

APPLICATION OF SYMMETRY IN THE TRADITIONAL ARCHITECTURE OF THE 19th AND EARLY 20th CENTURY IN MACEDONIA

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Abstract

Application of symmetric placement of structural elements, spatial structure, open layout, facade shape and overall concept is often a feature of the house from 19th and early 20th century. The applications of the ideal set of symmetric elements are considered quality contribution to architectural-constructive solution. Symmetry was observed in interior equipment with built-in furniture, the form of fences, standing on stairs, decoration of interior doors, fireplace decorations, use of façade elements, layout erkernite outlets, look at frontonite, decorative elements and balcony etc.. The connection to the purpose of indoor space can be recognized on the outside facade, by grouping the window open position or the balcony. The use of anthropomorphic measures in humans is an essential starting point for dimensioning objects of traditional architecture. Most prominent and clearly visible element of symmetry is the main facade of the buildings of traditional architecture. Harmonization is achieved with symmetric solution primarily to meet the physical, technical, design and artistic concept.

Keywords: symmetry, space, facade, interior details, window, stairs, doors, location, composition

ПРИЛАГАНЕ НА СИМЕТРИЯ НА ТРАДИЦИОННАТА АРХИТЕКТУРА НА 19^{-ТА} И НАЧАЛОТО НА 20^{-ТИ} ВЕК В МАКЕДОНИЈА

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Резюме Прилагането на симетрично определјане на конструктивните елементи, пространственото разположение, график на отворите, фасадното оформјане и цялостната концепција често е функција на къщата от 19th и началото на 20th век. С прилагането на идеално разположение на симетричните елементи, е било смятано за качествен принос на архитектурно-конструктивното решение. Симетријата е била запазвана при ентериерното обзавеждане с вградени мебели, формата на огради, положение на стълби, декорацијата на втрешните врати, декорацијата на огнището, прилагането на фасадни елементи, формата на еркерните канали, външниот вид на фронтоните, декоративните елементи на чардака и др. Врзката на предназначението на втрешните помещения може да биде препознаваема на външната фасада, чрез групирањето на прозоречни отвори или положението на чардака. Прилагането на антропоморфните мерки при човека представляват основна отправна точка при димензионирањето на објектите од традиционната архитектура. Хармонизацијата се остварува преку симетрични решенија, кои пред сè треба да одговараат на пространствено-технически, но и проектното изкуство концепција.

Клучови думи: симетрија, фасадни, ентериерни детали, прозорци, стълби, врати

One of the peculiarities of the valorization of the traditional architecture of the buildings is the principle of symmetry at several levels. The rule of setting structural elements, spatial structure, open layout, facade styling and overall concept is often a feature of the house from the 19th and early 20th century on the territory of Macedonia. The application of the ideal set of symmetric elements (strict geometric layout of equal parts and form in relation to one or more axes or planes of symmetry, passing through a geometric center) is considered a quality contribution to the architectural and constructive solution. This way of accepting one of the basic rules in architectural design in the history of architectural form in certain historical periods and genres (Formalism), converge with evolved and perfected form of high aesthetic level. The roots of the use of architectural symmetry in shaping confirmed in architectural history have always been synonymous for aesthetic, harmony and perfect form. Especially this adjustment of symmetry in architectural form is justified by a number of theorists of architectural form as a solid foundation and direction for how that is applied in the traditional architecture in Macedonia in the 19th and early 20th century.

1. Applying the spatial solution

The axis of symmetry is applicable to several different segments when creating a traditional approach to solving a particular factual situation resulting from the construction site. Positioning of houses in towns in the territory of Macedonia during the Ottoman rule, we can conclude two different approaches. The Christian population, due to restrictions on the location of the narrow streets and steep terrain, with lanes that are adapted to the irregular shape, spatial solution strived to height (Veles, Kratovo, Ohrid). Locations were often small in area and ground floor are placed on the line of the street, while in the back yard remained open space for yard, garden and patio economic. The rule of symmetry in this case could hardly apply only in major locations in rural areas. In cities Muslim houses were located in lowlands with large vacant spaces of the yard, with large gardens, could be simpler objects placed in symmetrical layout against the house and rest content. Ease of location and the form recognized framework enclosed with a wall, which in some buildings had symmetrical layout (Tetovo, Gostivar, Debar).

