Spatial Typologies Study of Sarajevo

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Abstract. Spatial typologies in urbanism and architecture within the City of Sarajevo are inherently complex and differentiated. Throughout the history of the city, the architectural and urban typologies have been evolving and adapting to new circumstances, but in several historical periods, the changes of typologies have been radical. From the fifteenth century, Sarajevo was organized by the oriental ottoman typological scheme that shaped the city for several centuries: organic forms, human and intimate scale, commercial and residential areas quite strictly separated. During the nineteenth century, a central-European urban and architectural typology dominated and morphed the city in a radical new way. Introduction of the larger scale buildings organized in blocks, with mixed functions. The usual typological transformation was taken over by a process of replacement with completely new forms, yet the city seemed to inherently adapt to these new conditions owning this new typology. Introduction of modernist typologies within the realm of the city was also a radical break from the past - functionalist dispersed buildings with open green areas again became a logical part of the city. The new transitional period has brought about new challenges and generated buildings (commercial and residential) with questionable typologies. Current tendencies are lacking in many parameters that define a certain typology - a coherent idea and spatial logic. Can one city inherently possess the ability to adapt and transform such different variations of typologies and claim authenticity? Is there a typology most suited to this place? Ever since the typological research was introduced to architectural theory by De Quincy in 1825, there was the notion of origins of typology, transformation and novelty/innovation. This paper will conduct a research of historical and current spatial typologies (architectural and urban schemes), in order to answer the question is the typology inherent, born out of a certain place or does the place affect, change the typology? The research would be about the correlation between a city (Sarajevo), the capacity of space and relevant parameters of typologies (scale, forms, functions, adaptation).

1. Introduction
Typological research in an urban and architectural sense has been the core of many studies that co-relate the buildings and their environment. Two essential elements play the key role in typological research; an urban process that shapes (the ideology) and architectural forms it produces (the reality). The case study of the city of Sarajevo is quite unique in the typological sense, which is that it contains a very diverse spectre of urban and architectural typologies that have evolved through time, integrated with the overall city fabric, owning it.

The main reason is that behind relatively successful integration all of these different typologies there is a clear line of thought, an ideology, purposefulness. In the current post-transitional society, such an element is not present and therefore new /current buildings cannot be categorized into typologies since they are inherently made without an overall plan or structure. A typology=territory/city=civilization [1]. Adaptation and metamorphosis of an initial building system, a form an archetype became the base for urban development.

In the case study of Sarajevo, the typologies have mostly been influenced by the lifestyle, societal, ideological premise and the natural, environmental had a less significant impact. So, in this sense can
we discuss the typological questions in a traditional sense – evolutive transitions of forms, or can a place own, claim various typologies? What would make them local, regional, particular or universal?

Figure 1. Housing typologies shown on the map of Sarajevo - sequential appearance along the linear development line

The basic idea of typological research is not a mere overview of knowledge, but its purpose is the understanding and extracting the system embedded in the urban tissue. Typological thinking leads us into two seemingly opposing streams: local and regionalist and universal, ideal, but it facilitates the positive transformative potential and emphasizes the urban continuum.

The paper will consider the typology of the housing since it is the dominant urban and building type and has more variables than any other built structure. It will also reflect how typological research in architecture and urbanism evolved from the first typology by Durand, Laughlier, Quincy in their assessment of type and form, second typology associated with modernism that believed in the multiplication of model units, to the postmodern postulates of the third typology by Rossi, Muratori of continuity of urban city form and interrelations [2]. “The type was developed in accordance with both needs and aspirations for beauty; a certain type was associated with form and way of life, though its specific form varied greatly from society to society. The idea of type thus became the basis of architecture.” [3].

Sarajevo as a city is a home of a wide array of urban and architectural typologies that were in a sense imported, starting from the ottoman empire, Austro-Hungarian Empire, early and late modernism, and postmodernism (global impact) and of course the latest contemporary belonging to hyper - globalized, capitalist transitional era (Figure 1). As a capital city, it has a need and potential to grow, “which is especially true for cities that are qualitatively changing their urban organization structure, levels and character of city centres and gravity zones” [4].

