To the question of the Georgian influence on architecture of mono-apsishall churches of the North Caucasus of the Medieval period

Victoria Pishchulina1,*

1Don State Technical University, pl. Gagarina, 1, Rostov-on-Don, 344010, Russia

Abstract. A mono-apsishall church – is the most popular temple type of the Medieval period in the North Caucasus. The transformations of their design in the North Caucasus during the considered period are connected both with the introduction of samples from Kartli, Abkhazia, Armenia, Albania and Svaneti in the XI-XII centuries, and development of Christian culture of Alania. Temples of this type in the North Caucasus can be divided into three big groups according to the character of their planning composition: three-part hall churches, churches with the entered apsis, churches with the projecting apsis. The first two types of temples are traditionally connected with the Georgian influence. As the composite type, this temple was created in Armenia where from the IXth century it is presented by a significant number of monuments. With nuance changes and additions made by the Georgian missionaries this type has found its way to Dvaletiya's territory where it is presented by a large number of objects, and also to the kingdom Serir where only two temples of this composition remain. For Dvaletiya's temples it is Kartli, for temples in Dido – not only Kartli, but also Armenia, for temples in the river basin of the Kuban – Abkhazia, but this region was also influenced by the Armenian architecture due involvement of craftsmen from Kafy.

1 Introduction

In the XI century in the North Caucasus two variations of three-part hall churches were created (without dome, with the entered apsis): the three-part hall church with niches near the altar (in settlements of the Tli, Regakh, Suatisi, etc., Dvaletiya); the three-part hall church with the entered apsis and highly located narrow pastophorianear the altar (the Zrugsky temple in the village of Hozatykau, Dvaletiya, the temple near the settlement of Datong, Dido).

Documentary sources on Dvaletiya's Christianization, space-planning features of the temples, and also the character of their decoration and the construction etechnique allow to conclude with confidence that the samples for three-part hall churches of Dvaletiya were introduced from Kartli. But it is necessary to specify that in the central regions of Kartli this type has appeared not without the influence of temple building of Armenia and Trebizond.

*Corresponding author: viktvlad@mail.ru

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If we track the geography of the remaining monuments of this type in Georgia, it is possible to draw a conclusion that generally most of them are concentrated within the former Dvaletiya (Suatisi, Diseva, Ekhvevi) or in the territories, adjacent to the territory of Armenia and Trebizond (villages of Verkhniy Karabulakh, Otkhtaetc.). Temples of this type were also spread and in Armenia (the village of Penyak, the village of Sanain), and in Albania (the village of the village Kalut, Gyaurlak, Hotavank) during this period. The temples of this group in Dvaletiya can be characterized by: articulation of internal space with pilasters of simple outlines, the cylindrical arc, the entrance in the southern wall (sometimes there is no entrance in the western wall), the method of laying of the "facing with a backing-up" type made of imported tuff, channeled glazed tile, carved altar barriers made of plaster.

2 Material

The most considerable one in this group of monuments is the Zrugsky temple. V. Markovic was the first to mention it in the geographical description in the second half of the XIX century [1]. In 1951 the expedition of Institute of history of Georgian arts of Academy of Sciences of GSSR members of which were V. O. Dolidze, R. O. Shmerling and A. I. Volskaya [8] examined the Zrugsky temple in detail (Church Hozita-Mayram) [2, pp.119-126], mentioned earlier by the employee of Research institute of the North Ossetian ASSR professor L. P. Semenov [3, p. 302]. Besides, the temple was examined by V. N. Gamrekeli [4, pp. 84-86], V. B. Besolov, I.Z.Teplytsky, N.D.Tsagayev [5, pp.10-12], E.L.Khvorostova [6] and by the author these lines. V. O. Dolidze and V. A. Kuznetsov date the temple back to the first half of the XIV c. [2; 7, p.102].

