



Features of the Formation of the Architecture of Residential Buildings in the Regions of Uzbekistan

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ABSTRACT

This article is devoted to Uzbek folk architecture, its diversity, originality, its value for modern construction. Differences in historical and natural-climatic conditions, which led to the localization of individual cultural centers, are considered. These factors led to the parallel existence of several schools of folk architecture, each of which has its own specific features, each has its own special building and artistic traditions. Being united in general design and spirit, the folk architecture of Uzbekistan is divided into a number of local schools.

Keywords:

types of Uzbek dwellings, natural and climatic conditions, interior character, iwan, dwelling feature, Khorezm, Bukhara, Fergana.

Introduction

Research is currently underway to preserve and restore traditional housing in many of the world's historic cities. In this regard, the adoption by such influential organizations as the UN, UNESCO, ICOMOS of the International Convention for the Safeguarding of the Intangible Cultural Heritage [1], the International Charter for the Protection of Historic Cities aimed at the preservation of cultural heritage and its transmission to future generations, as well as other international documents, such as the Siena Declaration on the Conservation of the Environment of the Site Ruins as a Cultural Heritage Structure demonstrates that this area of research is in the focus of attention of world scientists [2].

The architectural heritage of Uzbekistan is rich and diverse. The historical monuments of the monumental architecture of Central Asia have long been appreciated and gained world fame,

while folk architecture is known incomparably less and is still very little covered. The significance of folk architecture for modern design practice is extremely high and requires urgent consideration and generalization of the accumulated material.

Since the first years of independence in our republic, much attention has been paid to the construction industry, in particular the protection and restoration of cultural heritage sites. In his address to the Oliy Majlis and the people, the President of the Republic of Uzbekistan emphasized that the issue of our cultural heritage is an important issue and "we must preserve our rich cultural heritage and pass it on to future generations" [3]. In 2021, a draft concept was launched in our country dedicated to the study of mahallas in Uzbekistan as part of the international multimedia program "Cultural Heritage of Uzbekistan" [4]. The goal of the two-year

project is to publish books and albums about mahallas of Tashkent, Samarkand and Bukhara, in particular about traditional settlements. This, in turn, indicates the relevance of studying traditional housing in Uzbekistan, studying its current state and improving restoration methods in accordance with modern requirements.

Relevant Literature

Since the twentieth century, leading scientists in the field of history and architecture have carried out historical, typological, ethnographic, archaeological, topographic studies on the architecture of residential buildings in the historical cities of Uzbekistan. Among them are the works of V.V. Bartold [5], V.M. Masson, G.A. Pugachenkova [6], L.I. Rempel, V.L. Voronina [7], P.Sh. Zakhidov [8], M.K. Akhmedov [9], M.A. Yusupova, A.S. Uralov [10], Sh.Z. Nurmukhamedova and others.

In addition, scientists from the State Unitary Enterprise "UzshaharsozlikLITI", the Institute of Art History of the Academy of Sciences of the Republic of Uzbekistan, TASI and SamGACI are currently working on projects to study the basics of the formation of residential and public interiors in Uzbekistan.

However, it should be noted that the research work of the above scientists is devoted to the problems of housing construction in the historical centers of cities, however, the problems of their preservation and restoration of housing require a special approach and the development of a scientific basis.

Research results

The dwelling is the main object of folk architecture, it most fully reflects the tastes and needs of the working masses of the population, it constitutes the main mass of buildings in cities and villages. From this it is clear that the forms of dwellings are the starting point in the addition of the appearance of other objects of folk art.