The formation of spatial decision seems to have the greatest impact for the builders to implement symmetric solution with perfect proportions, of course if they had wright for that location. In some cases, despite severely limited space on the ground floor, the floor is subject to the amendment and extension of the base, with strictly symmetrical layout, with a central axis. Under normal spatial patterns, especially the floor, we can segment symmetrical grounds, where usually in the middle of the position is chardak with stairs, by setting the rooms on both sides in symmetrical concept (Debar, Strumica, Bitola, Krusevo). Wealthy families had buildings with development solutions which largely formed symmetry develops chardak in complex shapes, which built houses larger than usual.

Certain communication elements as stairs, that have expressed feature set mostly on the cardak with also symmetric form. This was expressed by the simple reason of adjustment of the given concept of symmetrical solution, and addition to the aesthetic harmony of the interior space. Construction system of scales often was able to express quite creative, with stylish form of fence and applied elements, which also had symmetrical and proportional features (Krusevo, Bitola, Debar). Rarely had a central

staircase with accentuated form, were usually modest and perfectly integrated in the construction, meeting the basic purpose of overcoming certain height, between two levels. Although traditional architecture was largely present system of asymmetrical placement of stairs space, he is successfully incorporated into the spatial system of symmetrical spatial resolution of the base.

Under the system of building and the builders access after applied spatial symmetry solution of the location, the position of the stairs, it was logical principle to the setting up of certain elements of the interior. It refers to applied not identical elements (cupboards, chests, position the fireplace, vents, fences, poles, shelves, windows frames, interior doors, etc.) with a symmetric position in different rooms at the base. Often items were made by the same few samples, with small variations in decoration, but laid out in a symmetrical position, with respect to the base and interior. In this way we emphasize the importance of certain areas where the application of symmetry signifies quality solution (odaja).

2.Application of symmetry in the arrangement of the facade elements

The visual image of gabaritite of residential buildings of traditional architecture basically contains penchant for adherence to the symmetry façade disposition. Setting the symmetrical arrangement of façade elements onto the qualitative rule for outgoing contracts exterior of the house. Tendency to symmetrical set-ups elements, door, yeti outlet, roof, roof structure, structure and facade treatment etc.. posed a impulst to achieve value quality.

The long period of practicing the procedure of building, done in the area of creativity throughout the centuries, is purified a style of adaptive, volume aesthetic value of traditional residential architecture. Certain elements have become standard forms of composition of symmetry, as the shape of the window, with additional aesthetic elements of frames the outside, which are pointed preserved segment in addition to the symmetric solution. Composing a group of windows has a basic dominant element in the body of functional and aesthetic spatial logic applied forms.

The facade is created and volumetric solutions that contained creative source. Symmetry expressed represent final element of the design process, within the structural features and construction features of the applied materials.



Cr.1.The symmetrical facade solutions - Strumica, Krusevo, Curve Palanaka

Symmetry was observe the setting of a group of windows, usually, two, three, and sometimes four or more in a row (Ohrid, Kratovo, Veles). This system of classification derived primarily from the constructive system formed by vertical beams, of the wooden frame. Experience in the construction solution and placing wooden beams and additional structural elements like - his saddles that lay on a beams, their range varied depending on height, with symmetry are applied in their setting (Tetovo). Need input

light, especially in the area of indoor rooms and verandas, space is considered exclusive.

The position of the windows with a rhythm of the façade composition is realized by applying some harmonious dimensions, with symmetric solution in a rhythm on the facade (Krusevo).

Rarely they missed the window open, with open verandas, and yet the arc endings between vertical wooden pillars, the space was formed in the open (Strumica, Kocani). This system is supplemented by a symmetrical composition of the facade and dominated structure of applied elements of the building and street structure volumes.



