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ARCHITECTURAL AND FUNCTIONAL TRANSFORMATION OF MILITARY GARRISONS IN THE CITIES OF VOLYN

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ABSTRACT

The article analyzes the transformational processes in the zones of military garrisons and presents the present functions of these territories as parts of modern cities. The main changes of planning structures of buildings and stylistics of facades are outlined. There is presented the project of architectural rehabilitation of the garrison complex and its integration into the modern urban environment.

Key words: functional transformation, military garrison, city, zone transformation, poly-functional complex, architectural rehabilitation.

1. INTRODUCTION

Urban environment is a complex multi-level system which unites zones of organization of various social processes and life of population. At the present stage of development, the city lost its planned beginning and started the process of its rapid development. The processes, taking place in the urban environment, has increased its scale and changed its character [1].

Zonal structure of cities is constantly changing and transforming. In the theory of urban planning, zonal structure is considered as the expression of the territorial-spatial relations between the elements (parts) of urban systems that reflect the structure of the system itself [2].

Thus, the transformation of zonal structures can be considered through the transformation of its elements: residential, public, industrial, transport infrastructure, agricultural, recreational, military etc.

The elements of zonal structure are transformed according to their own physical characteristics and time required for transformation. The very process of transformation can have a twofold character: quantitative and qualitative. The quantitative one is a transformation of the primary physical characteristics of the element of the zonal structure in the direction of increase in quantitative characteristics, but without changing the functional purpose. The qualitative one is a change in the functional purpose of the element of zonal structure, in which the physical characteristics of the element may remain unchanged [2].

All the elements of zonal structure are subjects of transformation. The city is a complex and interconnected structure. The transformation of one element leads to the transformation of another or several planes that are directly related to it.

2. ZONAL TRANSFORMATION OF MILITARY GARRISONS

Development of the county cities of Volyn province in the second half of the XIXth century remained virtually identical, having difference only in the number of population, industry etc. Zonal structure of the cities was also almost identical. Among the main ones there can be distinguished housing, religious, trade and administrative, industrial.

Thanks to that state and military reforms of Emperor Alexander III in the XIXth century a new functional zone – the military garrison – appears in the border towns of Volyn.

In fact, such complexes were built as separated settlements near cities, located on free territories. Already in future, the development of street and transport infrastructure “joined” garrisons to cities and became an integral part of them.

The basic principles of general transformation of military complexes can be considered on the examples of Rivne, Lutsk, Dubno, Kremenets, Kovel, Volodymyr-Volynsky.

The primary use of military territories was targeted for the living, training and studying of soldiers and officers as well as their servicing. Military function was combined with residential (barracks, wings for officers), administrative (command headquarters), economic, training and studying. They included buildings of different periods: tsarist Russia of the late XIXth – early XXth century, The Second Polish Republic of 1918-1939, the Soviet Period of 1939-1991.

The century significantly changed the function laid down during building, particularly the supply and demand on the construction market in the late 1990s – early 2000s. With the introduction of private property and the rapid development of small and medium-size businesses appeared the possibility of re-profiling and reducing existing complexes as well as re-equipment residential premises for public functions, especially those located on the first floors of residential buildings and have an opportunity to organize a separate entrance directly from the street [3, p. 64].

As a result of transformational processes there can be determined the main functional zones that have been formed for today:

- Military – fully preserved original destination zone (Volodymyr-Volynsky, Rivne, Dubno);
- Residential – transformation of the territories for private housing, both for servicemen and for civilians (Rivne, Lutsk, Dubno, Ostrog, Volodymyr-Volynsky, Kremenets – in part);
- Educational – specific re-profiling of zone under the educational institutions (Ostrog, Lutsk);
- Territories are not used at all – the complete lack of operation of the zone (Kovel, Kremenets).

The two main functions of these territories are military and residential. Their original destination was preserved in Rivne (fig. 1.1), Volodymyr-Volynsky (fig. 1.2) and partly in Dubno (fig. 1.4), where active military units of Ukrainian Armed Forces are located.

The second is the housing function. A significant number of buildings, their spatial location and planning structure of former barracks allowed them to rebuilt as private apartments for servicemen. This phenomenon was observed in Rivne, Lutsk (fig. 1.1), Dubno, Ostrog and partly in Kremenets. As a result new residential quarters with its own infrastructure appeared.

