Original scientific paper
Received:15.10.2022
Accepted:08.11.2022
UDK: 728.052.8(497.7)"18"

SPATIAL CONCEPTS OF STAIRCASES IN TRADITIONAL MACEDONIAN ARCHITECTURE OF THE 19TH CENTURY

Branko Temelkovski

Ss. Cyril and Methodius University in Skopje, Republic of North Macedonia,
Faculty of design and technologies of furniture and interior-Skopje
e-mail: brankotem@gmail.com

ABSTRACT

The staircase in traditional Macedonian architecture from the 19th century, apart from being a functional object, also appears as a strong visual and sculptural motif in a complex spatial system. It is also an indispensable segment of the "spatial path" as named by Grabrian (1986). The aim of this research is to explore the spatial features of staircases in traditional Macedonian architecture from the 19th century. For this purpose, the research was conducted as a systematic study of staircases in buildings with 3 or more levels, i.e. buildings with two or more sets of stairs. These objects are specific in their complex spatial arrangements. The research was conducted on 72 houses from different parts of Macedonia - Veles, Galichnik, Debar, Kochani, Kratovo, Krushevo, Lazaropole, Ohrid, Struga, Strumica and Tetovo. As a result of the analysis performed, staircases were typologically classified according to: their positioning in the plan, the path of movement, and contradictions in spatial arrangement.

Key words: stairs, path, spatial arrangement, traditional architecture.

1. INTRODUCTION

The organic urban context, narrow locations, topographical and climatic conditions, all represent key factors in development of Macedonian traditional house. Such categories and complexities also inspired Kenneth Frampton's "Critical Regionalism", by which Frampton promoted the strategy to mediate the impact of universal civilization with elements derived indirectly from the peculiarities of a particular place (Frampton, 1983). By "Critical Regionalism", Frampton identified the elements - topography, climate, light and tectonics as fundamental to the art of building, elements that are even more relevant today.

As a result of the complexities of various contexts and specific residential programs, Macedonian house often expands to more than two levels, on which various spaces are distinguished according to the spatial and programmatic specifics of each separate level. This leads to an asymmetrical structure of the house, where each level differs from the previous one. The lower level is naturally connected to the ground and, apart from being used as a storage, also serves as an in-between space, a physical connection with the external world. The middle level or mezzanine represents the domestic everyday sphere, while the uppermost level is intended for enjoyment, social life and, through its impeccability, represents a metaphorical image of the spiritual character of life. This vertical growth represents a symbolic transition from the profane - terrestrial to the sublime - cosmic level.

In such an arrangement, certain typological frameworks of particular regions can be specified, but it is evident that no universal type exists. The specificity of the context in terms of topography, sun exposure, built environment, as well as programmatic variations and flexibility of the

wood framework construction – all represent important aspects that contribute to the inventive and dynamic solutions, unlike those of rigid schematic frameworks inherent to objects built entirely in a massive constructional system.

In such complex spatial configurations, various designs and combinations of staircases are applied. Therefore, the aim of this paper is to identify and classify the spatial principles of staircases in traditional Macedonian architecture, based on various examples of houses on 3 or more levels with at least two sets of stairs. For that purpose, a thorough analysis was conducted on 72 selected objects that met those criteria.

2. SPATIAL ATTRIBUTES OF STAIRS

All previously mentioned aspects generate complex system of spaces and specific solutions of connectivity. Dushan Grabrian names those spaces "rooms for passing", and in that group he places the courtyard, the porch, the stairs and the chardak[1] (Grabrijan, 1986). According to Le Corbusier, good plan is a meaningful hierarchy of ideas which, projected into space and mass, generate a "promenade architecturale" of experiences linked to the building's meaning (Curtis, 1986). Such movement, with the constant change of perspective, enables a more dramatic experience of formal and coloristic contrasts. In Macedonian traditional architecture, spaces for passing are in fact multipurpose spaces that, apart from being used for passing through and connection, also include additional functions. The chardak has a triple use purpose: for social gatherings and living; for ventilation in a hot summer; and for passing through (Grabrijan, 1986). The porch on the ground floor and the chardaks on the upper floors are parts of a multifunctional, complex and interconnected system of spaces for living, working, enjoying, storage, and communicating. That system includes all those functions that take place between the more intimate parts (rooms) of the building.

