Perry 1998 [1929]). The formulation of this concept was motivated by Parry's perception of everyday life in the great city of New York which was undergoing rapid change and was inspired by social ideals of the urban community. Sociological arguments of the Neighbourhood Unit were based on Parry's experience as a social worker and then advanced by the scientific theories of the famous Chicago school of sociology, which saw neighbourhood as the *primary social unit – community* (Brody 2013). According to Perry's interpretation, community as social framework allowed individual self-realization and spontaneous association of citizens in order to achieve individual and group interests. Perry recognized the Neighbourhood Unit as a devise for urban planning of housing complexes in the cities of his time, and as an instrument for achieving the goals in the social domain of urban life (Новаковић 2014).

One of the main problems that Perry took in consideration when started to develop the concept of the Neighbourhood Unit was a question of pedestrian security in the period of automobile expansion in the American cities of the time. The streets were still a basic place of socialization, pedestrian movement and children's games. But the streets of New York had not been equipped with the instruments of regulation of movement as we know them today, and they constituted a dangerous place for everyday use. At the same time, the widespread use of automobiles developed a new network of automobile roads that were cutting residential neighbourhoods and the usual pedestrian paths.

The concept of the Neighbourhood Unit was based on a number of precise planning principles of separate spatial structures and their mutual relations. Together they have the function of defining the spatial and social unit - community of neighbourhood (Perry 1998 [1929]:34-43). Spatial order of the neighbourhood unit had a role as generator of desirable social order of the community. The concept of *urban whole* was understood literally in spatial and social terms. The principles of formation of the spatial units include clearly the defined spatial boundaries, functional autonomy and self-sufficiency, and in the context of traffic communications high-speed connection to the neighbourhood which is interlaced with blind streets. In this way, the residents of the neighbourhood should get a place for a quiet life and leisure in their spare time, away from the dangers of the metropolis and harassment from strangers. The Neighbourhood Unit was seen as a primarily a secure area of a community.

Perry apparently perceived the critical link between the physical and social domains in city life and tried by defining the principles of spatial organization to achieve certain effects in the social. At the same time, he could not have been aware of the extent in which his spatial concept of the neighbourhood, materialized in the form of group of single-fam-

ily dwellings and land parcels in private ownership, will be suited to the development of the American automobile culture and land development, ultimately decentralization, segregation and alienation, together known as sprawl.

2. CRITICISM OF ARCHITECTURAL DETERMINISM: NEIGHBOURHOOD SAFETY THROUGH URBAN DIVERSITY

Already after the first phase of mass construction of public housing neighbourhoods after the World War II, the problems in the experience of living in them were emerging. Available statistics from 1960s in England, Holland, Denmark and Sweden show a pronounced preference of residents to single-family dwellings, compared to the collective neighbourhoods (Turkington et al. 2004:10). The reasons for this kind of expressed preference are certainly complex and have empirical and ideological nature. However, dissatisfaction with life in high-rise multi-family dwellings is usually expressed by families with children. One of the first obvious problems of living in collective neighbourhood is a problem of management and maintenance of common open spaces, where there are the first signs of vandalism and safety problems. It seemed that the practical implementation of the neighbourhood unit failed in generating the sense of community and to the contrary contributed to the social fragmentation at the city level.

Concepts of *the neighbourhood unit* and *the functional city* will mutually produce major changes in the history of the development of cities and leave deep traces in the urban tissue for a "short" time of the 20th century. These changes have had their repercussions in all spheres of urban life, caused many intellectual critical reactions and the review of spatial, socio-political and cultural development of cities of the 20th century during 1960s. The concept of *public urban space* appeared as connotation to positive socio-spatial quality that previously contained dense and heterogeneous cities, and which have been almost completely lost in recent urban developments.