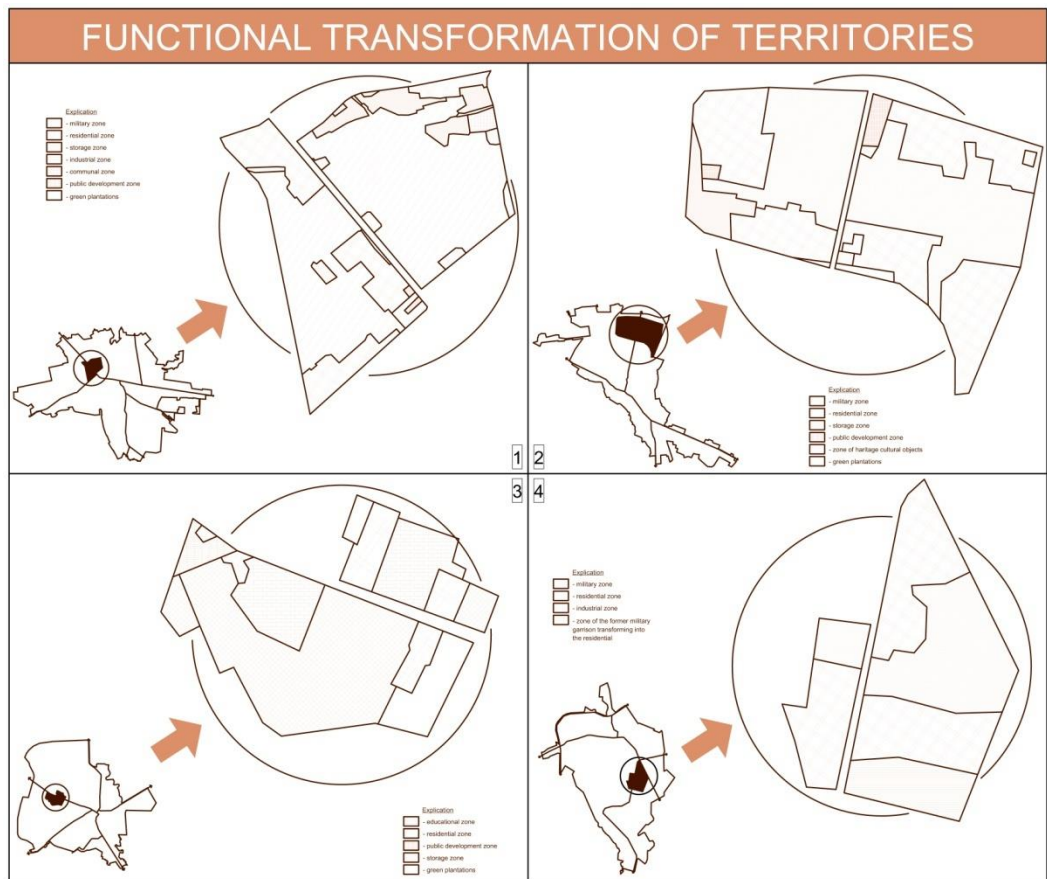


Fig. 1. Functional transformation of the territories of the military garrisons: 1.1. Rivne; 1.2. Lutsk; 1.3. Ostrog; 1.4. Dubno. Source: graphics I. Serhiuk

In these cities were formed townscaping ensembles with religious, public and residential buildings. Only in Kremenets a small area with several houses was transformed to the private one.

Zonal transformation of the military garrison's territories in Ostrog (fig. 1.3) was carried out on the educational function. There in the buildings of former military garrison was organized a lyceum with intensive military-physical training.

However, the main feature of zonal transformation of these territories is their poly-functionality. Almost all the examples combine several functions, which is explained by the peculiarities of the development of a modern city.

The main factors of such transformations were: the priority of social motifs, configuration of the territory, the need to ensure norms and sanitary conditions, territorial adequacy of planting greenery, aesthetic appeal, decisions of engineering and communicative infrastructure.

3. ARCHITECTURAL TRANSFORMATION OF GARRISON BUILDINGS

The planning structure of garrison buildings has been also transformed depending on the functional purpose. In the process of barrack's transferring into private housing, bearing constructions were preserved, there were added partitions to form separate apartments with all necessary rooms. Thus re-planning was successful and required to the State Construction Standards of Ukraine not in all cases.