The temple is in the gorge of the Zrug-Don River, an inflow of the Ardon. It represents a three-part hall church with the entered apse, with the external measurement of 7,8 x 13,3 m. On both sides of the semicircular apsis in the thickness of a wall there are small pastophoria of two tiers, their entrances open to the apsis. Probably people got to the second tier, using a ladder; there people could store pieces of church utensils. The lower side rooms were conditioned by the peculiarities of the church worship service. Thus the existence of these rooms allows us to designate this monument as one of the Transcaucasian churches. The lower pastophoria are lit with the narrow windows facing the eastern facade. V. O. Dolidze writes that the planning of Hozita-Mayram is similar to the plannings of other georgian hall-churches of the X-XI centuries such as Othta Eclesia, Diseva, Verhniy Karabulakh, Ekhvevi [2, p.121]. According to the sizes and the sacral module used (3 m) the Zrugsky temple also makes one group with the mentioned monuments. It’s plan is most similar to the plan of the church in Ekhvevi. The Ekhvevi settlement is in close proximity to the Zrugsky gorge – near the western border of the territory of present South Ossetia. The plan of the Zrugsky temple when it comes to the details and composition is almost identical to the plan of the temple in Ekhvevi: the form and the arrangement of pastophoria, the section of pilasters, the modular size. The Zrugsky temple in comparison with the temple in Ekhvevi has a longer western part of the temple, which can be called a narthex. Besides, the Zrugsky temple has one entrance – from the south part, and the temple in Ekhvevi – three entrances: from the South, the North and the West. The Gaveti temple, situated on the territory of historic Dvaletia, has a similar composition and the same structural module. The temple in another dval settlement – Diseva, has a lesser module and is smaller.

So, the hall of the Zrugsky temple is divided into two parts by three-stage pilasters. The bema is 0,20m above the floor level. In front of an apsis there are the remains of an altar barrier in the form of column pedestals. Transition from an apsis to a naos is carried out with the help of three steps (in the plan) shoulder. Inside the temple was lit with two
windows in the southern wall and one higher window in the western wall. All the windows extend inward. The temple has one entrance located in the western part of the southern facade; it ends in the form of an integral horseshoe plate framed with an integral archivolt. It should be noted that the horseshoe form of the top of the entrance apertures is typical for the Zelenchuksky temples. The walls of Hozita-Mayram are put up using "facing with a backing" method, traditional for Transcaucasia. In a skillfully made apsis the integrity of the horizontal and concentric seams from below up to the escaped part of a conches isn't broken anywhere. The surface of some quadras is covered with the drawing in the form of the small sections consisting of four or five relief sticks entirely filling in strictly chess order all the surface of a quadra. V. O. Dolidze notes that we can find a similar quadras’ design in other dval churches of the first decade of the XI century – Darkvetaand Gorisdjvari [2, p.122]. Four side rooms are accurately laid out by ashlars and blocked by the lancet arches.

Judging by the form of the moulding of a part of the arc which remained on the south wall we can see that the arc of the church had strictly semi-circular, but not parabolic form that speaks about great skills of the builder. One more proof is the abutment of the triumphal arch remaining over smooth apsidal impost of a simple profile. Blind arches of a semi-circular reach from a pilaster to a pilaster along longitudinal walls. Outside the temple has been covered by a duo-pitch roof with a covering consisting of thin slate plates found by E.V.Khvorostova in the debris of the temple [6]. Sound resonators – jars are enclosed in a laying of a conch and a remaining part of the arch over the western half of the southern wall. All windows are decorated absolutely equally - the frame with semicircular end divided it the outline into the equal number of parallel rollers. V. O. Dolidze carried out the comparative analysis of the platbands of the Zrugsky temple in comparison with other Georgian churches of the XIth century. As a result he has concluded that the Zrugsky temple is in the same row with them in decoration craft [2, pp. 125-126]. The fact that the decor was not copied, but creatively developed in line with certain stylistics, also testifies the high professionalism of its builder.

E.V.Khvorostova cleaned of the floor at the east facade of the temple where end blocks were collected and measured, at the same time the hewn tuff block with the carved image of a cross was found evidently decorating, the gable of the temple. Existence of all of these data allowed the author of this thesis to create a version of the reconstruction of initial image of the temple. A northern part of the carved plaster altar, fallen in eastern direction, was the most interesting finding of E.V.Khvorostova. It consisted of two carved plaster panels, framed at the edges with the carved columns, collected from blocks. [6].