Stairs are functionally and visually incorporated into that system and enable fluid interconnections between social spaces. The staircase is always spontaneously merged into the whole, and at first we will notice the pleasant softness of its modeling... it is reduced to a bare functional minimum, never aiming for a single vertical shaft... on one side, a minor stair flight will descend to the utility department, on the other side, another stair flight will lead us up to the clear lobby of the living space, to continue in a completely different direction towards the floor of the representative spaces: everything is simply designed, vibrant, light and smooth to use (Chipan, 1982). Depending on the different widths of the houses, the stairs are shaped differently, i.e. they change their position from an elongated to a transverse one, turn and break completely freely in the space of the porch or the chardak (Grabrijan, 1986).

In some warmer regions such as Veles and Strumica, the chardaks are open and thus there are no clear physical boundaries between the open and closed spaces. So the path from the courtyard moves continuously into the interior through the stairwell all the way up to the chardaks on the upper floors, thus often exposing stairs as expressive visual elements on the facade.

Stairs connect the floors functionally, spatially and visually, in a way that, apart from their function of mere passing through, they also make a rich spatial experience possible. The staircase space is not separate but is a part of the chardak or the porch. It is an extension of the room, and its domain gradually shifts depending on the layout of each level. It generates an open and fluid concept of blurred boundaries and interconnected multifunctional spaces.

There is an interesting resemblance in the ideas of Charles Moore. According to Templer (1995), Charles Moore, in his Stern House, built in 1970, carefully exploits the "moving focus" and he exaggerates the spatial tension by using stairs and long galleries on interlocking axes: "The main spaces of the house are stretched out in passages inhabited by people moving. If you see a corridor (and a stair) as nonroom, as wasted space, then this house is wasteful. If you see it as a room stretched, an empty stage for moving as well as resting, then here are rich chances for improvisation" (Moore, Gerald and Donlyn, 1974, as cited in Templer, 1995).

[1] Chardak is a multipurpose closed or open space, like a veranda, that connects the rooms of the house.

3. CLASSIFICATION OF STAIRS

Simple one-flight wooden staircase is a dominant type in Macedonian traditional architecture from the 19th century. There are certain variations in the direction of the bottom or top landing depending on the overall spatial arrangement. Also, two-flight L-shaped stairs are often used [fig.1]. One-flight stairs, with their structural and visual simplicity and pragmatism are archetypical stairs. With their basic and utilitarian form and also transparent appearance, they are usually sculpturally expressed in the unique functional and aesthetic appearance of the house. By their simple nature and straight logic, they emphasize the diagonal as a contrast to the orthogonal structural scheme of the entire object, thus bringing additional dynamism to the overall appearance. Such a purist and minimalist expression of structural simplicity and transparency was later adopted by Modern tendencies in the 20th century and has continued to this day. For modernism, the dematerialization was part of the greater philosophical goal of extending and enlarging the apparent space of the room by the use of transparency … within the modernist goal of manifest truth stairs were often revealed and therefore compositionally significant (Templer, 1995).

Further, as a result of the analysis conducted on 72 selected objects that develop on more than two levels, i.e. have at least two sets of stairs, we will typologically classify staircases based on several parameters:

Classification in terms of positioning in the plan

Two basic and one hybrid category can be distinguished here:

- Stairs positioned repeatedly on each level [fig. 2]. Even though this category represents a fairly simple model, each level has a specific layout. Therefore, each staircase is usually somehow peculiar, depending on spatial configuration.
- Stairs positioned differently on each level of the house [fig.3]. This type is inherent to buildings with a more complex spatial arrangement and will be thoroughly elaborated in the classification to follow.
- There is another combined category specific for more complex objects that extend to more than 3 levels, where the position of a single stair-flight differs from the repetitive position of the rest [fig. 4]. This category also covers the cases of parallel stairwells.

Classification according to the path of movement through the object

We distinguish the following categories here:

- Stairs as segments of a repetitive path. This type relates to the first category of the previous classification i.e. the stairs whose position is repeated on each level, so that the path is circular and also repetitive at all levels [fig. 5].
- Stairs as segments of a rational or minimal path that allows easy and uninterrupted continuity of the movement through the house. Rational and easy movement is the key quality of this type. The path can be linear [fig.6], circular [fig.7], or meandering [fig.8].
- Stairs as segments of a complex path. Stair flights are often opposed in direction, thus creating a complex spatial path. The position of the stair space is often a consequence of the balance between functional and spatial arrangements of the main rooms [fig.9]. In this case, the position of stairs is subordinated to a more complex functional and spatial scheme of the house. Arrangement of the premises is of primary influence in this category.
- Parallel paths of movement occur, though not often, in several examples of houses with parallel staircases – the second staircase usually connects the first and the second level (or mezzanine) of the house [fig.10]. Those paths can be completely isolated or connected by a single space at the top level. We don't place double houses in this category, but we treat each part as a separate house instead.

