

## On analysis and preservation of medieval wall painting and sculpture in Kyrgyzstan

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### **I. Studies**

Excavations of medieval monuments of Kyrgyzstan revealed fragments of medieval wall painting and sculpture on the area of large sites of Chuy valley – Ak-Beshime and Red River.

These monuments attracted travelers' attention as far back as in the 19 century. These included not only large hills with destroyed towns and surrounding towers but also ancient finds of different categories. It was members of archaeology circle and geographical society of the Russian Empire (V.V.Barthold, F.V.Poyarkov, N.M.Yadrintsev, V.D.Gorodetskiy, V.P.Rovnyagin, V.M. Florinskiy, N.M.Pantusov, A.M.Fetisov) that had first carried out exploration work and archaeological excavations. Note that large-scale explorations, as well as partial conservation work over architectural complexes of Burana, Ak-Beshim and Red River were arranged in the 1930s. Results of the work were published in the central and local editions. Excavations embraced hills and buildings outside walls of Red river site. The third tepe revealed a structure with plastered fresco painting; however, soon after the work on the object was discontinued. Other three excavations of the same site uncovered housing estates. An adobe structure with floor of brick, plastered walls with fretted décor and traces of painting was discovered in one of them. A housing estate was also unearthed on the third object. Note that walls of rooms were decorated with fretwork and painting against adobe background like panels from Samarra (capital of Abbasid caliphs, Iran). Fretwork motifs include vegetation (withe and leaves); painting contained elements of geometrical ornament. Rich material presents a culture of a medieval town in the 5-12 centuries.

In 1939-1940, the Semirechensk archaeological expedition conducted a stratigraphy of the most reinforced part of the central ruins of Krasnorechensk site. When excavating the so-called "Karakhanid home" and buildings located in sharistan (excavation sites II and VI), archaeologists revealed ganch and stucco fretwork in blue, black and yellow. A.N. Bernstam considered this manner of decorating wall planes to be identical to the technique of Iranian dwelling houses of Samarra unearthed by E. H. Herzveld and F. Zare, and dated them not later than the 10 century.<sup>1</sup> An analysis of field reports and publications of the expedition says that no special reinforcement work was done.

Excavations on Ak-Beshim site were promising. Pits were sunken in a supposed place of "Kidān" block of the town.<sup>2</sup> In 1953-1954, the Kyrgyz complex archaeological-ethnographic expedition of the Academy of Sciences of the USSR jointly with the Chuysk archaeological team carried out large-scale excavations on Ak-Beshim. Two main objects were chosen for exploration: a large and long hill to the south-west from the town citadel, beyond the walls of the central part of the town (object I), and the central part of the site – shahristan (object II).

Object 1. A building of a Buddhist temple was unearthed here (conventionally “first”) and fragments of sculptures and paintings discovered. Note that clay sculptures, like large stucco sculptures, were covered with a thin layer of alabaster with a painting in blue, yellow, red and black colors. As for transitional colors, there were orange, red-brown and light yellow ones. The colors mentioned are identified on fragments of wall paintings of ceilings. As viewed by researchers, all the walls of the central hall and the gallery, as well as arches and ceilings were entirely covered with paintings as evidenced by numerous fragments. On some parts of plaster there remained components of picturesque compositions predominated by ornamental painting of two types: geometrical and vegetable.<sup>3</sup>

In 1955-1958, L.P. Zyablin discovered in Ak-Beshim “the second” Buddhist temple located 250 m to the east from the first temple. Its walls were extant to 4 m high; traces of plaster with whitewashing and painting were identified in some places. Small fragments of vegetation-type paintings were found everywhere.

As for the external bypass corridor, debris of sculptures and pedestals were found in the south-eastern, south-western and north-eastern corners. A pedestal in the south-western corner was of rectangular form with two steps and a small one-step outhouse. Like all others, the pedestal was daubed, whitewashed and painted in red. A figure of Buddha was once placed on the pedestal.

Near the pedestals mentioned and on a corridor floor there were a lot of fragments of sculptures and stucco moldings, as well as debris of plaster with whitewashing and multicolored painting, geometrized moldings. The fragments of this type were scattered everywhere on floors of bypass corridors.