Each of the periods generated its own social, urban and architectural system. One can state that a city is an accumulation of types/forms and matrixes, generated from universal, but at the same time individual and local resources.
2. Typology 1 organic, individual ottoman period

Urban development of Sarajevo begun in the XV century and in the basic typologies created at the time can be separated into two basic and strictly separated categories: public domain and individual domain - mainly residential. The urban pattern in a simplified view can be seen as organic, but it actually was formed by an intricate system of local lifestyle, functionality and morphology of the terrain. The street system would translate from wider public streets into narrower, which usually turned into a cul-de-sac. Transitions from the city core into the residential areas are gradual, almost procession-like as the street becomes tighter and introspective [5]. The houses and space around them were organized in sequences of public, semi-private and private family spaces (indoor and outdoor).

![Urban pattern, Plan/scheme, Sketch](image)

**Figure 2.** Organic urban fabric and a single residential unit in an ottoman era neighbourhood

The urban pattern is a result of internal organization and relationship of spaces of a residential unit, its distribution of semi-private and private spaces, open courtyards and gardens. The simple house scheme shows the gradation of spaces from the street, into the courtyard, then a more private courtyard than a porch that leads into the rooms within a house. Even though the typology was brought with the ottoman culture, the building style has adapted to local conditions, the scale of the city, as well as the local building materials (Figure 2). The initial archetype – multifunctional room with a courtyard has evolved into many different variations. During the modernist movement, some of the principles and ideas of this residential housing were applied and produced a unique regionalist modernist architecture.

This period can be represented through the First typology described by Quatremère de Quincy. He implied that imitation is a starting point in architectural/typological output. In this case, the imitation does not mean "copy" but rather "represent" the laws of nature. Imitation is at the core of invention described as new combinations of already existing elements through an understanding of the principles, in other words, imitation is a creative process that transforms elements into new artefacts.

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1 The street was public space and the inner courtyards were guarded by a gate and high walls. The first entrance gate was still partially public (selamluk) while the inner courtyard was the centre of family life or so called haremluk. Residential complexes would typically have a garden and fruit yard. Cult of family and neighbourhood was the backbone of society and it usually consisted of several surrounding houses (6-7 houses, cca 60 people). In further social and spatial gradation of spaces, the neighbourhood was a semipublic zone that was interconnected by a system of courtyards and gates without access to the pedestrian street or alley. Several neighbourhoods formed mahala units (around 40 houses), walled off to the street built by a local benefactor who was wealthy enough to offer this endowment. Since the mosque and the cemetery were oriented towards a specific neighbourhood it was a space of and each had their own semi-public focal point. Local a mosque with a cemetery were oriented toward a relatively closed population of one neighbourhood, this was one more spatial gradation of semi-public space [5].
3. Typology 2 classical closed block Austro-Hungarian period

The Austro-Hungarian Empire (from 1978-1918) brings a classic central European building style to Sarajevo. The dominant urban pattern is an enclosed block with apartments on the upper floors while the ground floors are contact points with the streets are designated for commercial activity. The urban scheme is tight, with almost no public or semi-public spaces for residents, maximizing the use of the plot (Figure 3). This typology creates streetscapes that now become the major meeting point and shape the use of the city.

![Urban pattern](image1.png) ![Plan /scheme](image2.png) ![Sketch](image3.png)

**Figure 3.** Classical enclosed bloc and a scheme of a residential unit, and streetscape scene from the Austro-Hungarian period

The architecture of the period is quite similar to the central-European neo-styles with the period of Secession that one can take as a significant starting point in the development of unique blended architecture.² Housing units (typical) [6] were in most cases inefficiently organized with interconnected rooms and inconvenient spaces for kitchens and bathrooms.

The main idea was a grand reception room and impressive façade. In many cases the architecture of neo-styles has been underestimated and inadequately interpreted, architectural output in Bosnia and Herzegovina even though imported, again, needed to synthesize and adapt solutions, and even create an original eclectic architecture [7] that can be seen as a medium of continuity.

This typology in its many variations has also come to be locally adapted, through work of architects that wanted to connect and seek continuum with existing regional characteristic

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² Secession period (Jugendstil, Art nouveau) in Sarajevo 1900 - 1914. The first object in this style is the J. Vancaš (decoration elements of the House of Rasema Svrzo). The early secession period of 1900 - 1908 is characterized by floral motifs. Of the floral motifs, the most prominent are sunflowers, leaves with a tree, chestnut leaf and cyclamen violet flowers, margaritas (I. Krzović, Architecture of BiH 1878-1918, p.126). Palace of Joshua Salom from 1901. A residential building that is lavishly decorated with sunflower motifs stacked in the fields above the windows and a prominent part located on three consoles. There is also an indication of the geometric line decoration on the object, which was used to further highlight the "soft" floral shapes.