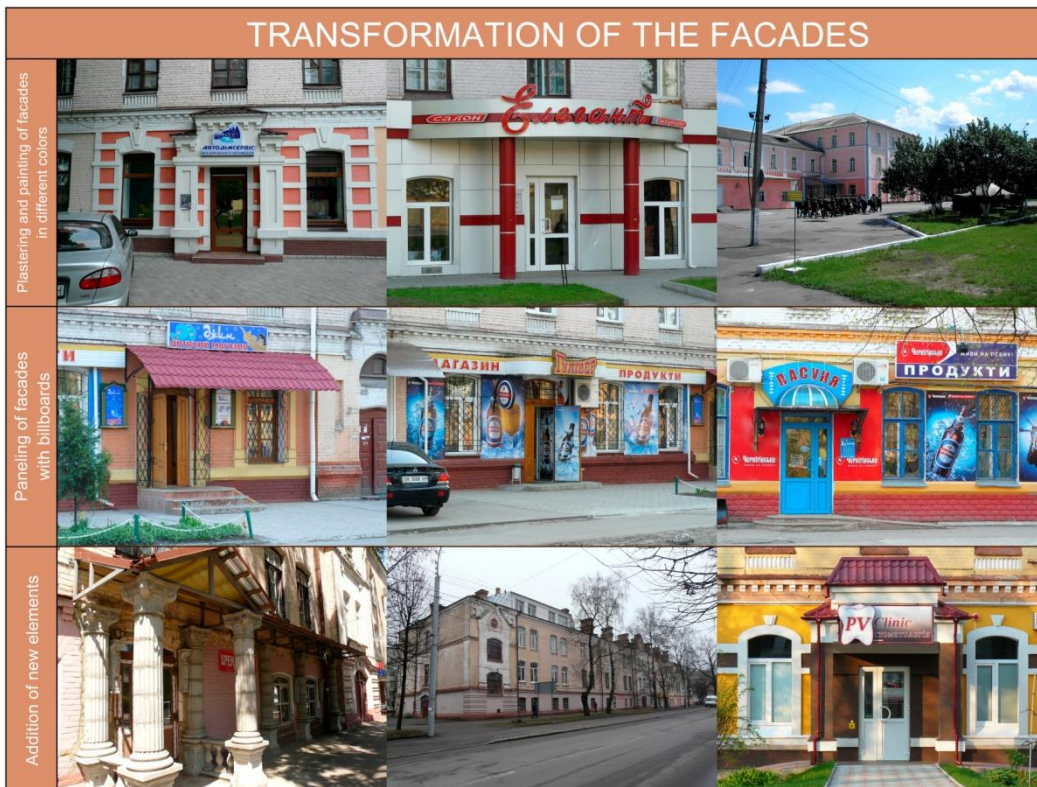


Fig. 2. Transformation of the facades of military garrison's buildings. Source: photos I. Serhiuk

The main and radical changes and transformations were made on facades of the buildings, which affected their stylistic and aesthetic appearance. The main transformation, which is available in 95 percent of buildings, is coloration of the facade walls. In most cases colors are similar to the color of the brick, but there are a lot of examples of using completely incompatible colors (pink, light green etc.). The second kind of transformation is sheathing of facades with advertising plastic shields or new building materials (aluminum sandwich panels). This material is used on the walls of shops or other public places on the first floors of the buildings. The third one is a completion of elements that do not correspond to the style of the building. As an example, the arrangement of the entrance porch to the store using columns with balustrades and a portico in the classic style (fig. 2). The listed transformations of facades destroy their original appearance, architectural-historical value and their aesthetic appeal.

4. ARCHITECTURAL REHABILITATION OF GARRISON COMPLEX

These military complexes require an general approach in the process of their integration to the modern urban situation which must include different sciences: a combination of architecture, management, economy and advertising.