Contradictions in spatial arrangement

This is a separate and quite fluid category, or more precisely - principle that includes most of the previously mentioned types of stairs. This principle is based on relations between the position of the stairs and contradictions of the overall spatial arrangement. The vertical development of the residential program, the topography of the terrain, the physical context in general, the positions of house entrances, as well as the sun exposure, all represent a complex system of premises that dictate

overall house design. The specificity of space arrangement on each floor is based on different priorities, which often create contradictory conditions. The most dramatic effects occur in the middle - joint level, which acts as a mediator between the different conditions of the lower and uppermost level, where stairs become significant instrument for adjusting those contradictions. The adjustment means a transition from a longitudinal to a transverse direction [fig.11], from integral to divided space [fig.12], from two-room to three-room space [fig.13], from central to longitudinal setup of space [fig.14], from central to peripheral focus or vice versa, etc.

In numerous examples in this category, a common pattern in resolving the contradictions between different zones in the house can be distinguished. Stairs that lead from the ground floor to the first floor are usually placed near the entrance of the house in the frontal zone, while the rear, often sunken zone is used for cellars and other utility rooms. At the uppermost level, on the other hand, the rear – usually north oriented, or central unlit zone, unsuitable as a living space, are ideal places for positioning the stairs, while the window openings and seating areas are distributed along the perimeter of the building. Following such logic, the position of the stairs is moved from the representative frontal side on the ground floor to the back or middle zone of the house on the top floor [fig.15]. Depending on the overall spatial conditions, stairs can be placed along a simple continuous or more complex path.

4. CONSLUSION

Stairs in traditional Macedonian architecture are not just a functional element, but also represent an integral and vital part of the overall spatial arrangement. Furthermore, apart from being a technical and functional device, stairs also represent an important aesthetic and visually attractive element. Through the conducted analysis, the stairs were classified: according to positioning in the plan, according to the path of movement, and according to contradictions in the spatial arrangement of the house. From the various examples covered by the research, a particularly inventive approach to connecting different spaces is evident, and also the inseparable relationship between the stairs and the basic functionality of vertically arranged residential spaces. A principle based on relations between the position of the stairs and contradictions of overall spatial arrangement was detected and also a common pattern in resolving the contradictions between different zones in the house was distinguished. With its structural simplicity on one hand, and spatial complexity and flexibility on the other, the stairwell represents an adaptable and flexible device enabling complex spatial arrangements. It is a significant instrument for adjusting the contradictions of complex system of premises. The rich spectrum of solutions achieved by simple technical and material means, along with the ability for easily maneuvering in complex spatial and programmatic conditions in traditional Macedonian architecture, suggests a highly developed intuition and an advanced level of spatial intelligence among the master builders of the 19th century. Such timeless free and non-dogmatic spatial sensibility represents an open source of ideas for spatial thinking in the contemporary context.

