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ARCHITECTURAL FEATURES OF HYDROTHERAPY FACILITIES IN THE ARCHITECTURE OF THE COUNTRIES OF THE MIDDLE EAST AND CENTRAL ASIA

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ABSTRACT:

This article dedicated to architecture of bath-house and Hospital buildings in traditional architecture of Eeurt. The article considered the development of this type buildings from ancient time to the beginning of XX sentry.

Keywords: East, aesthetic, atmosphere, underground springs.

INTRODUCTION:

The architecture of the East is one of the relatively studied branches of architectural problems. However, only the most massive types of buildings and structures (dwellings, mosques, madrassas, mausoleums) have been studied as much as possible. As for the specific types of buildings, which can include hydrotherapy facilities, they, with rare exceptions, have eluded the field of view of historians and researchers. In this article, the study and analysis of the architecture of hydrotherapy buildings is carried out by involving both data from historical written sources and modern architectural and construction literature, the materials used for a full-scale survey and measurement of buildings for this purpose.

The architectural and planning composition of the earliest hydrotherapy buildings that arose in the countries of the Middle East can be judged by the hydrotherapy of the city of Mohenjo-Daro in ancient India (W millennium BC, now on the territory of Pakistan). The composition of the spa in the plan is enclosed in a rectangular quadrangle having a courtyard with an outdoor swimming pool in the middle [1, pp.24-26]. The courtyard is bounded on all sides by a colonnade of galleries, behind which there are rooms that perform mainly therapeutic functions: taking therapeutic baths, sweating in the steam room, massage, rest rooms, changing rooms and gyms.

It should be noted that the purpose of some rooms of the hydrotherapy is not fully established and requires clarification. Probably, there were rooms intended for eating and short-term rest of the swimmer, after taking water procedures. The hospital, apparently, was used by men and women alternately, since it has only one department.

The parameters of the outdoor pool (with dimensions in plan 14x7 m., depth 2.5 m. with similar stairs on both sides) are suitable not only for swimming, but also for diving into the water. One can imagine what a wonderful architectural view there was behind the colonnade of galleries to the outdoor swimming pool located in the courtyard. Judging by the rather large size of the building (52x32 m.), it apparently performed not only the functions of a hydrotherapy, but also a

universal water and physical culture center for public use. It should be noted that the water in the pool was flowing [1, p.26].

The building of the hospital, as well as the swimming pool, was built of natural hewn stone on a special solution. The bottom of the pool and its side walls were fixed with a waterproof solution. The courtyard floor was also paved with flat stones. It is also noteworthy that the steam room and the bathing rooms had an underground heating system similar to the Roman "hyper caustic" or the Central Asian heating system "Cannes" [2, p.78]. According to its architectural and technical solutions, the hospital building can be considered as a remarkable monument of civil architecture of the ancient Eastern civilization.

In V.I.Kushelevsky's monograph [3, p.46], it is mentioned that the indigenous population of the Fergana Valley knew about the existence of the current Jalalabad mineral springs five to six thousand years ago and used them. Since ancient times, in convenient cases, people began to build not only hospitals, but also monasteries and churches, mosques and public baths on key sources. Thus, one of the first mosques in Istanbul, Eyuba Ansari, was built at a spring, the water of which was considered capable of healing all diseases and alleviating suffering.

Written sources mention the intensive construction and use of folk hospitals in the medieval East, including in Central Asia. It should be noted that the construction of healing buildings at key springs was to some extent influenced by the cult of water, widespread in the Middle Ages in the countries of the East. This tradition still exists in some regions of Central Asia. However, unlike in the past, it is not the cult of water that comes to the fore now, but its healing and health-improving function inherent in thermal and mineral springs. So, literally in recent years, a number of folk hospitals have been built using the hashar method on natural healing springs in the village of Uchagach of the Koshrabad district, in the village of Kainar of the Shymkent district, in the village of Kazakdarya of the Muynak district, in the village of Hozha-ipak of the Surkhandarya district, in the district center of Nurat and others. Folk hospitals on natural springs can be found in other regions of Central Asia (in Tajikistan, Kyrgyzstan, Turkmenistan). The newly constructed facilities are a civil building with a compact rectangular composition, consisting in terms of several rooms: a changing room, a bathing room (receiving shower and bathroom procedures) and a rest room. The buildings are built with one, sometimes with two (for men and women) departments, which are provided with running spring water.