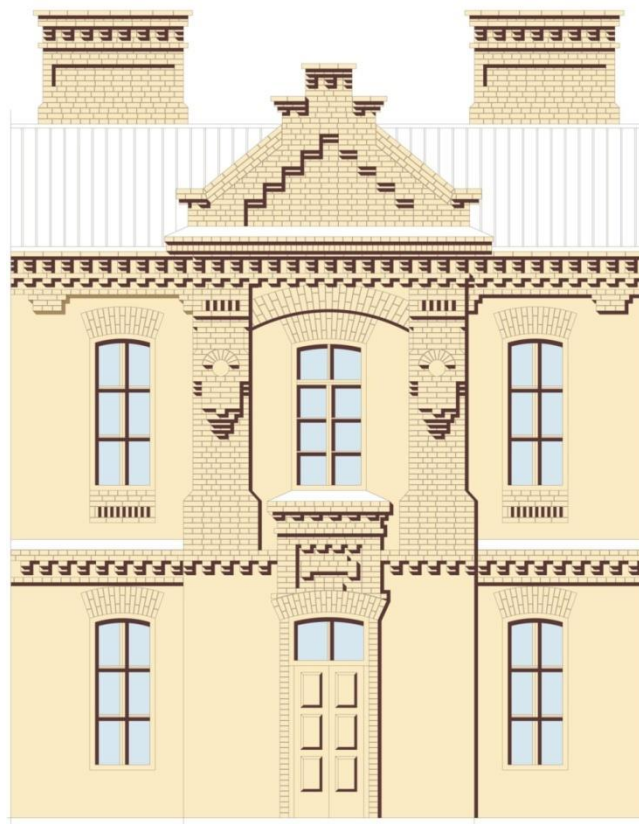


Fig. 3. Fragment of the entrance part of the house 13, Dubenska st., Rivne. Source: graphics I. Serhiuk

Preservation of historical ensembles depends on the preservation of particular buildings that are a part of them. At the same time, the preservation affects on the further existence of the historical and the development of new functions of its elements – buildings [4,

p. 176]. An integration of garrison complexes into the modern urban environment depends on the definition of needs of their owners, residents or tenants, market demands.

On the basis of these principles, the historical and urban analysis was carried out at the Department of Architecture and Environmental Design of NUWM (Rivne, Ukraine) as a result a diploma project of reconstruction of military garrison into athletic complex in Bilokrynytsya Kremenets district of Ternopil region was made by student A. Runkevich under direction of associate professor N. Lushnikova and PhD student I. Serhiuk. Sport theme was chosen because of the lack of such training complexes in the territory of Western Ukraine as this project involves the location of a full range of necessary buildings, areas and adjoining territories for a successful training and competition process for athletes (fig. 4).



Fig. 4. Situation scheme of the location of the military garrison.

Source:
<https://explorer.lviv.ua/forum/index.php?topic=6215.0>

The territory for reconstruction is separated from the residential and has an area of 12,03 hectares which allows to place all the necessary infrastructure. The project predicts several major transformational stages: the reconstruction of existing buildings, which are valuable examples of military architecture, the dismantling of destroyed buildings, the placement of project buildings for new athletic complex and the development of the territory according with a new needs (fig.5) [6].

The first stage is preservation and restoration of the three main buildings of the garrison – two soldier's barracks and headquarters which are in best conditions. Former barracks are converted into hostels with rooms for two people.

The headquarters building has actually preserved its function as administration including the directorate, accounting, conference halls, archives, judges, press centers etc.

The main part of the buildings is in a dilapidated state or close to it. In addition they were built in 1970-80s and have no architectural or historical value. According to the project it was decided to dismantle these buildings and to place a dining cafes. These two-storied buildings are made of bricks to replicate the material of the barracks [5].

It also provides the placement of two sport facilities: an open track and field athletics stadium with a covered podium and an indoor gym with a blocked medical centre with emergency services and the implementation of treatment and prevention in the event of injuries. New buildings are designed according to current regulatory requirements but replicating the material of existing buildings – ceramic brick (fig. 6).

All these principles were embodied in this project. Were preserved the main volume-spatial parameters of the environment, namely: scale, color, proportions, architectural stylistics etc. Modern materials and constructions were applied with account of the general proportional and compositional elements of historical buildings, was created a new structure on the place of the old one, new environment with structural organization but coordinated with surrounding space, a bright contrast between historically formed environment and newly build objects considering all norms of preservation of architectural monuments and corresponding compositional decisions in ergonomics (table 1).