The same composition and construction module, as in the Zrugsky temple, has the one in the other dvalsky settlement – Tli. The temple consists of one nave hall with the semicircular apsis entered in thickness of the east wall. On both sides of the apsis there are two deep niches. The internal room is divided into two parts, equal by their sizes, with the couple of two-level pilasters. Two pilasters more are located in corners of the western wall. Pilasters and angular semi-pilasters bore the girth arches holding the arch and were connected by the longitudinal wall deaf arches (like in Zrugsky temple) which are now fallen together with the walls. The only entrance aperture (like in Zrugsky temple) is situated in the west part of the south wall. The west wall of the temple is blind, in the north one are fixed the remains of a window opening. Its decor is made with carved profiled archivolts similar to the entrance aperture in the Zrugsky temple. From the south part the extension adjoined by all its length to the temple which remained very badly. Its width is 3.00 m. Perhaps it appeared at the same time as the building, because it is put on solution and is broken in the same module, as the temple. Walls of the Tliysky temple are put in the technique, similar to the Zrugsky temple.
The temple in the settlement of Regakh which nowadays has the name Huysau-arguan is located in 300 m from the southwest suburb of the settlement, on a height, and represents the temple with the inscribed east-oriented apsis with a small deflection to the South. According to G. G. Gambashidze, Huysau-arguan has been constructed after the construction of big churches of Dvateiya (Zrug, Tli, Nar) [9, C.14]. Most of the researchers date the monument by the XI-XIII centuries [9,11]. External measurement: 5,50 x 7,50 m. The construction module of the temple – 2.1 m. The temple is constructed in a different technique than Zrugsky and Tliysky temples - from the raw slate plates and ochorous color tuff blocks laid in the corners and slopes of the windows. Binding solution – limy and clay, and there are no traces of plaster. The inner room of the temple is divided with an arch of a lancet form into two parts. In the western external wall is a rectangular niche (0,50x0,40x0,35 m), now objects of a pagan ritual are stored in it. Possibly, at the period of the construction of a Christian temple, the niche had the same purpose - rituals supplementing a church service. The church is surrounded by a stone fencing of later construction, quadrangular in the plan and put dry from the raw slate plates and stones. 40 m. southward from the temple the Alarda sanctuary is situated. It represents an opened, rectangular in the plan fencing, in the technique similar to the fencing of church which external measurement is 3,90 x 4,50 m. Orientation of a long axi is the same, as well as the temple has. In the center of the fencing - remainings of the dried sacred tree. Taking into account the antiquity of a cult of worship of sacred trees, the temple could be built after the sanctuary and constituted with it a single complex.

The temple in the settlement Suatisi is built in the same construction module and overall dimensions, situated in the Trusovsky gorge which is nowadays related to the territory of Georgia. The temple in Suatisi has a narthex, bigger in size, through which, like in the temple in Regakhe, was realized the entrance from the South side. The pilasters dismembering the hall have a more complex shape, they are similar to pilasters of the Zrugsky temple. The temple has the throne adjoining an apse wall on an axis the East-West, the increased floor level in an altar and similarity of an altar barrier in the form of a small wall with a side ledge for an entrance to the altar. The peculiaris of the temple are also benches parapets, situated along the western, northern and southern walls.

Near the village of Ashitl, at the ancient road on the Hunzakhsky plateau, on the right side of the gorge of the river Tobot, the church has been constructed on a slope, on the leveled platform. The material of walls - roughly processed stones and bricks on earth solution. In the east part of the building there is a horseshoe apsis similar to the apsis of church of Akaro. The entrance is from the west and is shifted towards the north wall. In the center of the church there is a monolithic stone altar with recesses from the cross installed. The building was also covered with flat and cannelled tiles equal to those from mount Akaro [9, C.452-453]. Installation of stone crosses in the temple near the table or on it is anancient tradition in Christian culture, is recorded in monuments in the Caucasian Albania. Existence of this element in a temple building of Dagestan demonstrates the contacts with Albania continuing in the X century.

The only remaining temple of this type in Dido near the settlement of Datong in Dagestan seems closest to the initial sample. The temple is at Avaro-Kakhetinskaya Road, twenty kilometers from the valley of the former community Gidatl Shamil Ali Gajah Chokhesky's secretary had data. About construction of this church which were mentioned by Alikhanov-Avarsy in the note placed in the Caucasus newspaper. According to Ali Gajah's data, it has been constructed by Georgians in 1363 [10]. However on the basis of the analysis of architectural features R. O. Shmerling dates this monument back to the end of the X - the first half of the XI century [11, pp.9-10]. G. Ya. Movchan dates the temple of Datong as of the XI century [12, p.16].

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It is promoted by proportional construction - small width in comparison with considerable height - and almost total absence of an external decor. Design features of the temple of Datong are interesting. The temple is blocked by the cylindrical arch. The central part of the building separates from an antechurch and an altar strongly dismembered edges of arches. Over it the cross in the form of a herd which is flowing round the cylindrical arch of construction hangs. The cross occupies the central part of a ceiling limited to the bearing edges of arches.