Medieval folk hospitals had similar architectural and planning features. So, in Turkey, to this day, the hospital "Eski kaplyja", built in the XIV century in Bursa on the hot springs, is successfully operated [4, p.42]. In appearance, it resembles Turkish folk hamams and in planning terms consists of several rooms connected sequentially to each other: a changing room with a relaxation room, a swimming pool and a pool hall. The bathing rooms and the pool bath are provided with warm and healing running water. Initially, the hospital was built with one bathing department, which was used alternately by men and women [5, p.97]. In the XIX century, a women's department with a separate swimming pool and several individual rooms was attached to the hospital building. The main rooms of the building are covered with high spherical terminal domes with overhead lighting, due to which the premises of the hospital are spacious and bright. Bathing rooms and pool halls are equipped with attached loggias for sitting and soot, as is done in ordinary hamam buildings. The architectural and spatial composition of the hospital is a

multi-dome compact closed building consisting of sequentially interconnected rooms that carry mainly therapeutic and health functions.

The architecture of another hospital building, the so-called "Eni kaplija", built in the XVI century in the same city of Turkey [4, p.44] is also similar in appearance to the building of a traditional hamam and has one developed department consisting of a pool hall, massage room, individual rooms. It is characteristic that both buildings of the hospitals do not have an underground heating system (as it happens in ordinary hamam buildings), since they use thermal running water.

The characteristic of one of the baths - the ballroom, used in the XVII century in Azerbaijan (Nakhichevan) is found in Evliya Celebi: "... the hamam is called Zalpashi, all the doors and walls of which are covered with glazed slabs, the floor is marble, gray and burgundy. This is a very bright hamam and all its windows are made of crystal; there is a large swimming pool in the center under the dome. In a word, language is powerless to convey the purity, pleasantness and beauty of this bath" [5, p.115].

In thermal hamams, a large swimming pool with running water was usually arranged in the main hall. From the point of view of hygiene, it was safe to dive and swim in such a pool, since the water in it was always clean because of its flow. Free swimming and bathing in such a spacious clean pool gave visitors a significant therapeutic and wellness effect. Therefore, such hospitals have always been full of people.

"Outside the city (Nakhichevan)," continues Evliya Celebi, "there are hot springs under high domes near the gardens. In three baths, measuring ten by ten cubits, the beauties of Ajem frolic and swim like silver fish and hug each other bluntly" [5, p. 113].

Historian Mu'nuddin Isfizari in his book "Tarihi Hirot" ("History of Herat"), citing examples of the construction of the ruler of Herat Sultan Hussein Baykara (XY-XYI-centuries) in the valley of the Gerirud River, reports the following: "There at the mountain near the village of Oba, there was at that time a hot spring that attracted from near and far places a lot of people obsessed with different non-arcs. Sultan Hussein's predecessor, Abu Said Mirza (1455-1469), built a large fundamental building at this spring. But Sultan Hussein remodeled this building, making it more extensive and higher: parks, gardens, flower beds and vegetable gardens were laid out around, as a result of this, the importance of this place increased many times" Gb, p. 147].

From this message it can be seen that a capital building was first built on the thermal spring, like a hydrotherapy. Then it was significantly expanded and an institution resembling a balneological hydrotherapy building was formed on this site.

Zahiriddin Muhammad Babur in his book "Baburname" provides interesting information about medieval folk hospitals in the land of Khorasan (present-day Afghanistan). So, in the Kandahar valley, Babur za- . there is a thermal spring with healing properties, on which an open bathing pond was built from local stone in the old days. On one such thermal spring, Babur ordered the construction of a hospital with an outdoor swimming pool with dimensions in terms of a sein with dimensions in terms of 10x10 meters [7, p. 170].