Floral motifs on Vila Hermine Radisch is special because it is a ceramic panel whose floral motif is taken from the folk Hungarian architecture, is a reflection of the aspiration of the Hungarian architects to form a certain "national style". (N. Kurt, Sarajevo 1492-1992, p. 74, Oko - Sarajevo 1997.) The Hinko Schlesinger Apothecary Building, built in 1902 is a light blue facade with sophisticated floral motifs characteristic of the pharmacy profession - flowers and leaves of medicinal plants with medallions of Hygius and Esculap figures (symbols of pharmacy). The architect Vancaš here again combines lines, strict horizontal line with oval and organic above the window and below the final cornice. In the period 1908-1914. Larger public and residential buildings are being built and geometric tendencies are increasingly dominating, simplified decoration with facades on the facade.
4. Typology 3: Modernist slab
The modernist movement was in many ways a break from traditional urban and architectural forms. It has brought a new, avant-garde view of architecture that declared progress in social and living conditions. The basic premise was functionalism that rejects all unnecessary elements, and calls for an aesthetics of the international style of straight lines and pure geometric shapes, light and smooth surface of glass and metal. In the urban typology of modernism transformed the cityscape disintegrating the traditional street, but placing an emphasis on green open spaces and improving the living conditions for its inhabitants. In the case of Sarajevo, the most representative example is a settlement that consists of individual slab buildings arranged into a semi-open block (Figure 4). This has created an opportunity for additional facilities such as parks, play areas, but also facilities that complement the needs of residents (schools, kindergartens).

![Figure 4. Modernist slab block, with a typical modest housing unit](image)

In an urban sense, this has given an opportunity to a large population influx, to obtain decent living conditions within a city. The architectural expression of the buildings has been one of its time but repetitive and most certainly very modest. As is visible from a scheme of a single dwelling unit, the space was used in a highly functional manner, providing only minimal comfort that was a standard within the countries of the socialist/communist bloc.

The second typology is based on the modernist idea of standardization and typification in urbanism and architecture. Enormous social change and attitude towards progress in the post-war era were essential in amplifying the need for new radical, almost industrial produced architecture. Even though modernists did not appreciate the historic notion of typology or archetype, their architectural output was very much such a product. The residential units, minimum housing conditions came from precisely calculated dimensions for furniture and the human figure, even stripped to the bare minimum. In the western and more developed world, such concepts did not flourish as much as they did in socialist societies where equality was proclaimed and practised.

Even though there was a dogmatic pressure and some of the solutions were considered a stereotype or prototype, as well as repetitive, one cannot disregard of the creative input of Le Corbusier\(^3\), as well as of many of his followers.

\(^3\)Specialization, segregation and isolation of urban functions made the city a kind of machinery in which the free-standing objects in greenery were repeated dogmatically and persistently, and the urban space became a common place. We also saw that Le Corbusier's disdainful attitude towards place and context produced the same urban morphology, sterile cities and universal spaces. This is legible in all the benchmarks it has dealt with, from home across the city to the region and further to continental and intercontinental urban systems. Ignorance of places and contexts, layered messages of history and tradition, as well as of social components of life, has generally proved to be an essential weakness of functionalist urbanism [7].
5. Typology 4: Transitional and informal
By the end of the XX century, radical social and economic changes took place in Bosnia and Herzegovina. New social reality is shaped by a lack of strong and centralized governance, and early capitalist transitional processes. In urbanism and architecture, this is manifested through enormous pressure on central city zones that have high financial yields, but are in a collision with sustainability and inherited spatial values. In this situation, the casualty is fragile and sensitive historic tissue, and architecture generated now usually is consumerist and copied from other realms. In disregard for context and the urban process that created such context, sometimes even without an intent, there is destruction and negation of the spatial logic and traditional (and as elaborated here, universal) values.

Postmodernism that was the stylistic movement that preceded the crisis was essentially beginning of social fragmentation and incoherency in planning. Post modernism, as called in the Third typology, was supposed to establish a continuous connection with the past without mechanistic understanding of typology but a regard to the traditional city and natural process of the architectural development of cities and continuity of streetscapes and the city itself with works of Rossi and Muratori.