3 Discussion

V. I. Markovin relates the temple of Datong according to its architectural design features (the entered apssi, pastophoria on the parties of an apsis, avarice of an external decor, the construction equipment) to the Georgian temples, comparing it to the temple in Tsirkoli of the VIII century [13, pp.40]. However it is difficult to compare the temple of Datong with the Georgian hall temples: there is other principle of partitioning of space (Tsirkoli) in it, pastophorio have other form and function – they are wider and are open in prealtar space, thickness of walls and volume of internal space have other ratio. In our opinion the temple of Datong according to its design features (a laying from stone quadric, existence of a herd over the central volume), and features of the plan could be built on the Armenian or Albanian sample. The plan of the temple of Datong is very close to temples of a northern part of Armenia, for example, churches Amenaprkich in Sanain (Xth century) which has a dome, the Georgian church in Tsirkoli has a dome also, but it isn't in the temple of Datong. Plans of temples of the monastery Nor-Getik are very close to the plan of the Datong church XIIth century). The sample of the Armenian temple could be introduced on the river Avarian Koysu through the territory of Albania where in the X-XIIth centuries there were principalities which have kept Christian belief, for example the Hachensky principality [14].

The temple located nearby on the river Béla, near the village Belorechensk can be added to these temples. Unfortunately, neither in the report, nor in N. Kamenev's publication there is no scheme of the plan of this temple, there are only its descriptions. M. N. Lozhkin correlated this temple to the Armenian variations [15]. The temple was analyzed by V. A. Kuznetsov who came to a conclusion that it had the projecting apsis [7, pp.16]. However some details of the description by N. Kamenev allow to conclude that still the apsis was entered. [16,p.11]. From the description it is clear that the internal measurement of church is 5,1 x 8,64 m. The church has the base of about 2 m in depth made of the same stone as the temple, using lime-white. The temple was covered with an ogive, the door and window openings had the same completion. The words "carches of altar doors" attract attention. What altar door were meant? If they were the doors to side-aisles, then the presence of the latter would have been noted in the description. If they were the doors in an altar barrier – such a noticeable detail would have been included in the description. Most likely, these are the doors to the near-the-altar pastophoria-niches, typical for small Transcaucasian churches, and also for temples of this type in Abkhazia that means the presence of the entered apsis. The column cap fragment published by G. Kuchuk-Ovannesov [17, p. 110] according to its form belongs to a pilaster, but it doesn't correspond to the column caps of temples in Kafy dating back to the XIII-XIV centuries. The strong likeness is traced with column caps at the entrance to a gavit in the temple of the monastery of Surb-Hach built in 1358 in the Crimea. However the column cap in the temple of Surb-Hach naturalistically reproduces vegetable forms, but the column cap from the Belorechensk church is more stylized. The network ornament is similar in the lower part of column caps. In the temple and near it several inscriptions are revealed. The construction inscription in Armenian inserted into a wall can be read in two ways. According to N. Kamenev and A. Tumanov:
".. mason from Kaffy Krymbey" has built the church [16, p.11], according to the reading by G. Kuchuk-Ioannesov "the church is constructed by the bricklayer …in the year 620 of the Armenian era", i.e. in 1171 [17, p.106]. Considering the Belorechensk church we have the following data: dating on the Armenian construction text – the end of the XII century, two Greek inscriptions, the entered apse with niches-pastophoria, ogival endings of windows and doors, the laying typical for the Armenian builders in Kaff, a column lap with the eastern-Byzantine motives of the XII-XIII centuries, the stock of burial near the temple corresponding to burials of abadzekh of XIII-XIV centuries, and, at last, a geographical arrangement of Belorechesky church in close proximity to historical places of dwelling of the Abazin in the west of Abkhazia. All this allows to correlate this church to the abazin or abadzekh tribes that moved from Abkhazia, but as dating we would like to offer the beginning of the XIII century. Taking into account illegibility of the Armenian construction inscription, G. Kuchuk - Ioannesov could be mistaken in some letters.