It is known that Babur created many beautiful gardens and parks in Kabul, Northern India, in areas with rich climatic and balneological properties. Where there was an opportunity to use a water source in the garden, Babur sought to build a "hamam" with a swimming pool provided with running water. Such were, for example, Babur's buildings in the gardens of the Gods Ni-lufar in Dilpur and the Gods Nurafshon near Agra [8, p.20]. The architectural design of these buildings differed from the traditional hamams by the presence of

a healing pool with a dome covering, cozy and rich decoration.

In the Tajik Gornobadakhshan district of Ishkashim (Vakhan Valley) on the bank of the Panjab River on a mountain slope in the 70s of the last century, a small hydrotherapy building was built, which is provided with water from a hot spring located next to the hospital. The building has an elongated, symmetrical to the transverse axis, rectangular frontal composition in relation to the relief. The hospital consists of a male and female similar department, each of which has two rooms: a locker room and a bathing pond. The entrances to the departments are arranged from opposite sides of the building. The premises of bathing ponds with dimensions of 3,5x4,2 m are interlocked with each other, which significantly contributes to the preservation of heat in them by reducing the surface of the outer walls. A small utility room adjoins the main body of the building, from which the used water from the pools descends. The water outlet holes are located at the bottom of each reservoir. Next to the hospital, an asphalt road runs a little higher, which connects the building with nearby villages. The architectural solution of the building wins due to the chiaroscuro of the protruding and sinking surfaces of the exterior walls, which are built of rock stone on cement mortar. On the roof of the building with a mental solution. On the roof of the building there are pipes for natural ventilation of bathing rooms, which also enhances the composition of the facade. In general, the architecture of the hospital against the background of a mountain slope looks quite impressive, and the volume of the building is picturesquely combined with the terrain and the natural environment.

There is a thermal spring in Tajikistan, on the outskirts of the mountain village of Urmetan in Ayni district, not far from the Lyangar River. In the vicinity of the spring, by excavating the slope of the mountain, local residents built a hydrotherapy building in the 50s of the XX century [9, p. 127], consisting of a common ivan and three bathing rooms adjacent to the ivan. The building is constructed of flat rock stones on cement mortar and has a flat roof. The entrance to the bathing rooms is through a common ivan. On the back wall of the bathing rooms at a height of 2.1 m. there are pipes through which hot water flows from a thermal spring. The four-column iwan, occupying the entire front of the building, is equal in height to the height of the bathing rooms - 3.6 m. The bathing rooms in the plan are straight-coal and approximately equal in area (18-20 sq. m.). On the floor of the bathing rooms, where thermal water is poured out of the pipes, shallow baths are mounted, from which the used water flows into the Lyangar river through the hole passing under the iwan. The Ivan and bathing rooms are covered with a beam ceiling. The simple and compact architectural solution of the building effectively combines with the mountain landscape. A distinctive feature of the hospital from other buildings of this type is the presence of a spacious frontal ivan in it, which performs the functions of a resting place after taking hydrotherapy procedures.

In the village of Kyzyl Emchak, Samarkand region, on the mountainside at the end of the XIX century, a kind of hospital building called "harmoba-i hammam" was built [10, p.24]. There is no back wall in it and the flat roof of the building goes directly into the mountainside. The building consists of three rooms: the middle one serves as an anteroom (in the likeness of a lobby), in which there are entrances to two separate bathing rooms, water flows here by gravity from sources (chashmai Harnak and chashmai Bulkoki-nak) with the help of wooden gutters - tarnavs on racks. In the bathing rooms, water enters through the upper hole, which is located on the

roof of the building: it pours out like a shower. According to the legend of the old-timers, a few years ago this old building was rebuilt, keep the old layout. According to the architectural solution, the building is a compact frontal composition made of local stone, perfectly fitting into the surrounding mountain landscape. The functional property of this building puts it on a par with the healing buildings of civil architecture.

At the healing spring of the village of Uchagach, Koshrabad district (Samarkand region), local residents built and used a small building of a hydrotherapy clinic, which consisted of several shower chambers, a locker room and a general service room. The building was built in a combination of raw brick and natural local stone, had a beam ceiling. Currently, it has been demolished and a new capital building of a hydrotherapy building with all modern amenities has been built near the spring on the hillside.