2. Exterior view of the bay window, gable, rhythm of windows in traditional house

Application of yeti outlets are are specific for the façade shapes of buildings from this period. Yetis were placed on the front or main façade, oriented to the street, or sometimes on both sides. Besides decorative role and spatial expanding the internal floor space, had yeti function attached to recharge symmetrical composition of aesthetic shape of the facade. In terms of symmetry they are asking the most central position of the main facade, and rarely in the lateral position. They are designed and oriented to symmetry and placement of windows, with an even number (two, four - Krusevo) or an odd number (one, three, five-Debar, Struga, Kratovo, Ohrid). The transfer of applied proportional analysis of the elements of the bay window, logically carrying other areas of façade composition.

Often applied over yeti outlet and fronts in central symmetric position, which once again emphasizes the precise symmetry of the system applied decorative elements of the facade (Debar, Krusevo, Kratovo, Berovo, Criva Palanka, Ohrid, Tetovo).

Symmetric applying and setting of structural elements, beams visible yeti outlets with indoor or open balcony. They are set in a certain rhythm, a uniform spacing along the entire length, which contributes to an ideal harmonious composition of the facade. Continuous decoration notice and the decoration and the profiling of eaves and spilled sealant items related to roof. The style and concept of the application is not decorated fragments interact with symmetric system applied in relation to the dimensions of the house.

In rural areas symmetry is also considered a positive segment in shaping the houses. Specific detail is *-badza*, consisting of hub or central mounted symmetrically, on both sides of the front facade. The village house appears and built barn, which sets on the visible facade and usually thrown from the balcony as part of a bay window with a symmetrical position, in relation to the overall composition of the facade (Berovsko, Delchevo). Also chimneys are laid out in a particular symmetric form in terms of the shape of the roof, and in correlation with the other facade elements (Upper Vranovci).

According to the presented analysis applied decorative elements of the façade, we can conclude a intensity impact of these elements on the outer framing, with a respect to the symmetric line. Intense impression of coherence, positive spatial and aesthetic feelings created back in the visitor exactly on the facade and external elements. The basic structural and symbolic elements that reflected a specific mark, came from the use of façade elements (bay window, balcony) and their adaptability to symmetry.

3.Relation of internal and external elements spatial processing

The tendency of inserting elements, fixtures or furnishings by placing stairs, the position of the rooms are inevitably reflected in concordance with the external appearance of the buildings. This connection and harmony begins with the structure of the construction system, by its nature and source, imposing impression of balance, harmony and balance of structural elements. From here starts the direction of upgrading the existing base by inserting the frames of windows and doors in the gaps between the pillars.

The connection to the purpose of indoor space can be recognized on the outside facade, by grouping the window open position or the balcony. According to unwritten rules every room has a number of windows (one to four) that are placed symmetrically with respect to the dimension of the outer wall. In some buildings, the windows can be in sequence, along the outer wall, for providing intensive light in the room, but also for getting horizontal line marked on the outside (Ohrid, Debar, Veles).

The position on the balcony in line symmetric with respect to the facade, is applied in order to clear separation of open and closed spaces or contrasting structures and processing facade.

4. Using symmetry when applying proportional modular system

The use of anthropomorphic measures in humans is an essential starting point for dimensioning objects of traditional architecture. The use of anthropomorphic measures in humans have been associated with the step rate, knee, elbow, reach, growth of man, etc., which was practising from the builders to insert in system building. Yardstick and its proportional use and smaller segments, was a basic measurement system, the formation of the measures in the plan of the houses until the mid 20th century. This way of applying the yardstick was part of the folk architecture and was used on the basis of experience of centuries on the territory of Macedonia. Besides the interrelationships of

