To the question of age determination of the medieval temple in Miuseri (Abkhazia)

V V Pishchulina*, E M Kishkinova
Don State Technical University, 1 Gagrin sq., Rostov-on-Don, 344002, Russia

E-mail: viktvlad@mail.ru

Abstract. The article is devoted to the study of the architectural features of the medieval church in Musser, its comparison with other three-church basilicas, the description of the results of the analysis of the mortar of the temple based on the x-ray phase method. This method is used for the first time in the study of the temple in Miuseri. The scientific novelty of the article is due to the fact that a comprehensive study of the planning, volumetric-spatial solution and building material of the Miuseri Church based on the results of physicochemical analysis refers its age determination to the 7th century.

Introduction
The relevance of this article is due to the lack of a consensus on the studied architectural monuments’ age determination. The Miuseri Temple has repeatedly attracted the researchers’ attention. However, its age determination assumptions diverge significantly. So, L. D. Rcheulishvili supposes it to be the end of the VI – VII centuries. [7], I.V. Berdzenishvili - of the VII – VIII centuries, [1], E. Neubauer inclines to the VIII – IX centuries [10], V.P. Pachulia dates the temple back to the 9th – 12th centuries, A.Yu. Vinogradov and D.V. Beletsky calle the date of 970 [2]. Yu.N. Voronov attributes the construction to the X – XI centuries [3], L.G. Khrushkova does not name the estimated date [9].

The purpose of this article is to clarify the age determination of a medieval temple located in Miuserin the territory of Abkhazia.

Tasks: study of the architectural features of the Miuseri church as a three-church basilica; presentation of the temple’s mortar physical and chemical analysis results; justification of the temple’s age determination the VII century.

One of the most important problems in the study of medieval architecture in Abkhazia is the problem of the architectural monuments’ age determination. Arguments for referring a building to a particular era are the building inscriptions, mentions in written sources, images of worshipers, reference to historical events, data from the archaeological research, design decisions, materials and methods of their processing used in construction, volumetric and spatial compositions, planning features, considered in comparison with the “reference” clearly dated monuments and allowing to include a particular building in their evolutionary series, stylistics and semantics of decorative motifs. In the ideal case, all these data do not contradict each other, allowing to narrow the chronological framework of the construction or reconstruction of the building.

However, the age determination of many monuments is complicated due to the limitations of this kind of data - the absence of inscriptions, decor, references to the historical sources and so on. On the other hand, the interpretation of archaeological finds, architectural and decorative elements and the
identification of their analogues cannot be completely free from the subjective approach of one or another author. Natural science methods for studying building materials are deprived of this drawback. At present, physical and chemical methods for studying the medieval building materials have been widely used. Since in most cases the architectural monuments of Transcaucasia were built of natural stone, an experimental technology was applied using x-ray phase analysis of lime mortars from different parts of the temple. The results showed that the central part of the temple was built in the 7th century, and the narthex - in the 10th century.

**Material and method**

The temple under study is located in the Gudauta district of Abkhazia, on the territory of the Pitsunda – Miuseri Biosphere Reserve, where the mountains almost come close to the coast, on the left bank of the Ambara River, which flows into the Black Sea. Located on a hill, the Miuseri Temple was once inside the fortress, the ruined walls of which can be seen around it.

In plans the temple is a rectangle measuring 22.5 x 18.6 m, stretched in a west-east direction. The area of the temple is 418.5 square meters. The entrance on the west side is located almost in the facade center, with a slight offset to the north, and leads to the narthex. In the lower tier, the narthex has two window openings on the north and south sides. The embrasures of all the windows of the monument are trapezoidal and expand inward.

From the narthex, two openings lead to the central nave. It significantly exceeds the lateral ones in height and width and ends with an apse, semicircular in plan from the inside and not protruding beyond the outer walls in the exterior, cut through by one window. From the central nave, wide passages lead to the side. Two pairs of pilasters are placed on its longitudinal walls, and in the eastern part, near the apse, another pair of pilasters with ledges forms asymmetrical “shoulders”. The central apse is connected to the side rooms in narrow aisles.