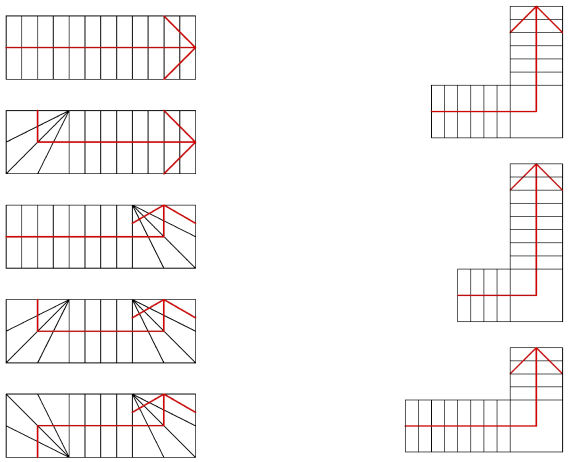

Figure 1. *Variations of one-flight and two-flight L-shaped stairs*

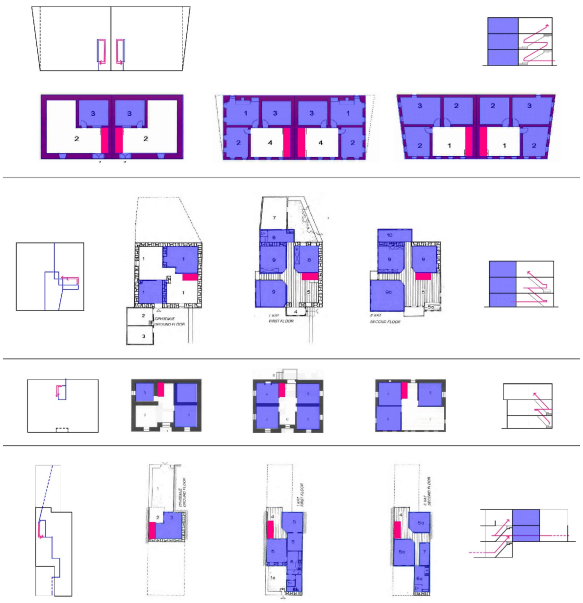

Figure 2. *Stairs positioned repeatedly on each level - floor plans used from Karanakov (1999), Grabrijan (1986) and Brezovski (1993)*

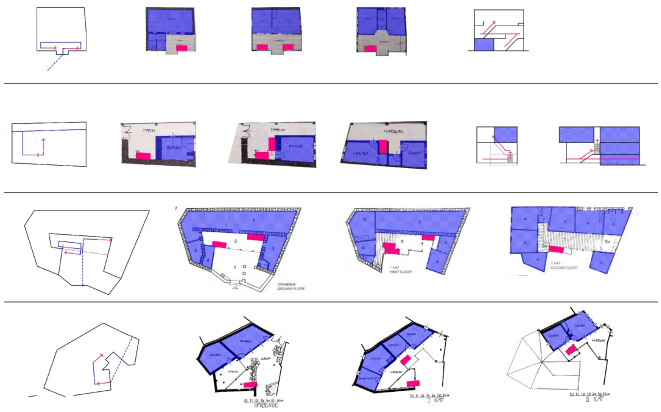

Figure 3. *Stairs positioned differently on each level - floor plans used from Voljinjec and Aleksievska (1983) and Grabrijan (1986)*

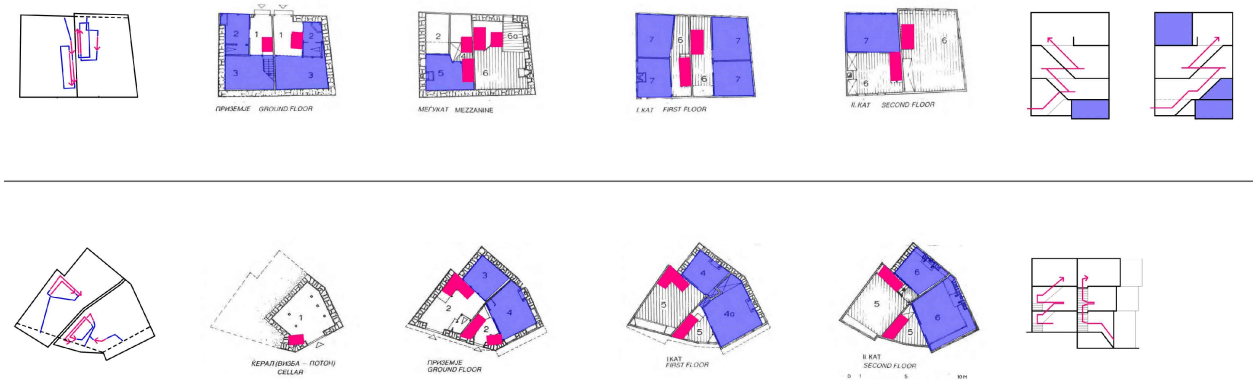

Figure 4. *Combination of repetitive and different position of stairs - floor plans used from Grabrijan (1986)*