The Uzbek folk dwelling, like a pearl shell, hides the treasures of art inside the shell of deaf and inexpressive clay walls. Only sometimes an architectural touch - a shadow spot, a loggia, a lattice opening - enlivens the

stingy surface of the street facade. But inside the courtyard, the visitor is greeted, in contrast to the dust and heat of the street, with the cool shade of the aivan, the greenery of the vineyard, cleanliness and comfort, instead of monotonous walls - exquisite spatial combinations, fine decoration of the details of the aivan and the room. The appearance of the dwelling is characterized by spatiality, picturesqueness, scale and that special intimacy that is generated by the loving and attentive arrangement of every corner and detail. Even the most modest dwellings followed architectural traditions and provide grateful material for study. All kinds of folk artistic skills are involved in decorating the dwelling - carving on ganch and wood, painting the ceiling and walls; works of artistic craft contribute to the same goal: chasing and engraving on copper - trays, jugs, etc., ceramics - glazed dishes, wood carving - chests and caskets. All these utensils are placed in special niches. In addition, the walls are decorated with various types of embroidery.

The site is divided into outer and inner halves (Tashkari and Ichkari or Birun and Darun). On the first one, the owner received visitors and was engaged in crafts; there were mihmankhona (reception room), stables, a forage warehouse; on the second, family life flowed, living quarters and services were grouped - a kitchen, storerooms, etc. Sometimes a special utility yard stood out, and in some cities the size of the plot allowed cultivating a garden [12-19].

The buildings of Ichkari and Tashkari are perimeter, and the premises open into the courtyard. In cramped areas, the male half is represented by only one isolated room at the entrance or on the second floor, which in this case faces the street. At the rooms, front and terraces were arranged: covered - aivan or open - sufa. Often the door of the room opens directly onto the iwan. The facade is cut from the floor level by openings with shutters - darcha, which resemble a door, but open outward, while the latter opens inward. Above the doors and shutters are small lattice windows - tobadon. In Fergana and Tashkent, there is a kind of winter aivan - kashgarch, the

front sliding wall of which is equipped with lifting stands. The latter were also used in reception rooms on the second floor of houses in Fergana, Samarkand, and sometimes in Bukhara [20-27].

The percentage of development of urban properties is very high. In the central parts of Tashkent and Bukhara, the development of the site reaches 80-90%, and in the dwelling of Khiva with oncoming aivans, continuous development is quite common [28-32].

The structures of the house are simple. In cities, the construction of walls of a single-row or two-row frame prevails, and the filling is raw brick or hand-molded clay blocks - guala. The floors are adobe, sometimes covered with adobe or stucco coating, less often - lined with burnt bricks. The roof is earthen on beams. Usually, the structure inside the room is not masked and a ribbed flooring of small slabs - vasa - opens between the beams.

Types of Uzbek dwelling. The type of residential building, more than other types of structures, is associated with the conditions of the place. It is the most multifaceted and complex of all objects of the folk architecture of Uzbekistan, since the life flowing in it is infinitely more diverse than the frozen forms of worship or any other function that makes up the content of other types of structures. Usually, dwellings are more complex in form than other architectural objects. It consists of many components and forms a whole ensemble with all the incoming buildings, which creates the basis for variations. The appearance of the dwelling is due to a whole complex of various social, historical, ethnic, natural and climatic factors. Features of each of them, a change in the specific gravity or a change in their combination entail changes in the structure of a residential building.

We will try to figure out what and how affects the formation of the characteristics of the home.

The feudal system of the medieval East determined the most common feature of the dwelling - its closed character. In addition to class clashes, this feature has other reasons. Public life was not developed. In a sense, the public city center was the bazaar - the center of

crafts and trade; to some extent, baths were places of rest and meetings; Some kind of public institutions were madrasahs. But for the most part, free from crafts and trade, the city dweller, closing in on his personal life, spent at home, where the living room carried a tiny rudiment of public functions. Hence the sharp isolation of housing, its separation from the streets, which were considered exclusively as a means of communication between parts of the city and were reduced in width to the size of a cart. There were other reasons to conclude dwellings with blank walls, which in themselves followed from the conditions of the feudal-medieval system. So, for example, in some cases it made sense to hide their wealth from the encroachments of those in power; the safety of residents at night was not ensured; the poor sanitary condition of the city at high summer temperatures made it necessary to isolate the site from the street in order to create a tolerable microclimate and ensure cleanliness.