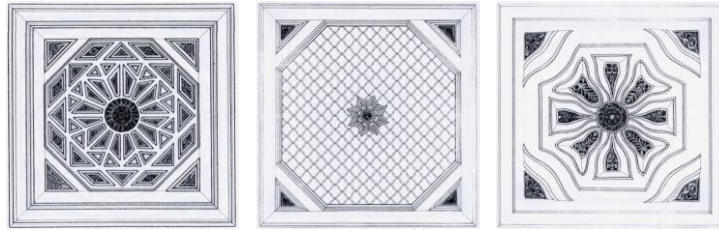
the elements and the use of rhythm in architectural modeling, there was a tendency and application of symmetry in all areas of physical modeling. The implementation of a module of anthropological units and its main application, created a system of modular proportions as a means of harmonious architectural compositions. On thus symmetric solutions, where there was a possibility to apply for adjustment of spatial organization, the size of the architectural elements and replacing a system of geometric calculations and static solutions.

Starting the application of archaic anthropometric measures is present in forming the basis of the premises, where it was indicated by the decomposition of the square as a basic geometric shape or harmonic division of space. The symmetry rule is if the present small deviations from the nature of the adjustment of getting an ideal symmetrical solution. Regardless of the type of spatial resolution of the house we can conclude, despite modular proportional ratio of the object as a whole and tends to symmetric solution (Krusevo, Tetovo).



3. Look back at where symmetry is observed in the application of decorative elements, Western Macedonia

Proportional application of certain size, continues the spatial separation of form and position of the internal interior elements as *musandra*, ceilings, cupboards, internal frames of windows, doors, cupboards, walls stairs, kitchen organization, etc.. (Krushevo). In particular symmetry is observed in the decoration with geometric decorative shelves and frames of *musandras* and cupboards. They are smoothly integrated with other elements of the form a whole, with emphasis on central elements in the room or other space (Tetovo, Debar). Decorative elements expressed symmetrically applied motifs, which are applied to decorate the hats of fireplaces in the rooms (Ohrid, Tetovo). Also the analysis of wooden elements was covered by decorating the ceilings, the position of the elements has strictly symmetrical position, and the composition of the individual elements (Kumanovo, Krusevo, Tetovo, Kratovo). Certainly the simpler details could apply certain symmetric solutions with composition, especially the Muslim and Christian wealthy families.



4. Look on the ceiling of the room symmetrically spaced elements, Skopje, Kratovo

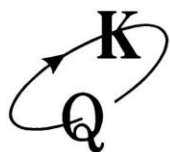
Conclusion

Symmetric composition largely depend on the feeling of the builders of the 19th century. She builders except as an expression of aesthetic elements, is seen as an expression of the functional and structural characteristics of the architectural structure and composition of other details. The level of representation is symmetric feature of high artistic expression and purification of layout plan. He emphasizes the organic relationship between horizontal solution of the plan and vertical plan. It applied several axes of symmetry in space, in the vertical plan, the façade composition, which determine the symmetry of the final impression, or a tendency to adjust to a symmetric concept. Often with asymmetrical elements are getting impression and tends to symmetric solution, where priority is the final form of expression and freedom of the builder.

Most prominent and clearly visible element of symmetry is the main facade of the buildings of traditional architecture. Harmonization is achieved with symmetric solution primarily to meet the physical and technical concept, design and art. Architectural composition depends on the method and system of constructive solution as the basic foundation for compositional symmetry as part of aesthetics. It is in keeping builders decorative-concept in the building procedure, resulting in a high quality and the scope of application of symmetry, as an important consideration in shaping the architectural form.

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СЪЮЗ НА СПЕЦИАЛИСТИТЕ ПО КАЧЕСТВОТО В БЪЛГАРИЯ /ССКБ/

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Настоящата служебна бележка се издава на доц. д-р Петар Намичев от катедра "Архитектура и дизайн" на Университет "Гоце Делчев" - Щип, Р. Македония, в уверение на това, че същия е участвал с доклади на тема:

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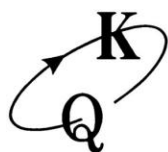
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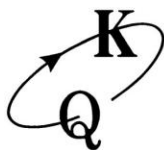
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