The side naves include two rooms and are not symmetrical. The northern nave is divided into a small room from the west, with one window, and more extended from the east with three windows, with the rooms connected to each other. The eastern room ends with an apse with a window having a drop-shaped outline curved towards the central axis of the building. From this expansion, a narrow corridor leads into a small room - a “pocket”, which in plans has a lenticular shape of an irregular oval shape. The north apse of the nave is stepped by a widening passage connected to the central apse.

The southern nave, on the contrary, is divided into a short compartment from the east and a long one from the west, and they do not communicate with each other. The short compartment, which has one window each from the east, that is, in the apse, and from the south, is connected by a stepwise-expanding transition to the central apse. A short corridor leads from it to the room between the apse, in plan having a shape close to a triangle. The extended western compartment (eguteri) of the southern nave, is completed by the apse, opens onto the facade with three arched apertures of entrances. The entrance placement from the south, as known, is a characteristic of the Syrian tradition.

The main entrance on the western facade also has an arched shape. To the left and to the right of it in the lower level are the already mentioned small rectangular openings of the narthex windows. Higher in the center it is possible see a cross-shaped composition of four windows, including one large arched opening and three smaller ones above it, as well as to the right and left.

The central nave from the front facades’ side is cut by seven arched windows, one of which falls on the narthex, and the rest directly on the nave. The southern nave, as already mentioned, has three arched entrances.

The harmonious organization of the interior is facilitated by the main nave windows’ placement in pairs between the pilasters. Step pilasters in front of the apse pass into the archivolt with a ledge, emphasizing the altar space triumphal arch importance. All passages have arched openings, and the premises and corridors have vaulted ceilings. Narthex is opened into the lower level interior with three arches and at the level of the choir aisles, the same is on the facade, four arches, three of which are on the same level, and the fourth - above them in the center, under the arch. ‘The choir aisles staircase is located on the western end of the northern nave. As it is based on the choir aisles’ middle opening size,
we can assume that in antiquity it could play the role of a door leading to the inside of the room from the external staircase” [8].

The main building material of the temple is limestone. Shell masonry, made of blocks, with backing. The inner surface of the walls in separate places, especially in the apse, is made of the river and sea boulders-pellets. Consequently, the walls were covered with plaster. Perhaps there was a painting. In some places in the masonry there is a plinth.

**Discussion**

The Muiseri Church is a type of three-church basilica. The Three-Church Basilica is a specific version of the basilica, a type of temple, the earliest examples of which are known in Georgia. On the exterior, it looks like an ordinary basilica, with a raised vaulted central nave, overlapped by two slopes and the lowered side. However, the interior has significant differences. The side naves are separated from the central not by the rows of columns or pillars, but by walls. The term “three-church basilica” was introduced by G. N. Chubinashvili, who suggested the Syrian origins of this composition. Western European scholars prefer the term cloisonné. The oldest temples of this type are located in Kvemo-Kartli.

The emergence of such churches dates back to the VI century and it was caused ... by the cult growth - the need to perform church service several times a day, with the ban forbidding to do this for the same throne. Although these churches have the appearance of a three-nave basilica, however ... structurally the three-church basilica is not a basilica, because it has no division into three naves by rows of pillars ... The plan essence of this type of temple is that in one building we have three elongated halls that have lower side, the middle wider and higher: on the pillars’ line there are the solid walls with doors. In each hall in the east there is an apse, so in one building we have three churches at the same time” [4, p. 141].

As mentioned above, the age determination of the temple is controversial. So, L.D. Rcheulishvili points out that choir aisles introduce the inner space like a temple in a village. Lykhny in Abkhazia and in the Kvelatsminda temple in Gurjaani (Georgia). Regarding age determination, this author rightly notes that the Muiseri temple does not belong to the early stage of the three-church basilicas formation, since a spacious middle space, well-arranged choruses, a narthex and a southern portico testify to a mature artistic understanding of the motifs already found and the flat niches that accompany the windows from the inside, reminiscent of the Bvetsky temple (Georgia). All this allowed L.D. Rcheulishvili date this monument for the VI-VII centuries and consider it earlier than the Kiach Temple. The latter, which does not have a choir aisle and a narthex with two-stage pilasters and a central room very elongated in length, he compares with the Nedzva church of the 9th century [7, p. 74-75]. A. Yu. Vinogradov and D.V. Beltsky, as well as Rcheulishvili, compare the composition of the Muiseri temple’s western wall with the Lykhny temple and Kvelatsminda in Gurjaani, as well as with the Tsandrypsh basilica, and the door at the choir aisles level is attributed to the influence of the cathedral in Mokvi. Highlighting two stages in the construction history of the temple, these researchers date the monument to the 10th century [2, p. 153-155].