In the Republic of Karakalpakstan in the village of Kazakdarya (Muynak district) there is an underground spring from which hot water flows. By the efforts of local residents, a hamam hospital has been erected here, which has one department consisting of a changing room, two bathing rooms and shower rooms. Bathing rooms, where thermal water is supplied by pipes, are equipped with loggias for sitting and massage, as well as showers.

Not far from the village of Kulyab on the slope of Mugultov in Tajikistan there is a natural hot spring - a chashma called "Bibi Fotima and Zuhra", where an interesting folk hospital has been built. Unlike other similar buildings, it consists of three independent structures built on both banks of the Garm River [11, p.148]. The first building is a locker room, which consists of one room. Passing through a small bridge, you can get into the second building - the bathing one, where thermal water flows through the roof of the building from under the double arm of the mountain structure. Thus, a shower room is formed in the bathing room. The third structure is located next to the swimming pool and is an outdoor pool with warm running water. In the latter, hot water is mixed with cold and the water temperature in it is much lower than in the shower. The bathing technology is as follows: after undressing, passing over the bridge to the other side, you should swim in an open warm pool with running water. Then, if desired, you can go to the indoor swimming pool, in a hot shower. All buildings are constructed of natural mountain stone and covered with a flat roof. Their location apart from each other is obviously explained by the natural construction factors of the steep slope of the mountain. A logical and clear architectural and constructive solution of buildings that beautifully fit into the surrounding landscape looks like an integral part of the mountain bank of the Garm River.

Thus, we see that healing buildings at key springs, which were built not only in the Middle Ages, but from ancient times up to the present day, were an important part of civil architecture and this fact, unfortunately, has long been neglected by architectural science.

The study of historical information, archaeological data and analysis of currently used objects of civil architecture allow us to conclude that the buildings of hospitals over natural hot springs, depending on various socio-economic and climatic conditions, were built in a variety of architectural and planning solutions. So, if some hospitals were built in the form of one-two-room, sometimes even open summer buildings, then others were built in the form of capital multi-chamber buildings operated throughout the year. In their functional and social essence, these structures represented the origins of modern hydrotherapy buildings. Their architecture was formed mainly taking into account the natural-

climatic and socio-cultural conditions of construction, as well as the location of the healing spring in relation to the city.

Summer one- or two-room hospitals were small, often domed buildings consisting of a changing room and a bathing hall with a pool in the middle. Sometimes showers or bathrooms were built instead of the pool hall. The capital buildings of the aquariums were built in the form of bathing-ballroom and therapeutic hamams, having different names in different countries: "garmaba and hamam", "chashami hamam", "ilidzha", "kaplidzha" or simply hamam. Unlike the usual hamams, they consisted of a more expanded composition of rooms: a swimming pool hall, bathrooms, bathing rooms with massage rooms, changing rooms, rest rooms. In the thermal springs, separate medical buildings were sometimes built for men and women, and the female part of the hospital often had more modest parameters. In the men's departments there was necessarily a large swimming pool, and for women there were small pools and bathrooms. The rooms were rectangular in shape with the exception of the pool hall, which was often made square with niches on diagonal axes or round. In large aquariums, the number of bathing baths in pools often reached up to three, sometimes even there were five or more (for example, in the Darauli aquariums in Turkey there were seven). The parameters of the baths of the pools usually did not exceed 10x10 meters in terms of size, the depth was about 2 meters. Pools usually had a stepped descent. Around the baths of the pools there was sometimes a colonnade, on which a beautiful dome with an upper star-shaped illumination towered. There were bathing rooms and a changing room next to the pool hall. Around large aquariums, and their capacity sometimes reached up to 1000 or more people, beautiful gardens, flower beds and khiyabans were often planted, creating them with a regular composition.

Full connection and harmony with the surrounding nature, the maximum use of characteristic forms of relief and landscape create a diverse and distinctive look of the architecture of healing buildings on natural thermal springs. Unfortunately, the main advantages of the architecture of health resorts are currently not taken into account in modern medical construction in resorts and sanatoriums of Central Asia. The healing and administrative buildings erected differ little from the structures of the European continent and are often carried out on the models of old projects. This indicates that when designing buildings for sanatorium-resort areas, the specifics, relief, climate, practice and traditions of the construction of hydrotherapy buildings in Central Asia are not taken into account.

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