The second feature of the dwelling - the division into two halves - outwardly conditioned by the dogmas of religion, is also a social sign, which, however, is characteristic not only of the feudal East, but also of earlier stages of social development in a number of other countries. Thus, the separation of the female half, noted already in the Assyrian and Sasanian palaces, existed in the dwelling of ancient Greece. This is a feature of a certain stage in the development of the family of pre-capitalist society, which appears more or less clearly in various countries and is sanctified by the institutions of religion [29-33].

But the division into two parts, at least in the Uzbek dwelling, also depends on the owner's belonging to a particular social group: the greater the wealth of the owner, the sharper it appears. Here the circumstance also plays a role that the isolation of a woman was especially strictly observed in the "upper" strata of the population and softened in the "lower classes", where she had to work, craft, and especially among the rural population due to the participation of women in field work. Thus, in a rich urban dwelling, we see a clear division into two courtyards, and one can get

into Ichkari only after passing through the outer courtyard, through a narrow passage in the border buildings. In the middle strata of the population, due to the tightness of the urban area, the male half is often presented only in the form of a superstructure above the gate of the reception room or is allocated on the ground floor near the entrance. Sometimes several households, usually inhabited by relatives, used a common mihmankhona. In the villages, there was often no division of the dwelling, and in the event of the arrival of an outside guest, the women went to their neighbors.

As for the architectural forms and the principle of planning the dwelling, the social affiliation or occupation of the owner affected them mainly quantitatively: with an increase in wealth, the number of premises and the richness of decoration increased. If the poor man had access to one or two rooms with an iwan, the rich man had several of them; if in a poor dwelling an aivan remained open with posts instead of columns, in a rich one, carved columns were placed and a winter aivan with lifting shutters was arranged. The decoration of the rooms in the house of the poor was limited to clay plaster and open niches without divisions, and in wealthy houses the walls were decorated with carved alabaster decorations and small niches-cells with a scalloped slot. Wall decoration, especially niches, is the best indicator of the owner's property status. The profession of the owner was expressed in the addition of some special premises in the group of the outer courtyard - workshops, storerooms, commercial premises facing the street. These additions sometimes caused the predominant development of the outer courtyard or the presence of an economic courtyard, but did not change the general principle of organizing the house [32-36]. It is noticed that in some houses the living rooms are richer decorated, in others, on the contrary, living rooms. The ratio of thoroughness in the decoration of the rooms of the male and female halves, apparently, is connected with the social and property status of the owner. Merchants and high officials, in order to maintain prestige, sought to impress the visitor with the size of

the reception hall or the luxury of its decoration, while middle-class people, artisans, farmers, paid main attention to living rooms. In some cities, one of these tendencies clearly predominates. For example, in Margelan, the living room is usually very modest compared to living rooms, while in Karshi, on the contrary, the desire to decorate the living room richly and brightly prevailed. Here, apparently, the prevailing local traditions affect. But again, the general architectural and planning principle in all cases followed the well-known canon developed in this area.

Thus, only the social position of the owner of the house does not at all determine the architectural type of the dwelling, and those researchers who, following the above criterion, count up to a dozen types of residential buildings within the boundaries of one city, are completely wrong. Of great importance in the addition of forms of dwellings were historical conditions. Feudal fragmentation created local centers of culture and various shades of architectural tradition.

Bukhara, one of the oldest cities in the world at the crossroads of great caravan routes, the political center of Maverannakhr and, starting from the 16th century, the capital of the Sheibanid state, and then the Bukhara Khanate, develops a radical median type of housing, which affected the development of Samarkand, Tashkent, Karshi and a number of others cities. Khorezm from antiquity to the end of the last century (with the exception of the XIII-XV, partly XVI centuries) was, for the most part, an independent political unit. Its independence and remoteness from cultural centers contributed to the formation of a bright original architectural school, and its isolated position among the lifeless deserts contributed to the stability of traditions. It is difficult to say whether Iran's neighborhood played any role. Trade relations with the latter alternated with the military campaigns of the Iranian shahs (Ismail and Nadir) and the raids of the Khivans (with which the history of the 18th-19th centuries abounds). More regular were trade and diplomatic relations that began in the 16th century with the Muscovite state, and then with Russia.