At the same time, a critical examination of the spatial and social bases of the neighbourhood unit and their mutual relationship began in which the concept of public space played an important role. The concept of public space in the field of architecture and urbanism was associated with new approaches which were based on explicit anti-CIAM criticism in which the CIAM rationalist doctrine and practice was "blamed" for the design of standardized collective housing projects after World War II all around the world (Mumford 2000:268). New approaches were based on the search for the concepts which will express a different nature and role of cities and sought the promotion of architecture and urbanism that were sensitive to the needs of users of urban space.

One of the most influential texts which set in a direct the relation the spatial characteristics of neighbourhoods and the lack of social and economic vitality was Jane Jacobs's *The Death and Life of Great American Cities* (1961). This book will be also the main point of reference in the criticism of modernist and technocratic planning and reconstruction of cities and neighbourhoods. Jacobs's negative criticism directly focus on the profession of urban planning and design, especially the concept of *the functional city* and his historical roots in the works of English and American planners and thinkers of urban space. The city and state administration has also been called to account, but it is clearly depicted that the heaviest blame for poor quality of life in American cities and neighbourhoods bear the post-war planners and architects. Spatial characteristics of the post-war neighbourhoods

included a mistake which had its effects in different spheres of life in the neighbourhood, including a sense of security. This thesis was called *architectural determinism* in the fields of sociology and environmental psychology.

Jacobs puts before urban planners, architects and people involved in the management of cities the problem of approach to planning of urban space and its complexity. Her book is based on an analysis of the effects of urban planning in the everyday life of neighbourhoods and the use of public space. With her work Jane Jacobs was affirming the way of observation, analysis and design of urban space that is rooted in the practical experience and the experience of urban space from the user's perspective. "The way to get at what goes on in the seemingly mysterious and perverse behavior of cities is, I think, to look closely, and with as little previous expectations as is possible, at the most ordinary scenes and events, and attempt to see what they mean and whether any threads of principle emerge among them (Jacobs 1992 [1961]:13)." The issues of the everyday life or the "reality" of life in the city is set in contrast to the professional ideology that deals with visual order of city and who finds meaning within itself. Public safety is one of the key topics that Jacobs was dealing with.

On a more general level of analysis, the intellectual domain in which lies the problem of spatial and functional determinism Henri Lefebvre called *operational rationalism* (Lefebvre 2003:82-83). Problematic approach to urban planning inside which its analytic "reasoning" has been brought to its extremes is based on a detailed analysis of separate elements - production processes, social and economic organization, spatial structure and function. According to Lefebvre, planners rationalists see the city and its centre and suburbs such as a contradiction and disorder, at the same time not recognizing such a state as a condition of their own existence. Keywords that determine their future actions in order to bring order, norms and normality in a chaotic reality are the *coherence* and *completeness*.

Drawing on the work of Jane Jacobs, a sociologist and cultural critic Richard Sennett also defines the problem of regression in the planning and design of neighbourhoods and cities in the 20th century as overwhelming determinism of the visual elements of the city and its functions. "In particular, what's missing in modern urbanism is a sense of time – not time looking backwards nostalgically but forward-looking time, the city understood as process, its imagery changing through use, an urban imagination image formed by anticipation, friendly to surprise (Sennett 2006:1)." In Sennett's criticism the public space has been identified as the place of coexistence and mixing of individual differences, "the cultures of city", which thus opens the perspective of the different possibilities of personal reinvention (Sennett 1991; 2003 [1977]).

Sennett builds a theory of collective culture as a reflection on the theory of urbanity set by Jane Jacobs. In her book she formulated the principle of *urban diversity*, based on different uses of space that complement and support each other in the social and economic sense. Jacobs writes about urbanity as namely the conjunction of urban sociability and urban space which includes a variety of different phenomena and the combination of the uses of the city's indoor and outdoor areas, diversity of form, appearance and age of buildings. In the same context, Jacobs mentions public space as place where urbanity is generated, which is one of the earliest mentions of the term in the history of the discourse.