A fragment of painting, 20 x 15 cm, was found inside a niche on the eastern wall. It was a figure sitting cross-legged in red attire. A field around the picture was filled with ornamental motifs of vegetation-geometrical nature. It was features of building technique, size of bricks and blocks, as well as analogies with “the first” Buddhist temple that enabled the author to date the building by the 7-8 centuries.<sup>4</sup>

In 1961-1962, P.N. Kozhemyako proceeded with excavations on Krasnorechensk site, including central ruins and outside.

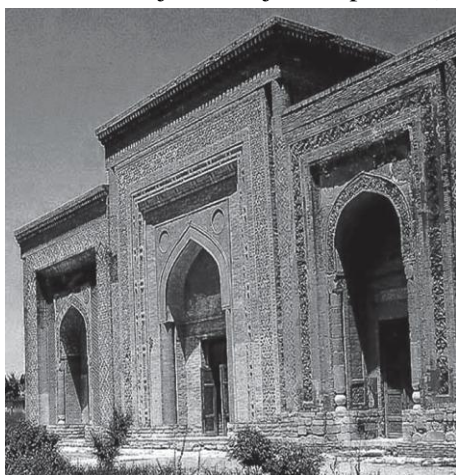
One of the objects was a structure having been explored by A.N. Bernstam as far back as in 1939 (P-VI). Several rooms were cleared. In a doorway, room № 2, as well as on floors of rooms № 1 and № 2, commencing from the second layer, there was uncovered a great number of plaster fragments with fretted ornament and paintings. The very fact that no identical plaster was discovered in the lower part of walls at a height of 1,5 m, is illustrative of the fact that the painting and fretted ornament were located in the upper part of walls to form a frieze.<sup>5</sup>

Another excavation site (P-I) was located on a hill situated on an area fenced in the first long wall (an excavation site of the VIII-th Semirechensk expedition). Its entire surface was cleaned and several rooms unsealed. When cleaning obstructions in a room № 6, specialist uncovered fragments of wall painting in the form of a bunch of flowers (asters) and with Buddha depictions.

The excavation site was broadened along the eastern edge of the hill with wall contours having been cleaned. Further excavations made it possible to uncover a complex of temple-type structures. Walls of the central sanctuary were thoroughly plastered. They had small parcels of paintings put on white sub-priming in different colors. Also, fragments, similar to those mentioned above, were discovered in some places of well-plastered eastern and northern walls of a bypass gallery simultaneously external walls of the complex.<sup>6</sup> The temple is dated back to the 8-9 centuries and conventionally titled as "the first" Buddhist temple.<sup>7</sup>

In parallel to this, operations were carried out to uncover another object to the south from the citadel in place of a prospecting shaft laid by the Semirechensk archaeological expedition. Concurrently, they cleaned out a corner of a wattle and daub wall and unearthed remains of the second wall. The excavation work revealed small fragments of colored plaster 3,5 m to the south, and traces of fresco.

In 1961, it was P.N. Kozhemyako that succeeded in clearing a western corridor with a partly survived clay sculpture of "deceased" Buddha (approx. 8 m long). A head, an upper part of torso to the middle of the breast and a foot were missing. Note that the relief and depictions that surrounded the sculpture were lost in ancient times. The sculpture and a horizontal plane of the pedestal were painted red. The corridor was full of obstructions that included fragments of wall fresco painting. Extant in the end of the western corridor was a plaster on the wall with white color sub-priming and a related painting. To judge by coin materials and similarities with identical Buddhist monuments of the Central Asia (Ak-Beshim, Penjikent, Ajina-Tepe, etc.), the sculpture goes back to the 7-8 centuries, according to P. N.



Kozhemyako.<sup>8</sup> The structure is known in the literature as "the second" Buddhist temple. The work was discontinued and excavated plots filled up for lack of restorers. The sculpture was covered with paper and ruberoid.

In 1962, a group of Hermitage restorers headed by P.I. Kostrov was invited to continue the work at "the second" temple. The western corridor-shaped room was uncovered again, the sculpture cleaned and impregnated with fixing agent and then sent to Hermitage for further restoration work.<sup>9</sup> It is still kept at store-rooms of the museum, and no complex operations have so far started to restore it.

Besides the information about the work of restorers, no other data on their participation in preserving numerous fragments of fretted plaster and painting in various parts of the site are available. However, the quality of gancha linen, 54 x 132 cm, 54 x 10 cm, 43 x 54 cm, discovered in situ in one of dwelling houses to the south from shahristan (1962 excavation), is illustrative that its fixing was carried out by professional restorers, probably Hermitage specialists.