The Fergana Valley, closed from the south and north by mountain ranges, from the west goes to the plains of Central Asia in a narrow neck, and in the east it communicates with Kashgaria through the Terek-Davan pass. The geographical position of Ferghana to a certain extent helped her to maintain political autonomy. Ancient Osrushana for a long time resisted the invasion of the Arabs, who, apparently, penetrated no further than Kasan. In the 14th century, Ferghana separated from the Timurid state and subsequently, with the exception of a certain period in the reign of Abdullah Khan, remained independent until the end of the 19th century. Natural wealth and cultural ties contributed to the development of a center of culture here. The fate of Ferghana is closely intertwined with the history of East Turkestan, and in the early stages with China. Trade relations with Kashgar in moments of unrest and strife with Bukhara receive a greater share than relations with cultivated lands in the west. Religious persecution among the Kashgar Muslims more than once caused waves of emigration that settled in the Ferghana Valley. In ancient times, Ferghana was a link on the great caravan route from China, which for some time even supplied the Roman Empire with silk. The interaction of local culture with Chinese civilization was direct. It is known that even before the beginning of our era, the Chinese borrowed from Fergana the methods of growing grapes and alfalfa, and the Fergana people learned from the Chinese to make iron weapons [11]. Thus, the originality of the Fergana architectural school becomes clear, where many of the most characteristic elements, such as lifting lattice shutters and the premises supplied with them, a covered courtyard with overhead light, fireplaces of a certain type, are called kashgarcha (in Kashgar), and the layout of the house with a gallery along the facade, the symmetrical arrangement of rooms on both sides of the semi-open space, light sliding walls and a southern orientation echo the architectural techniques of the Chinese dwelling. So, the political integrity of Khorezm, Bukhara and Fergana put forward three main schools of Uzbek folk architecture and three

main types of dwellings. The type of Shahrizabz should also be recognized as independent, which, uniting nearby lands and villages, successfully resisted the Bukhara expansion. Shakhriyabz and Kitab, twin cities, were surrounded by a common defensive wall. Here, without merging with Bukhara, a very distinct type of dwelling and its own high traditions of architectural decoration have been preserved. Tashkent occupied a middle position, joining either Bukhara or the Kokand Khanate. For all its economic significance, there has not been a clear architectural type that has noticeably absorbed some of the cherggas of the Fergana school. Samarkand in the middle of the 18th century, due to the general economic crisis and unrest, fell into decay and was almost abandoned by the inhabitants. Subsequently, it was populated by residents of different cities, which largely determined the synthetic nature of the dwelling.

Natural and climatic conditions play an extremely significant role in shaping the type of dwelling. On the vast territory of Uzbekistan, they fluctuate widely. Several zones are distinguished here from arid-desert to high-mountain ones.

The forms of the dwelling react to the amount of precipitation, the direction of the wind, the presence of one or another building material, and include in the ensemble natural resources - water and green spaces. For other objects of architecture - mosques, madrasahs, baths, etc. - the climate does not play such a significant role, and at the same time, the type of these structures has a much greater generality.

The thickness of the walls is primarily determined not by considerations of thermal insulation, but by the requirements of seismic resistance.

In the main cities of Fergana, the average annual temperature is from 12.6 to 13.4, and the average temperature of the coldest month, January, is from -2.2 to -3.6 °C.

The Ferghana residential building is the most solid in construction, and wall thicknesses of 60-70 cm are common, and all four walls are thick. But the presence of deep niches reduces the walls to actually the thickness of a single-row frame, so the design does not provide any

special advantages in terms of heat loss. Meanwhile, it is easy to see that the walls, cut with niches, thus have spatial rigidity and resist soil vibrations. Ferghana is one of the most seismically threatened areas. In Namangan, where the seismic intensity is VIII, the walls of a residential building are made up to 90 QM thick.