The Greek text about the possessor of some Miniliya, availability in the direct proximity from the Belorechensk church of the two more ancient settlements in which churches with the entered apses were constructed, in the similar technique, in the same construction module (2.5 m), with the carved stone altar barriers having direct analogies to the Abkhazian variants, the organization of seats along longitudinal walls similarly to some mono-apsis churches of Abkhazia - all of these, taking into account that churches with the entered apsis in ancient settlements Ilyich and Kurdishto are dated back to the same period (the end of XII-beginning of the XIII centuries) allows to unite all these temples in one group and to correlate them to so-called Miniliya – the possible place of residence of abadzekh in the XIII-XIV centuries. The second period of construction of not only temples, but also of defensive buildings in ancient settlements in the villages of Kurdishto and Ilyich belongs to this period. It should be noted that there was a very big prevalence of small temples of this composition in mountainous areas of Abkhazia and the territory of the Black Sea coast of Krasnodar Krai adjoining to it in the XI-XIII centuries. It is possible to specify temples in Anukhva, the Tsebeldinsky valley (in the settlements of Dzhgerdy, Akhysh, Poltavskoye, Apianchu and etc.) on the Georgian Military Road (in the settlements Upper Machara, Klych, etc.), and also temples in the area of Agua and on Mount Akhun over Khosta, described by Y. N. Voronov. The temple of Akhun was also decorated with ornamental carving on a stone in the form of a wattled ornament, characteristic for Abkhazia. Thus, features of architecture of temples of this group were in many respects determined by influence of a temple building of Abkhazia, but some design features were caused by involvement of the Armenian masters from Kaffy with which, obviously, intensive trade contacts were arranged.

4 Conclusion

Thus, it is possible to make a conclusion that a peculiar variance of three-part hall church presented by a number of churches in the Zruge, Tli, Ekhvevi, Gaveti, Dsev, Regakhe, Suatisi. was created in Dvaletiya. Temples of this group are built on the basis of one sample which came from the southern boundaries of Kartli. Taking into account that all the temples mentioned are built approximately during the same historical period - the beginning of the XI century, and the fact that in each temple the composition received a nuance author's treatment it is possible to draw a conclusion that a creative adaptation of the sample, possibly within activities of one construction artel, took place.

The sample has been transformed in the process of adaptation, and in each temple the peculiar details, demonstrating certain stylistic similarity, are found. Broad contacts of the population with the neighboring regions of the North Caucasus have caused introduction of some details, for example, of a horseshoe form of lunettes over entrance apertures into the
architecture of Dvaletiya temples. Comparison of planning compositions of the considered temples allows us to conclude that each church had a certain hierarchical status. For example, the Zruge temple has two-storey pastophoria, and the Tliysky church – only small niches, i.e. its status is slightly lower. The Tliysky church has no narthex that is also emphasized with an entrance from South side leading directly to the prayerful hall whereas in Zruge the entrance is from the South, through the narthex. Temples in Disiev, Regakhe and Suatisi have another construction module (2.1m), respectively, the smaller absolute sizes and niches instead of pastophoria. An important feature of the considered Dvaletiya's temples is that the nearby pre-Christian shrines have preserved.

The temples similar to considered in Regakhe, Suatisi, Disiev are also discovered in another region – in the territory of the Hunzakhsky plateau in Dagestan.

The majority of the churches constructed during this period are concentrated on the Hunzakhsky plateau which is distinguished spatially in Avariadue to the roads crossing it and connecting it with Georgia and Azerbaijan in the southwest, in the northwest – with Chechnya, in the east – with the Caspian regions of Dagestan, and also natural inaccessibility and the fortified settlements on ancient roads. The center is mountain Akaro where we can find numerous remains of Christian constructions, and also symbols of Christian culture – big and small stone and metal crosses, epigraphic monuments of local origin. In the eastern part of the building there was a "hall" mono-nave church (external measurement - 6.84 x 5.18 m), with the horseshoe apsis made in east wall and marked with lugs and rising above the hall like a step. The church hall, like in temples in Regakhe and Suatisi, is divided into the prayerful hall and narthex by pilasters of the three-step form.

The quadrangular stone table is attached to the east wall. Near the north wall - the remainings of a pilaster of the two-stage form, near the south wall – one-stage pilaster. The entrance to the church was from the South, also it is possible that there was an entrance from the West, that is specified by apertures in the walls. In the building the construction ceramics is found. The roof was tiled, flat and channeled, sometimes glazed that is a proof of contacts with Kartli where it was applied in a church construction till the XIII century. However, fragments of angabired, but not glazed tiles were found that lets us assume that they are of the local origin.