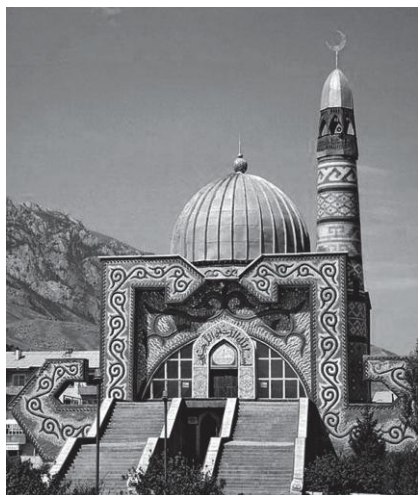
Excavations on Red River were recommenced in 1978 to continue till the 1980s. Prior to 1983 they were carried out by a joint team of the Institute of History of the Academy of Sciences of the Kyrgyz SSR and the Ch. Ch. Valikhanov Institute of History, Archaeology and Ethnography of the Academy of Sciences of the Kyrgyz SSR (V.D.Goryachev, K.M.Baypakov). The 1980 excavations of the “second” Buddhist temple revealed a general layout of the structure. It consisted of a square erection with cellar, a hall in front of it and bypass corridors. The obstructions included numerous pieces of paintings predominantly covered with red, blue, green and black paints. Besides, there were uncovered fragments of thighs, arms, foot, lobe of the ear, curls, as well as clothes and torsos.<sup>10</sup> During field seasons of 1983-1984, N.A. Kovaleva was instrumental in conserving and exhibiting fragments of architectural décor and other finds from the temple above.

In 1983, a large area with walls of 120 x 120 cm was uncovered in the southern bypass corridor where paintings remained. The paintings were discovered as far back in 1963 and the same year fixed with PBMA (poly-butylmet acrylate) solution. The re-uncovering failed to specify a composition's plot due to essential darkening of panel surface. In 1984, a large parcel of the wall was unearthed on the same hill. Just traces of red paint are extant on the surface of loess sub-priming. Closer to the floor there were identified rare traces of red and yellow pigments; in the lower part of the wall above a floor level there left whole a strip of gancha, 180 x 40 cm with a lotus picture. The picture is of a schematic nature, contour, performed in blue (upper petals) and red (lower petals) colors against a white background. A yellow strip was placed below; a field above blue petals was also yellow. Gancha was strongly destroyed; still, the painting was strengthened, glued and taken off. In a year, the fragment was completely restored to be exhibited. A greater portion of paintings was located in the blockage of the sanctuary and the adjoining southern bypass corridor. Note that the paintings were of interest to experts to explore painting techniques. Analytical research into pigments carried out by restorers showed that a yellow paint was ochre; red paint – cinnabar; green paint – malachite with coal (mixed); brown – ochre as well, possibly umber; white – gypsum.

All newly discovered painting and sculpture fragments of “the second” temple were treated by BMA-5 solution (co-polymer of butylpolymercrylate with metacryl acid) according to the method drawn up by the ASRIR monumental painting department to consolidate loess painting and sculpture. The material is notable for high technological effectiveness and capable of preserving decorative properties of monument's surface in the course of reinforcement work. Also, all the fragments were reinforced by

2,5 % solution of BMA-5 in slightly toxic mixture of solvents, masticated and pasted with gauze from backside on 10 % solution of the same material. Where necessary, front-face areas were pasted with gauze on the basis of flour paste supplemented with plasticizing and conserving substances.

Besides, experts explored and partially processed three fragments of loess-gancha sculptures discovered much earlier (1980-1981).<sup>11</sup>



In 1998, the work over “second” temple was continued by the expedition of Kyrgyz-Russian (Slav) University. When uncovering a floor of the 1st horizon, specialists discovered a small foot and a palm of monumental alabaster sculpture. It was specialist-restorer of Hermitage G. A. Ter-Oganyan that carried on a field conservation of these fragments.