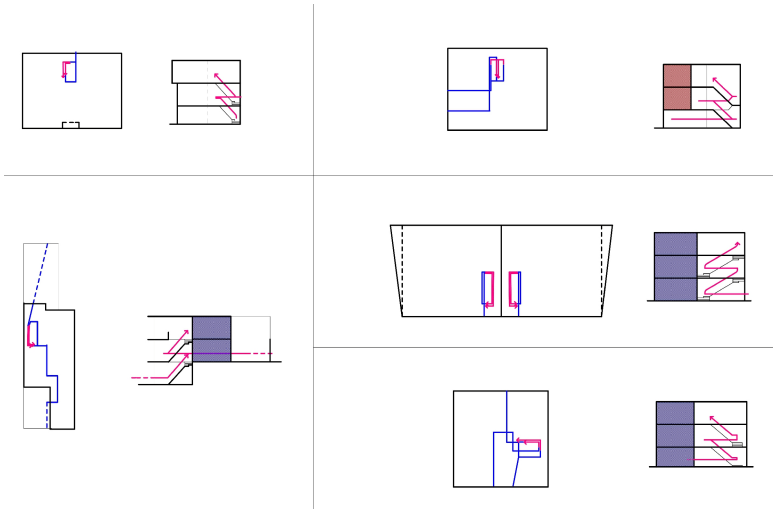

Figure 5. *Stairs as segments of a repetitive path*

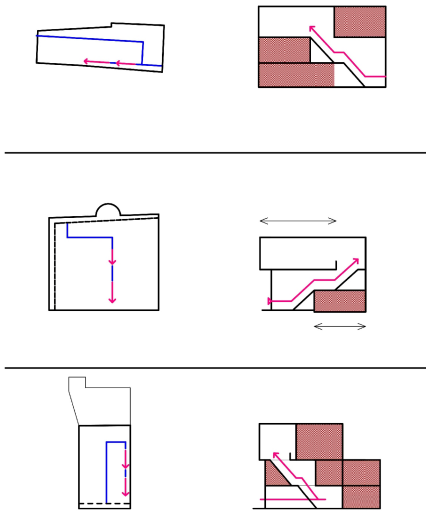

Figure 6. *Stairs as segments of a rational linear path*

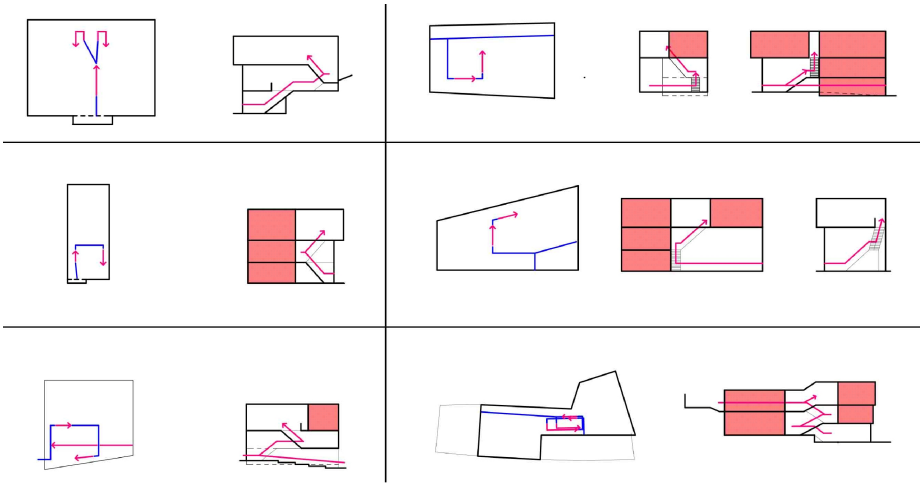

Figure 7. *Stairs as segments of a rational circular path*

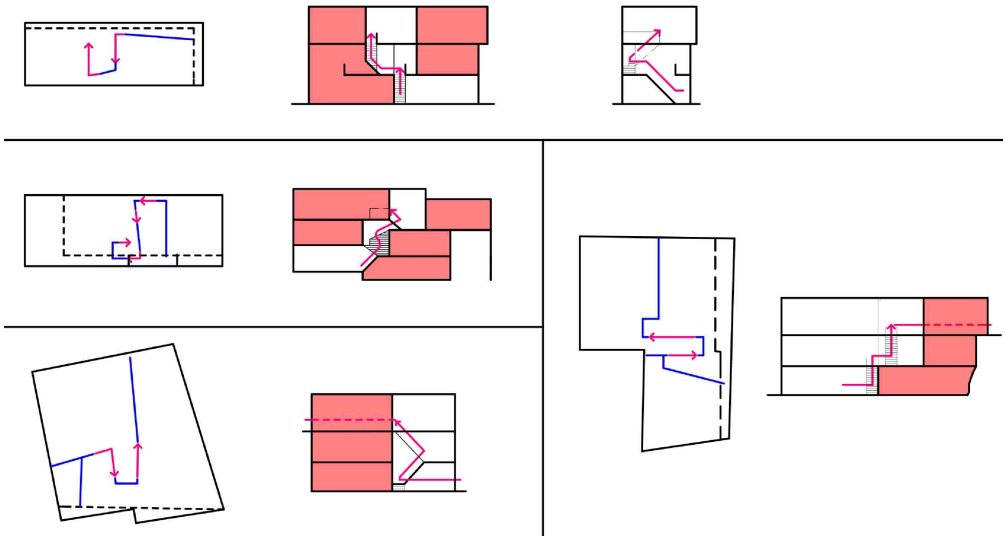

Figure 8. *Stairs as segments of a rational meandering path*

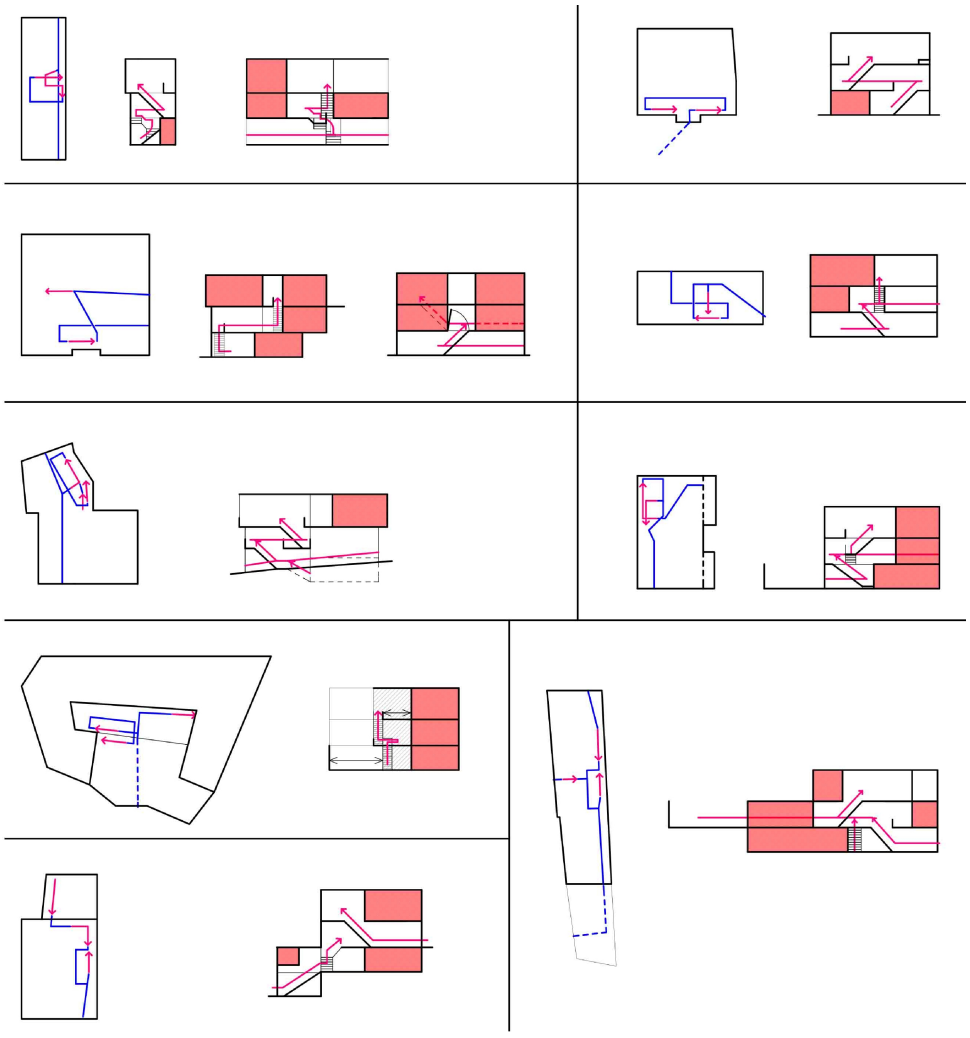

Figure 9. *Stairs as segments of a complex path*

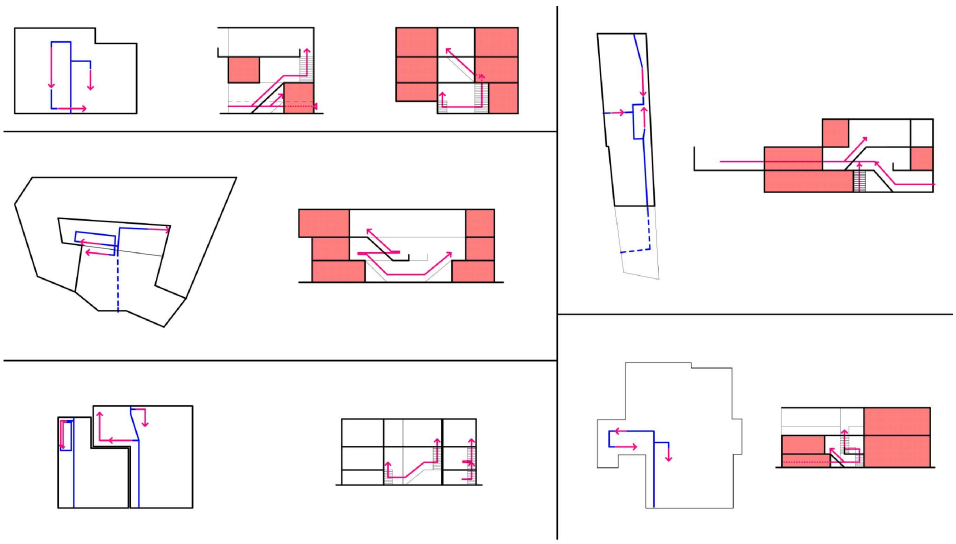

Figure 10. *Parallel paths of movement*

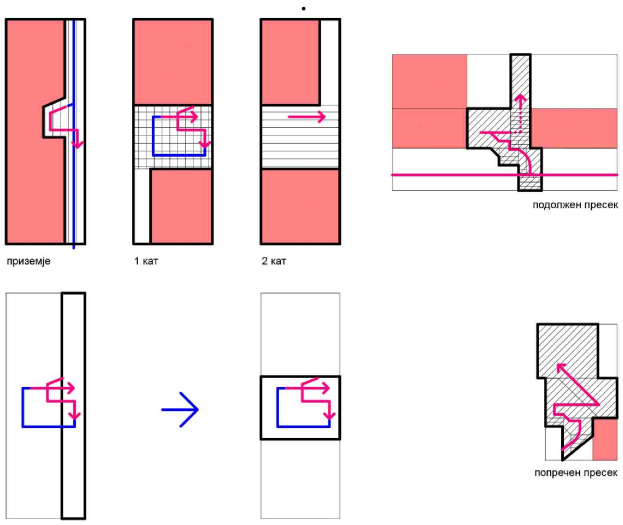