The carried-out analysis allows to conclude that the ways of penetration and transformation of a sample of three-part hall church in the North Caucasus. As the composite type, this temple was created in Armenia where from the IX century it is represented by a significant amount of monuments (churches of Ovannes in Varagvanke, IX c. and Amenaprkich in Sanain, X c.,etc.). The listed temples can be characterised by: the narrow extended pastophoria leading to an apse, accurate three-part division of space of the temple, the internal dome located over the central hall on tramps without a drum; considerable thickness of walls. The temple in Datong where the dome is absent, but is imitated by a peculiar crosswise herd over the central hall, was built basing on this sample. In the territories of Kartli, adjacent to Armenia, and in the north of Asia Minor this type was transformed, and is represented by some monuments of the X-XI centuries. It received more considerable sizes, there is no dome, pastophoria became much shorter, in certain cases turned into niches, and sometimes are absent at all.

One important fact is the absence in archaeological reports of researchers of any data about the existence of pagan sanctuaries, or objects of early Christianity – steles and crosses near the temples of this group that also indirectly confirms the offered version. In the same time near the temples of similar composition in Abkhazia researchers discovered pre-Christian sanctuaries filled with horns and gifts. The sanctuaries or the specified objects would remain if the temples were built by the aboriginal population who adopted Christianity. But temples with the entered apsis were built over the temples with a projecting apsis preceding them i.e. in other composition and in other technique that
demonstrates that they were built by the immigrants who had their own vision of a Christian temple.

Thus, it is possible to state that spatial and planning schemes of mono-nave temples with the entered apsis initially were not precisely copied from samples, but in the process of construction there was a transformation of them according to local interpretations of space of the Christian temple. The samples for this type of temples were not particular objects. It is possible to say with confidence only about the expected confessional center – the source of samples, but multiple influences are traced sometimes. For Dvaletiya’s temples it is Kartli, for temples in Dido – not only Kartli, but also Armenia, for temples in the river basin of the Kuban – Abkhazia, but in this case we can see the mediated impact of the Armenian architecture due to involvement of craftsmen from Kafy. In general it is possible to call temples of this type "national architecture", and it is one of their main features. They were under construction at the expense of private customers, weren’t a part of state "program", but at the same time their quantity in a certain territory can serve as an indicator of the depth of penetration of Christian culture among people. "National" nature of the temples of this type determined the identity of their architecture conditioned by additions of elements of various cultures – both in spatial composition, and in interior decoration.

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References

1. V.V. Markovic, In upper courses of the Ardona and the Riona. Notes of the Russian Geographical Society on general geography (T.XXXVIII, S-PB, 1906)
2. V.O. Dolidze, Hozita-Mayram – the document of cultural ties of Georgia with the people of the North Caucasus (AN of GSSR, Tbilisi, 1954)
3. L.P. Semenov, MIA, 23 (1951)
4. V.N. Gamrekeli, Dvala and Dvaletiya in I-XV.n.E. Tbilisi: Academician of sciences of GSSR (1961)
5. I.Z. Teplitsky, Monuments of material culture of North Ossetia (Ordzhonikidze: North Ossetian book publishing house, 1963)
6. E.L. Hvorostova, The report on excavation in the Zrugsky temple(RAS news Agency Archive, 1964)
7. V.A. Smiths, Christians in the North Caucasus till 15th century (Vladikavkaz, 2002)
8. A.I. Volskaya, Fragments of fresco of the Georgian temple Hozita-Mayram in North Ossetia (Messages AN GSSR, Tbilisi, 1954)
9. G.G. Gambashidze, Questions of Christian culture and historical geography of Accident in the light of results of the Dagestan-Georgian joint archaeological expedition of AN of GSSR and an USSR. Materials IV of the International symposium on the Georgian art(Tbilisi,Metsniyereba, 1983)
10. Masudi,SMOMPK, 38 (1908)
11. R. O. Shmerling, Temple near the village of Datong in the valley of the river Avarian of Koysu the II scientific session of IIGI(Tbilisi)
12. G. Y. Movchan, Ancient architecture of Accident (mountain Dagestan)(Moscow, 1970)
13. V.I. Markovin, Architectural inheritance, 40, (1996)
14. G.G. Mamedova, Cult architecture of the Caucasian Albania, access mode: http://c-albania.aznet.org/zakluchenie.html (1997)
15. M.N. Lozhkin, New monuments of medieval architecture in Krasnodar Krai SA, 4
16. N. Kamenev, Ruins of the church of Saint George opened on the river by Béla. The Memorable book of the Kuban region on 1877 (Ekaterinodar, 1876)
17. Kuchuk-Ioannesov, IAC, 3 (1893)