Jacobs sees the streets as the "most vital organs" of the city and the street neighbourhoods as the most important urban social spaces (Jacobs 1992 [1961]:29). Street neighbourhoods meet the three basic principles of urbanity: public safety, social contact and assimilation of

children. Streets provide daily contact with neighbours and strangers, but the possibility of personal control of communication and level of sociability as well. Unlike Perry who defined streets as heavy traffic arteries and a great danger to children, Jacobs saw streets as the first place of socialization outside the family and the first experience of urban diversity. At the same time, the street enables constant supervision of children by adults and children contact with the norms of social behaviour, in contrast to the playgrounds in the park, where children are isolated.

In contrast to Perry's tendency to completely prevent the entry of those who do not live in the neighbourhood by the means of spatial organization, Jacobs sees the basic content of urbanity in the presence of strangers on the streets of the neighbourhood. "Great cities are like towns, only larger. They are not like suburbs, only denser. They differ from towns and suburbs in basic ways, and one of those is that the cities are, by definition, full of strangers...The first thing to understand is that the public peace - the sidewalk and street peace - of cities is not kept primarily by the police, necessary as police are. It is kept primarily by an intricate, almost unconscious, network of voluntary controls and standards among the people themselves, and enforced by the people themselves (Jacobs 1992 [1961]:30-32)." Simultaneously, an important characteristic of vital cities is a sense of safety in public spaces, among large number of strangers, and which must be reached without access restrictions and the creation of isolated enclaves. According to Jacobs, this spatial fragmentation will reduce the number of opportunities to meet different people and unable new experiences. Spaces oriented toward corridor space of the street, "eyes upon the street" as Jacobs called them, allow spontaneous mutual surveillance among passers-by, strangers and residents, as the basic instrument of urban security.

The main thesis of criticism formulated by Jacobs, Lefebvre and later Sennett, is a thesis on urban planning principles that give primacy to the static spatial form over the social process. In fact, from Perry's concept of the Neighbourhood Unit and throughout the planning principles of post-war neighbourhoods in Europe, the spatial order of urban and architectural elements that together define the neighbourhood unit was conceived as an instrument to establish the desired social organization and order. The relationship between spatial form and social relations is seen as a simplified, one-way and insensitive to time. Sociologist David Harvey see this thesis as still applicable to certain contemporary architectural and urban design practices and ideology of neighbourhoods: "The effect is to destroy the possibility of history and ensure social stability by containing all processes within a spatial frame. The New Urbanism changes the spatial frame, but not the presumption of spatial order as a vehicle for controlling history and process (Harvey 2005:23)."

3. SPATIAL FORMS AND BEHAVIOR PATTERNS: SECURITY IN FORM OF SPONTANEOUS SURVEILLANCE

On the foundations of the theories of urban spatial heterogeneity and complexity, which was first set by Jane Jacobs, Bill Hillier and Julienne Hanson will develop a comprehensive analytical theory that formulate the principles of social logic of space (1984). According to this analytic theory called *Space Syntax*, architecture and urban structures are spatial configurations in which the relationship between the parts and the way they are linked together are much more important than any individual part from a social point of view. The theory of space syntax is developing the approach to the design of spatial basis of so-

cial coexistence and “the architecture of community” where public spaces have a primary role (Hanson, Hillier 1987). Space syntax techniques are very much used in contemporary studies of the relation between public safety and urban form of neighbourhoods and public spaces.

The theory of space syntax is based on tendency to overcome the model of corresponding relations between spatial territories and community groups (the Correspondence Model) and tends to support the social heterogeneity through space means (Hillier, Hanson 1987). Urban space understood as the configuration can be structured in a way that increases the likelihood of encounters between people of different social groups, rather than to give them the corresponding space - territory, or to separate them. “Space may not be structured to correspond to social groups, and by implication to separate them, but on the contrary to create encounters among those whom the structures of social categories divide from each other. In other words, space can in principle also be structured, and play an important role in social relations by working against the tendency of social categorization to divide society into discrete groups. Space can also reassemble what society divides (Hillier, Hanson 1987:265).” However, based on the research of the relationship between the configuration of the street system and the probability of encounters, the conclusion is that this probability is significantly reduced in hierarchically organized spaces, such as the neighbourhood unit. Henson and Hillier state that the relationship between the local organization of space and the global structure of city is a basic spatial issue in context of vitality, sociability and security. According to them, it is important to create a spatial strategy for the design of local configuration that will be well integrated in the global system, rather than to localize space to the enclaves.