When comparing the plans of the three-church basilicas in Muiseri, Kvemo-Bolnisi and Zegaani, it should be noted that the Muiseri temple is more complex in organization than Kvemo-Bolnisi, where the side naves are not divided. Compared to Zegaani, the Muiseri Temple looks more archaic, there is a noticeable asymmetry in the western entrance location, and unequal outlines of the inter-apsidal space. The Muiseri Church also reveals some similarities with the Armenian hall churches with a detour built before the 7th century. “Unlike Armenian churches of this type, in Georgian churches there is no division of the central hall space with arches with protruding pilasters ... In addition, in Armenia, as M. Asratyan notes, pastophories have apsidal space, ... whereas in Georgia it is rarely found in these rooms” [6]. Thus, the Armenian influence (the presence of pilasters and small apse) in the architecture of the temple can be considered as an argument in favor of its early age determination (up to the 7th century inclusive). The similarity of the temple’s plan with the three-church basilica in Zegaani (VI - VII centuries) also indicates its relatively early appearance.
Among the Miuseri Church western wall design analogues not only the monuments of the X century can be called, but also the earlier ones, for example, the church in Zromi (VII century) (Figure 1-2). There is also an additional window in the upper part, only it has a circular shape. The choir aisles’ decision of this domed church is also close to the temple under consideration, of course, adjusted for a different design type. The influence of the cross-domed churches’ choir aisles design on the organization of the “closed” choir aisles in Miuseri was rightly noted by A. Yu. Vinogradov and D. V. Beletsky. They believe that the naos western wall in Miuseri with the original composition of the openings, like the western wall of the narthex, may have reflected an attempt to transfer the reception already found in the domed churches to the three-church basilica. If Kvelatsminda in Gurjaani and Kvelatsminda in Vachnadziani are influenced by the Miuseris and are, like the temple in Lykhny, more recent monuments in comparison with it, then the church in Tzromi can be considered as a modern building.

Comparing the Miuseri Temple with the temple in Kondamiani village (Georgia), with the age determination from the 7th century, it should be noted the similarity of the near-altar rooms, separated by a wall, as well as of the southern façade’s three-arch solution. Apparently, the Muuseri narthex was added later, possibly in the 10th century, which explains the presence of a wall bordering it from the main hall, and the “closed” choir aisles monuments’ characteristic of the 10th century. Noticeable is the external similarity of the masonry nature, as well as the two temples’ facades design - in Miuseri and village Kondamiani. The Miuseri Church restructuring in the 10th century also affected its southern part - an apse appeared in the southern gallery, which turned the church into a three-church basilica. Such techniques for apse installation in the gallery, after apse in pastophory, are the characteristic of the 10th century (for example, the temple in Nekresi), which allows us to conclude the time of building reconstruction.

Summary
A comparison of the temples in Muuseri, Kvemo-Bolnisi and Zegaani shows that the Miuseri temple is more complex in organization than Kvemo-Bolnisi, but looks more archaic than Zegaani. The Miuseri Temple reveals a resemblance to the Kondamiani Temple (7th century) in organizing the near-altar space and deciding the southern facade. However, the Muuseri narthex was added later, in the X century, it was then that the wall that separated it from the main hall appeared, as well as the “closed” choir aisles and apse in the southern gallery, close to the temple in Nekresi. Comparative analysis data is supported by the results of X-ray phase lime solutions analysis of the temple’s different parts, indicating two building periods. Thus, in our age determination, we join the conclusions of L. D. Rcheulishvili and I. V. Berdzenishvili and attribute the construction of the church in Miuseri to the 7th century. We can also agree with D. Beletsky and A. Vinogradov regarding the fact that the narthex and choir aisles are the characteristic of the XX century - the time of the temple’s rebuilding.

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Figure.1 Mussera temple, plan, author measures  
Figure.2 Mussera temple, main fasad
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