Figure 11. *Transition from longitudinal to transverse spatial arrangement*

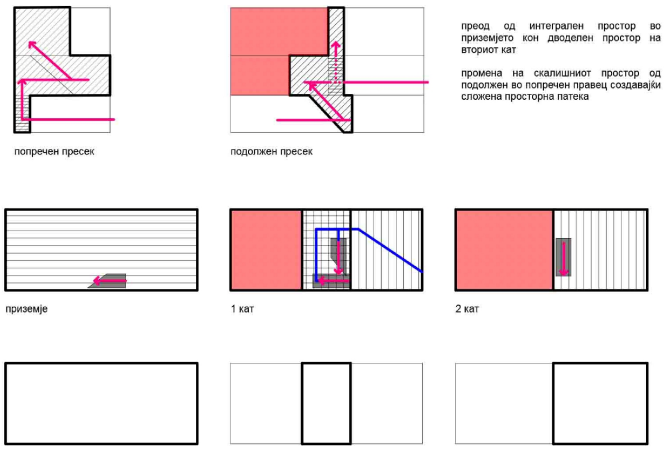

Figure 12. *Transition from integral to divided space*

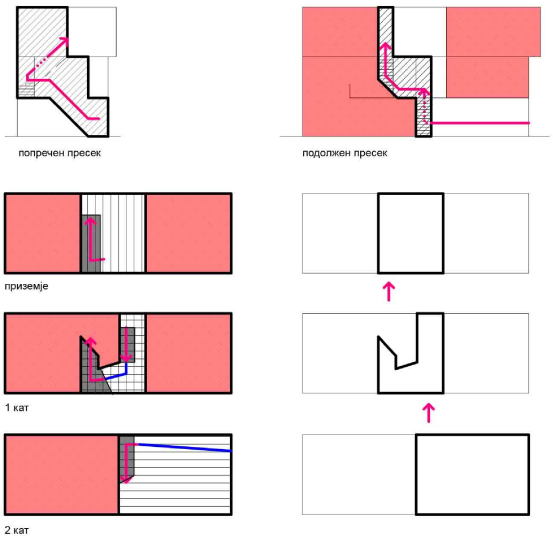

Figure 13. *Transition from two-room to three-room space*

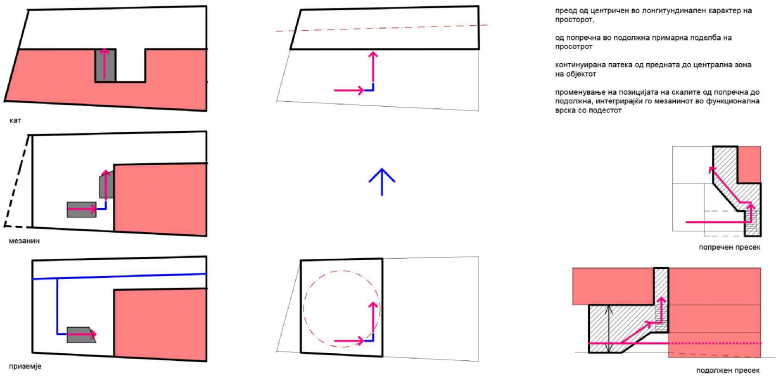

Figure 14. *Transformation from central to longitudinal setup*

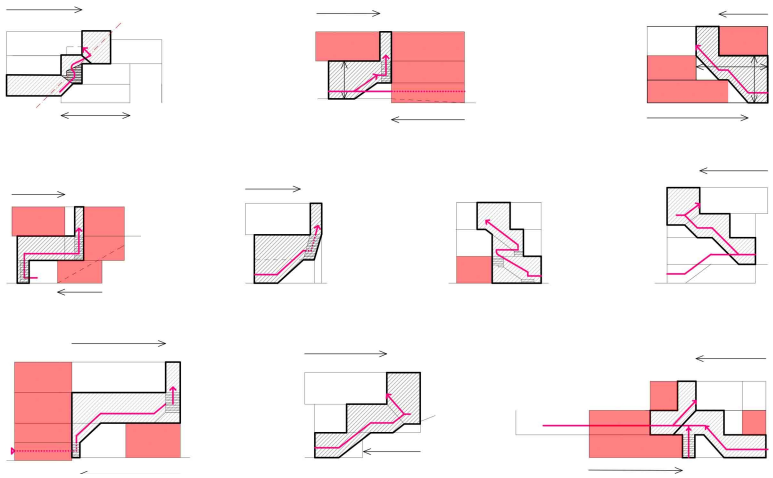

Figure 15. *Common pattern in resolving contradictions between different zones of the house*

REFERENCES

[1] Brezovski, S. (1993): House from Rekan Region (in Macedonian), BIGOSS, Skopje.

[2] Chipan, B. (1982): Old Town Architecture in Ohrid (in Macedonian), Makedonska kniga, Skopje.