3.1 Spatial configuration and concept of co-presence

The theory of space syntax assumes that buildings are not just physical objects or artefacts composed of single elements that together define a particular form. Buildings also form and organize empty volumes of space in between, so instead we have *patterns*. The spatial distribution of buildings and empty volumes mediate the relations between people in the area, namely groups, separates and connects. According to the theory, the buildings are sociological objects in two ways: they *form* a social organization of everyday life through a spatial configuration in which we live and through which we are moving, and they *represent* a social organization as the spatial configurations and elements that we see. Buildings are, therefore, social object through their own forms and not only through their role as visual symbols (Hillier, Hanson 1984).

The key concept of the theory is *the configuration*. According to Bill Hillier, the simplest explanation of the concept of configuration is that it is a relation which takes into account other relations (Hillier 2007:1). Configuration is a concept that refers to *a whole* composed of some components and their interconnections, and not to individual components. Hillier formally defines the configuration as follows: if there is a relation between two elements, we can call it a configuration if their relationship changes with respect to the relation of one or both to the third element (Hillier 2007:24). The relationship between space and social existence lies not at the level of individual use of space and individuals, but in the relationship between spatial configuration and group form of people. Encounters,

gatherings, avoiding and interactions are not individual acts, but patterns or configurations formed by a group of people.

The key sociological concept within the theory of space syntax, which can be seen as the ultimate goal of the research, planning and design of urban space, is the concept of the simultaneous presence of people - *co-presence*. The co-presence is much closer to the desirable outcome of the urban planning and design of urban space, because it is a necessary condition for the occurrence of interaction, communication and the formation of social relations (Marcus, Legeby 2012:3). As Jane Jacobs notes, it is a necessary condition for public safety as well. The theory of space syntax points out that the patterns of co-presence are largely a result of architectural and urban form, and therein lays the importance of this concept, as the essential link between space and social phenomenon.

Erving Goffman, one of the most important authors and sociologists regarding the sociology of everyday life and social communication face to face recognized the importance of physical environment in their context. When defining the typology of gatherings in a public space, Goffman defined the concept of the co-presence as a basic prerequisite for any kind of social communication (Goffman 1963). Correlation of direct sensory experience and message transfer through the body is one of the essential conditions of interaction face to face. Co-presence means that "persons must sense that they are close enough to be perceived in whatever they are doing, including their experiencing of others, and close enough to be perceived in this sensing of being perceived" (Goffman 1963:17). Thus, the interaction can be unfocused, which includes the mutual awareness of actors only in passing by, and focused with direct mutual awareness and close physical distance. Sociologist Anthony Giddens also uses the concept of the co-presence in the consideration of social relations in public encounters, focusing on its sensory and bodily experience (Giddens 1984:64-68).

Through a systematic investigation of how the spatial arrangement of units and permeability controls the access and movement in the urban system, has led Hillier and Hanson to setting of general principles of analysis of spatial patterns and techniques of research of basic aspects of social relations embedded in the spatial form. In these studies it was shown that the two types of social relations significantly contributed to the formation of spatial form of settlements. These are the relationships between those who live in the area and who continually use it, and the relations between the residents and strangers, people who come from other parts of the city. According to this, the public space of the settlement is treated as *a unique interface* between the dwelling space and the world outside the settlement, between the resident's domain and the domain of strangers. The manner in which this collective space was organized and treated proved to be the most important distinction between the types of settlements configuration (Hillier, Hanson 1984:17).