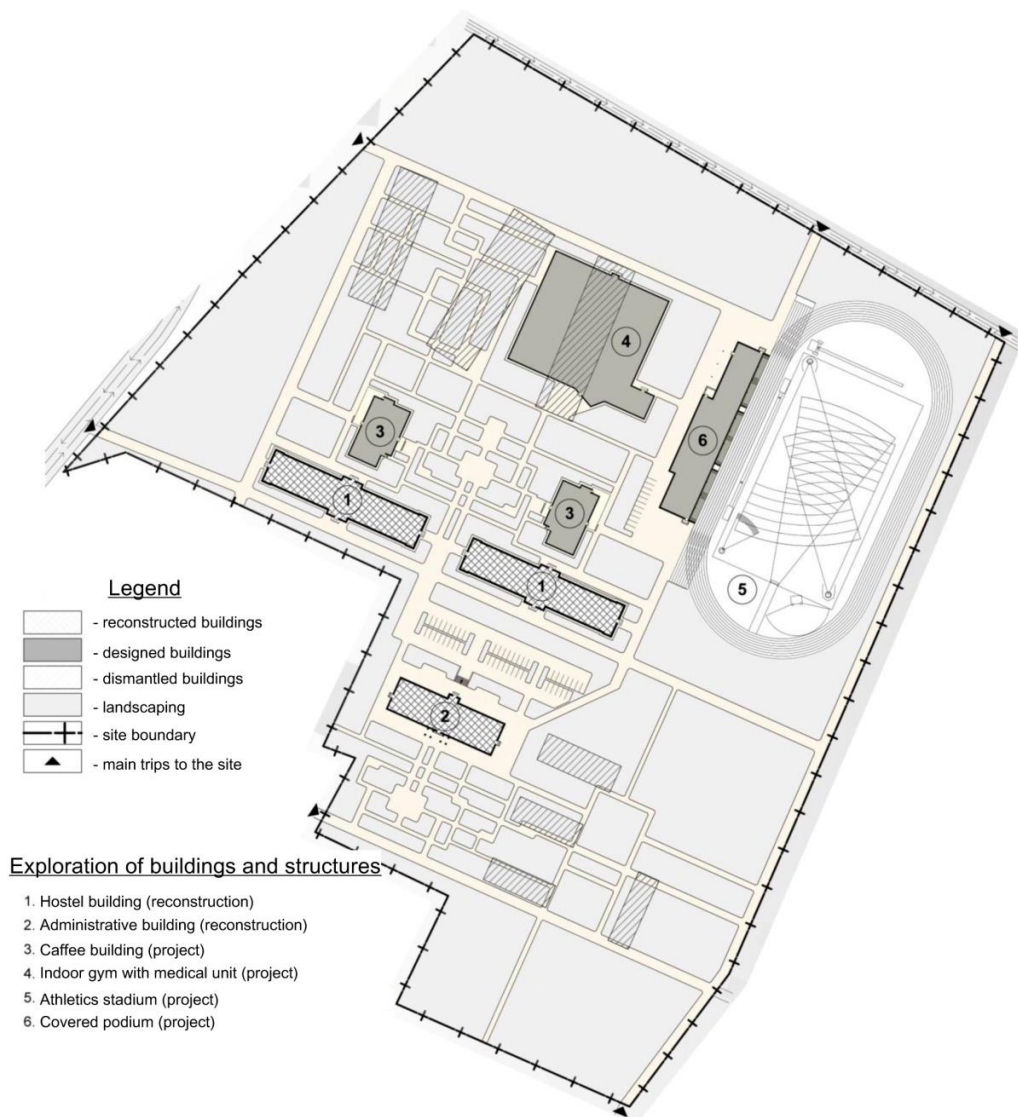










Fig. 5. General plan of the reconstructed territory. Source: graphics A. Runkevich and I. Serhiuk



Fig. 6. A general view of the athletics complex. Source: graphics A. Runkevich

Table 1. Comparative characteristics of the athletic complex buildings. Source: photos by I. Serhiuk, graphical reconstruction by A. Runkevich

Current state	Look after reconstruction
1. Hostel building (former soldier barrack)	
	
2. Administrative building (former headquarters building)	
	

3. Caffee	
	
4. Indoor training gym with medical unit	
	

5. CONCLUSIONS

This project can serve as a basis for further consideration and development of relevant documentation by local authorities or it may interest investors with the possibility of its further realization. This work combines the solution of two important problems of presence: support and development of sport, preservation and restoration of the military architectural heritage.

The preservation of garrison complexes and their integration in modern social processes are extremely important in the development of each city and the introduction of European values in general. The main goal, which is being implemented, is to form cultural priority of national values.

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