5. Results and discussions
Throughout different periods, “truth in architecture” had different meanings, but they have always been the object of aspiration, of reflection. The truth about typology today is the complexity of spatial relationships, the sedimentation of the material and the intangible, continuity, and the inherent potential for evolution. Typological research is not a retrograde academic exercise about the past, it is the code for our future.

In articulating an answer to the main question of the paper: Can we discuss typological questions in the traditional sense - evolutionary transitions of forms, or can a place own, claim various typologies or What would make them local, regional, particular or universal?

As shown in each period the potential to evolve and develop was very much present. The main argument is that because of the very strength and understanding the models it was possible to develop and provide new creative solutions. As a paradox, it is the strongest, most assertive typologies that do allow a creative declination of solutions. As shown on (Figure 5), the architects from the Austro-Hungarian period created a new amalgamated style, a form of orientalism but not for the sake of current trend or architectural manner, but as an authentic expression of their reaction to the traditional architecture. What was created is an original authentic style called” Bosnian style”. Development of the inking came with the changes of the secession style - it was the introduction of geometrical ornament, simplification and introduction of asymmetry in some objects (Figure 5). This was a local adaptation of a global style in subtle ways, but it paved the way for early modernism movement. [8] In the case of urban patterns there was no significant adaptation of typology, mostly, it was the way of scale and distribution of urban tissue.
Between the two world wars, the influences of modern architectural trends in Sarajevo were among the first to be brought by the Prague student Helen Baldasar and applied them to public buildings and residential multi-story houses. Muhamed and Reuf Kadic, also Prague students, advocated the idea of functionalism in the housing culture. The early modernist period was highly sophisticated and ahead of its time, at least in architecture. From the urban point of view, in the period between two world wars, there was no significant development of the city.

Juraj Neidhart, an associate at Le Corbusier's studio until 1939, with the architect theoretician Dusan Grabrijan, worked on the synthesis of traditional and modern architecture in B&H. Grabrijan is also the author of the book: Architecture of Bosnia and Herzegovina and the Way to Modern (1951), for which the preface was written by Le Corbusier [9]. His adaptation of urbanism was also with regionalist characteristics, especially in the residential housing in Alipašina street. It is a project for collective housing, but placed on a slope with lush garden spaces and overall principles and proportions reminiscent of ottoman traditional architecture (Figure 6).

Modernist regionalism (Figure 6) style was borne out of detailed studies of the ottoman residential complexes, in which the architects recognized the universality and simplicity embraced by the modernists. The reason the modernist movement was successful in carrying out the regional style was that it has confidence and power of its own.

Current transitional and informal urban and architectural forms have not been elaborated in detail in this paper. The main reason is that their typology cannot be evaluated and assessed since most of these building types are randomly placed and designed. They are a global, but also a strongly local phenomenon adapted not to city or space but mostly to opportunistic circumstances and failure of the state to provide control and regulation.

6. Conclusions
Analysed urban and architectural typological codes of different periods in the historical stages of Sarajevo's development are based on the organization of the daily life and that they form an important
sign of the genius loci of the real urban matrix, functional organizations of the physical structure of the city. This means that attention was focused on man, resulting in harmony in the relations between objects and environment and objects with each other, but also with the functionality and beauty of the overall environment.

Today, the situation is that the process of transformation of spatial articulations of the described inherited typological codes is characterized by current transitional social flows and manifested in new architecture that does not establish a connection with the environment that surrounds it, disrupts the identity of the space and negates the traditional values of the architectural heritage. We concluded that the main reason for the current transitional spatial design, neglect of the cultural context and inherited values lies in the lack of guidelines - clearly defined conditions for new construction, whose adoption would determine its future appearance and spatial composition. In this sense, the content of the guidelines should be based on positive building experiences, gathered by the analysis and revaluation of inherited urban architectural creation. An approach advocating the assimilation of the composition and elements of history and tradition in new creative design, it is possible to achieve continuity in the experience of a humane environment and to eliminate the potential danger of creating a legacy and new reserve. It is important to emphasize here that the guidelines should not suggest typological or unified, predetermined, future construction, but should enable architects to understand the authenticity of each individual typological code and help them create architecture worthy of their values. Even though the typological research (Fourth typology) [10] is a complex theory with ever fluctuating input, one can go back to de Quincy’s initial premise of typology, transformation and novelty (innovation). To conclude, the typological research can achieve two goals: first one, to identify and discover the basic types; second, the ability to see things in complementary relationships and processes.

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