The differences in the organization and forms of public space are based on a very simple principle of theory of space syntax called *convex and axial* organization of space. The strangers in most cases are moving through the space of settlements, while the residents are practicing a much more static usage of the local system. Axial public spaces let strangers into the system, while the convex public spaces are organized like more static zones of residents in which they therefore have a greater potential of control over the area (Hillier, Hanson 1984:17). In this simple principle of layout and connection between axial and convex spaces is contained the principle of public safety. Spatial configuration of neighbour-

hood lets the strangers in all public spaces, but controls them by placing housing units of residents in the immediate vicinity. In this way, the strangers supervise the public space and at the same time the residents supervise the strangers. Spatial propositions of feeling of safety are arising from the collective routes of everyday movement and co-presence generated within the neighbourhood where it is possible to encounter the neighbours and strangers as well.

Jane Jacobs recognized this principle of safety contained in encounters of residents and strangers in the public space of neighbourhood. "Safety on the streets by surveillance and mutual policing of one another sounds grim, but in real life it is not grim. The safety of the street works best, most casually, and with least frequent taint of hostility or suspicion precisely where people are using and most enjoying the city streets voluntarily and are least conscious, normally, that they are policing (Jacobs 1992:36)." Accordingly, Jacobs stated that the streets of successful neighbourhoods must have three basic qualities: a clear distinction between private and public space, houses that have windows and entrances to the street to allow the monitoring of street life, and continuous daily use of sidewalks or "live" street. Some of the contemporary empirical studies of public housing neighbourhoods and social behaviour in their public space come with the conclusions in the same line, pointing out the importance of urban form for public safety: "The community of the street, whether traditional or postmodern, is made up of a complex layering of intimacy and anonymity, in which social encounter and urban safety are maintained by the co-presence of strangers on the street, the interface between local residents and passers-by on the doorstep and the surveillance of residents over street space from the privacy of their front windows. The panoptic models of modernism rupture this spatial interface between inhabitants and passersby and instead they rely almost entirely on surveillance to preserve safety and generate community. With the benefit of hindsight, we can see that where surveillance is weak or absent, it is replaced by *sousveillance*, in the sense that the very openness and unconstitutedness of the public domain allows the perpetrators of antisocial activities to keep a lookout for anyone in the vicinity and to escape unchallenged if necessary (Hanson, Zako 2007:20)."

4. CONCLUSION

Spatial characteristics of neighbourhoods and their public space can be seen as a mediator in the formation of the co-presence of neighbourhood residents and their encounters with each other and with the residents of other parts of the city. Co-presence is seen as an essential condition for social interaction and communication, the establishment of social ties, and security in the use of public space through spontaneous mutual monitoring. This raises the question of the analysis and measurement of configuration characteristics of inherited public housing neighbourhoods and their capacity for forming patterns of co-presence and the use of space. How are the places of privacy and common usage allocated? How many neighbours are using a common area? Are the residents of the neighbourhood encountering strangers on their daily routes? Are therefore, the places of common use the safe places?

Starting from the theory of the configurational characteristics of the built environment and their effect in the formation of co-presence and constitution of collective use, the goal of the spatial transformation of the neighbourhood should be public open space which

enables the formation of intense co-presence of residents and strangers with various combinations of private and collective use. The appropriate spatial distribution and connectivity of these places of everyday use play an important role in the social life of the neighbourhood, public safety and in the formation of the image and identity of the neighbourhood. More specifically, it can be concluded that the neighbourhood as a social sphere and form of sociality is largely derived from the patterns of collective use of public paths and places, and their spatial patterns.

To interpret the concept of the neighbourhood unit in the context of spatial and social theories of urban heterogeneity means that the neighbourhood should be understood otherwise than unambiguously defined territory of its residents connected with strong social ties. According to sociological and spatial theories that consider the relationship of space and society, neighbourhood should be understood as a spatial topology, which is an integral part of the overall urban structure and whose inhabitants are interconnected with looser social ties and exposed to daily encounters with strangers. The major role in supporting and generating this reconceptualization of the neighbourhood unit has been given to public open space, as an element of linking the local organization of the neighbourhood and community to the global system of the city. We are left to consider urban neighbourhood concept out of the physical and social determinism and through the focus of quality of public space.

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