Studies of the site Ak-Beshim were resumed in 1996 by the joint team of the Institute of History and Hermitage (L.M.Vedutova, G.L.Semenov). In the south-eastern corner of shahristan where, as P. N. Kozhemyako put it, remains of a palace-type structure ought to have been located, there was discovered a monumental erection of raw brick and pakhsa, identified by researchers as a complex of Christian structures. A niche in the eastern wall of the room № 2 was decorated with paintings, as evidenced by fragments of adobe plaster with remains of blue and red paint. Another fragment of the ceiling is indicative of “... an ornament in the form of large rosettes with a flower inside”.<sup>12</sup> One more fragment of the painting discovered in-between rooms № 2 and 3 showed pleats or drapery with traces of visitors’ inscriptions made in ancient Uygur, according to V.A. Livshits. A field conservation and restoration of the said remains were carried out by Hermitage collaborators G. I. Oganyan and A.Y. Stepanov.<sup>13</sup>

The next research of the site took place in 2006, in the south-eastern part of shahristan close to a Christian complex. A main excavation area (P-1) was laid on a lower hill where smaller fragments of dry painting (al secco) and Buddhist sculptures were unearthed under a turf layer. During unsealing of rooms № 1 and № 3 archaeologists discovered debris of sculptures and polychrome paintings. At the level of the first layer (0,5 m) researchers found a facial part of clay sculpture dokshit (custodian), whose blown-up hair was painted in dark blue. Also, a fragment of a facial part of Buddha sculpture was discovered with iconography reminiscent of Buddha images from Kafyr-kala site (Tajikistan). Paintings were in bad condition and could not be withdrawn. However, a color gamut was retraced clearly, hence, a careful photo-fixation was carried on.<sup>14</sup> Some sculpture fragments were strengthened by one of the authors L.M.Vedutova who used PBMA for this end.

Fragments of medieval wall painting were identified on other objects as well. In 1963, E. Z.Zaurova got down to stratigraphic excavations on ; conservation; (Ketmen-Tyubin valley) that uncovered a palace-type architectural complex of the 14-15 centuries. Archaeological work was underway within seven field seasons. A number of rooms and a courtyard had a rich ornamentation. Numerous fragments of paintings, gancha fretwork and raw clay were unearthed out of blockage. Painting and fretwork were put on plaster. To all appearances, the painting decorated broad stripes of gancha coating in the upper parts of walls to form a frieze. Vegetation and geometrical motifs of paintings were performed in different colors (white, green, dark blue, yellow, grey, lilac and red with various tints). A painting of the room №3 was slightly different from the one in room № 1. Along with red, white, yellow and green, there was also used ultramarine. The ornament was composed of vegetation and geometrical motifs. Besides, a fragment of Arab italic script was discovered with contours scratched and internal part filled with dark red paint. Remains of gancha with painting and fretwork were also found in the enclosed courtyard. Gancha mats with traces of red tincturing were used to decorate doorways. Their ornament is vegetation-geometrical: against a white background there is a contour of hair-penciled picture; color is dark red, yellow, sometimes dark blue. There are fragments with white or yellow mats against a bright crimson background.<sup>15</sup> A part of fretted painting fragments was conserved thanks to efforts of E.Z.Zaurova, skilful in primary conservation.

Extant wall paintings were also discovered at Shah Fazil mausoleum (middle of the 12 century) in the village of Safed Bulan, Ala-Bukin region. These were part of interior and blended with fretted gancha plaster. Borders of vertical panels were painted in stripes of dark blue, white and grey colors. A belt above a panel in Cufic script was located on all internal walls, while massive letters painted in white stood out against a grey background of gancha fretwork.<sup>16</sup>

Note all the objects with décor and painting are dated back by the pre-Mongolian period.

In 1978, specialized institutions of Kyrgyzstan and Uzbekistan started restoration operations of mausoleum and gancha décor of interior that are underway hitherto.

## **II. Conservation**

It was specialists from central institutions of the former USSR that dealt with conservation of the medieval wall painting of Kyrgyzstan. Of particular importance were efforts of the Leningrad Hermitage workers that actively partook in excavating and conserving medieval architectural-engineering facilities of the Central Asian Republics, including Kyrgyzstan. Restorers of these countries worked on probation at Hermitage laboratories. Of no less activity was demonstrated by the All-Union scientific-research institute of restoration under the USSR Ministry of Culture.