[3] Curtis J.R., W. (1986): Le Corbusier Ideas and Forms, Phaidon Press Limited.

[4] Frampton, K. (1983): Towards a Critical Regionalism: Six Points for an Architecture, Published in: Foster, H. (1983): The Anti-aesthetic: Essays on postmodern culture, Washington: Bay Press.
[5] Grabrijan, D. (1986): Macedonian House or a Transition from an Old Oriental to a Modern European House (in Macedonian), Misla, Skopje.
[6] Karanakov, V. (1999): Architecture of the Old House in Lazaropole, Master Thesis (in Macedonian), Ss. Cyril and Methodius University in Skopje, Faculty of Architecture.
[7] Templer, J. (1995): The Staircase History and Theories, Volume 1. MIT Press.
[8] Tomovski, K., Volinjec, R., Tokarev, M., Hadzieva Aleksievska, J. (1980): Kratovo - Old Architectural and Urban Content (in Macedonian), Macedonian Academy of Sciences and Arts, Skopje.
[9] Voljinjec, R and Aleksievska, J. (1983): Functional and Aesthetic Concepts in the Architecture of the Old Tetovo House (in Macedonian), Collection of papers No.6: 43-76, Ss. Cyril and Methodius University in Skopje, Faculty of Architecture.

Branko Temelkovski – Master of Architecture

PhD Student at Faculty of Design and Technology of Furniture and Interior – Skopje,
Ss. Cyril and Methodius University in Skopje