A solid wall structure is also necessary to support a heavy roof. Thus, the amount of precipitation, requiring a thickening of the roof, indirectly affects the thickness of the walls.

In Khiva, where the average annual temperature is 120, and the average temperature in January is -4.6 °C, i.e., somewhat lower than in Fergana, but on the other hand, the intensity is less than IV and an insignificant amount of precipitation, we see in urban buildings the complete dominance of a single-row frame (20-25 cm). The noted conditions make possible the ultimate lightening of the structure of the dwelling. Ferghana and Khiva are opposite poles in terms of the degree of solidity of the structure; the habitation of other regions occupies various intermediate stages. So, in Tashkent, all four walls of the living room are of a two-row frame, but do not reach the massiveness of Fergana (40-60 cm); in Shakhrysbz - three walls of the house are thick (about 40 cm) and the last one is of a single-row frame; in the houses of Samarkand there are often only two walls of a two-row frame, and in the houses of Bukhara there is usually only one such wall.

The design of the walls significantly affects the character of the interior, since the absence of wall niches in the walls of a single-row frame radically changes the design method. In the external appearance of the house, the character of the composition is influenced by the shape and setting of the aivan, connected to a certain extent with the strength and direction of the prevailing winds, the orientation of the house, etc. cool north wind. Fergana pesh-aiavans, in front of the southern facade of the house, protect from the sun in summer and do not interfere with insolation in winter. As for the dependence on the temperature regime, the urban Fergana house is most adapted to protection from the cold, where the following

features can be noted:

1. living rooms are facing south and are protected by a front aivan;
2. there is a winter aivan (kashgarcha) protected by shutters;
3. the entrance to the room lies through the mentioned aivan;
4. openings, in addition to the shutters of the darcha, are protected in winter by gratings pasted over with paper - darparda;
5. The room has a fireplace, which is used for cooking and warms the room.

The architecture of the house is also marked by the forms of life, folk customs, the whole complex of the specifics of national culture. The history of the Uzbek and Tajik peoples is inextricably linked; among the population of some cities, like Shakhrysbz, Samarkand, up to 50% of Tajiks, so the artistic traditions of these peoples are in close contact. Nevertheless, the folk architecture of the Uzbeks and Tajiks has not lost its originality and the specificity of each is especially noticeable in the details and in the ornament.

Conclusion

For these reasons, it is on the territory of present-day Uzbekistan that folk architecture has found favorable conditions for development, it is here that it has the greatest wealth and variety of expressive means, elaborate and refined decor. Here, the types of buildings of folk architecture are most fully represented.

The difference in historical and climatic conditions led to the localization of individual cultural centers. These factors led to the parallel existence of several schools of folk architecture, each of which has its own specific features, each has its own special building and artistic traditions. Thus, being united in common design and spirit, the folk architecture of Uzbekistan is divided into a number of local schools. The main ones are Bukhara, Fergana and Khiva. Stylistic differences were especially pronounced in the appearance of the dwelling. The works of vernacular architecture remain predominantly from the 20th and 19th centuries, and in rare cases from the 18th century. The earlier ones were not preserved

due to the fragility of the structures (adobe bricks and half-timbered houses).

It can also be noted that the thoroughness of the design of rooms and mihmankhona is not always balanced; the latter was shaped richer than the former, or vice versa. In some cities, one of these tendencies clearly prevails, for example, in Margelan and in nearby places (Fergana), mihmankhona is usually very modest compared to living rooms. In Bukhara, living rooms were also more often finished more carefully. However, in Karshi, for example, it was customary to decorate the mihmankhona richly and brightly.

In Bai circles, the desire for ostentatious luxury took different forms, sometimes the mihmankhona reached grandiose sizes and was indistinguishable from a mosque from a distance, but apparently there were not enough funds to decorate such a large room, and, often remaining with bare walls and an unpainted ceiling, the room produced uncomfortable, repulsive impression.

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