Earlier 1970s, a special structure was set up under the Kyrgyzstan Ministry of Culture to deal with restoration-conservation work at historical-cultural heritage facilities. However, “no production base, technologies, instruments nor qualified restorers were available” to set thing going normally, according to B.V. Pomaskin, one of the first workers of the shops above. Step-by-step the problems above were addressed. Main objects of activity became medieval monuments erected of burnt brick (gumbez of Manas, Buran minaret and ruins of mausoleums, Uzgen architectural complex, etc.) and stone (Tash-Rabat).<sup>17</sup> Unfortunately, specialists of this institution did not deal with preservation of wall painting and sculpture. The need arose to invite specialists from Moscow and Leningrad, as was in case with medieval objects of Chuy valley. In late 1970s, a special sector was organized at the Institute of History of the Academy of Sciences of Kyrgyzstan to deal with restoration and conservation; some collaborators went on probation at some laboratories of All-Union institutions. However, this structure was active shortly and later canceled while its collaborators were transferred to the sector of archaeology. Their experience and skills were helpful during Ak-Beshim and Ask-Chiy work.

In early 1990s, owing to economic and political problems the activity of the scientific-production association “Kyrzyzrestavratsiya” was practically curtailed. Succeeding to it became the scientific-research design bureau “Kyrzyzrestavratsiya” (SRDB), a structure of the State Culture Agency. Regretfully, it has nether logistics, enough number of qualified restorers, nor practical skills of work with most monuments, including wall painting and sculpture. There is also a chair of restoration under the Kyrgyz State University of Architecture, Engineering and Transport (KSUAET) in Bishkek. It trains no specialists in conservation of artistic valuables. When the need arises, restorers from CIS countries and even far abroad are invited. At present, methods of research and preservation of cultural heritage in the country is mostly the same as was in the Soviet period, with some modifications.

Greatly contributing to the preservation of objects of historical-cultural heritage and training of national cadres was a UNESCO project sponsored by the Japanese goal-oriented foundation having been implemented on the basis of three medieval sites of Chuy valley – Red River (Nevaketa), Ak-Beshima (Suyaba), Byrany (Balasaguna). Within the framework of the project our scientists and specialists had opportunity to enrich a national experience through the participation in the practical conservation of monuments, as well as training and joint work with international experts. Various types of conservation were applied on ruined remains of these sites: from mere covering of unearthed constructions (ruins of medieval Christian complex on Ak-Beshim, P-1, P-7 on Red River) to the erection of ceilings above some of them (a citadel and a Buddhist temple on Red River). A perspective and effective method is to conserve ancient walls by dint of undated conservation laying with a partial reconstruction of destroyed components (Mausoleum 4 Buran). At present, small fragments of wall

paintings (within the limits of 10-15 cm) taken out of the said objects are kept at museum stocks and related organizations. A part of them was strengthened with solutions (acrylates?) using a gauze.



A positive event was a 2008-2009 Dushanbe workshop titled "Conservation of Wall Painting of the Central Asia" organized by the National Research Institute of Cultural Values (Tokyo) and the Institute of History, Archaeology and Ethnography of the Academy of Sciences of the Republic of Tajikistan aimed at training cadres in wall painting conservation.

Attending the workshop were architects-restorers, conservers and archaeologists from the Central Asian countries (Russia, Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan and Turkmenistan), as well as wall painting conservation experts from Japan, China and France. The basic purpose of the workshop was to conduct practical exercises on conservation of medieval site wall painting fragments obtained as a result of past excavations.

In the Course of the workshop the participants familiarized themselves with restoration and conservation work in member-countries, exchanged views and experience. Acting as experts were Japanese representatives. Exercises included documenting of fragments to comply with standard form, photography, visual inspection of painting fragments, as well as roentgen analysis (use of infra-red and ultra-violet rays). A practical purpose of the workshop provided for initial manual cleaning of paintings from mud and their subsequent strengthening, including foundation and gluing of fragments.

To sum up, a brief survey reveals that efforts aimed at conserving a specific type of archaeological monuments – wall painting and sculpture as a part of medieval art proved to be unmethodical, when the need arose or, at best, as a component of general restoration work. Of particular concern is a training of cadres both for research and restoration and conservation purposes. Note that a number of higher educational institutions, in particular, the Kyrgyz National University, Kyrgyz-Turkish University Manas and Kyrgyz State University of Architecture, Engineering and Transport, American University in the Central Asia. However, problems remain unsolved, for no experts in restoration and conservation of artistic valuables are trained at higher educational institutions. In addressing the problem, the government is presently engaged in drawing up a new national complex program on historical-cultural heritage that provides for research and practical measures, as well as training cadres in charge of management and conservation of cultural heritage facilities.



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