The basic signs of the byzantine architectural culture in the medieval serf temples in Abkhazia and Georgia

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Abstract. Two serf temples are considered in the article – in a village Dranda (Abkhazia) and in the village Ninotsminda near Sagarejo (Georgia). Within the main architectural trends of the early Byzantine period, these temples’ planning, compositional and constructive solutions are analyzed, their sources and the prototypes are specified in the context of the Byzantine influence on the Transcaucasian regional schools architecture. The dating of the temple in Dranda is substantiated by VI century. The investigated monuments are presented in the synchronous and diachronic series of analogs in connection with the figurative and symbolic architectural forms component. The scientific novelty of this study is due to the western compartments architectural forms alleged prototypes identification of the temple in Dranda, which have Syrian origins, the Ninotsminda planning and constructive solution supposed Byzantine prototypes identification, considered in the octagons type temples context, making the fortresses dating hypothesis in connection with the temples dating in them.

Introduction
The relevance of this article is associated with the need for in-depth and balanced, free from the current political realities projecting on the distant past events, comprehension the Byzantine Empire and Transcaucasian architectural forms diffusion in the middle Ages period. It is necessary to immediately emphasize that the Byzantine influence presence statement does not detract from the originality and the highest achievements of the Transcaucasian countries’ original architecture. As J. Reynolds said “it is necessary to refute <…> the widespread opinion as if the rules are narrowed down by a genius. They are the fetters only for those who lack of genius”. Many hundreds of researches are devoted to the Byzantium and Transcaucasia medieval architecture study; in this review we will name only some of those who directly or indirectly concern the selected monuments. The temple in Dranda is mentioned in a significant number of publications, among which are the works of L.G. Khrushkova [1], V.A. Lekvinadze [2]. L. D. Rcheulishvili dates the monument to the VIII century [3], R. S. Mepisashvili and V. G. Tsintsadze – to VII century [4]. G.N. Chubinashvili attributes the temple to Jvari-type monuments [5], while M.K. Hotelashvili and A.L. Jacobson reasonably insist on the Byzantine component predominance [6]. The Ninotsminda temple is also not overlooked by the researchers. Both the authors of the summarizing works on the Georgia architecture history and the researchers of its individual aspects addressed it. A.Yu. Kazaryan connects the tetraconchs composition genesis to the corner niches with the combination of the octagon and tetraconch ideas [7], G.D. Mosulishvili analyzes the composition of Ninotsminda in a number of other central-domed temples, emphasizing the diameter dome use as a module [8]. In particular the detailed article by O. Kh.
Halpachchiana is devoted to the octagon research in the Armenian architecture context [9]. Along with the above-mentioned works, the publications of the Byzantium, Transcaucasia architecture and the adjacent territories were used in the analysis [9, 10, 11, 12, 13, 14, 15, 16], as well as the monuments surveys materials.

Main Text
As it is known the early Byzantine period architecture is characterized by the intense search for compositional, planning and constructive temples solutions adequate to the emerging Christian divine service features. The basilicas are modified, different forms of which detects a tendency to shortening, emerging the dome over the central nave, and therefore to the domed basilica emergence, to the expansion and “separation” of under-dome pillars, that outlines the formation path cross-dome system in future. This process which is due to excretion together with the altar the second the most important center in the divine service in the inner space of the temple – the ambo, also finds expression in the experiments with various types of the central domed temples - from the simplest ones like free cross to tetraconchs, octagons, double octagons, etc. The building material is as a brick with the stone layers as the stone itself. The early Byzantine architecture basic features are clearly reflected in the Transcaucasian architecture, the evidence of which is, in particular, lies in the temples considered below.

1.1. The temple in Dranda
The architectural features of the temple in Dranda are covered in detail in the literature therefore, we describe them briefly. The temple is a central-domed temple as type croixinscrit. Its plan forms a rectangle with three apses, faceted outside and semicircular inside and narthex which has entrances from the north and south. The partitions, which form the limiting spatial cross, have cut the corners, what serves for the under-dome space expansion. The dome diameter, which is resting on a low drum is 10.3 m, it is faceted outside and hemispherical ribbed inside. Sixteen drum windows visually separate the dome from its base, contributing to the impression of “hanging” its bowl. The dome design and its appearance evoke an unequivocal association with Byzantine monuments such as the Church of Sergius and Bacchus in Constantinople (VI cent.).

The cross branches slightly exceed the corner compartments height overlapped by the dummy domes and connected with the cross sleeves by the passages. The eastern ones from them are the sacristy and altar, which are rectangular in plan and ending with side apses, while western ones have a round shape in plan, which is complicated by the three semicircular niches presence giving them the sockets appearance (Figure 1 a). Except the drum windows, three windows of the central apse and the windows cut with the temple walls, including in the corner rooms contribute to the interior space insolation. The laying material is plinth on the lime mortar with rare short interlayers of cobblestone.

The squat temple proportions, its low drum and wide dome, the external forms laconism unites the monument with the buildings of the early Byzantine period. The cross sleeves on the facades are highlighted by the gently sloping forceps. The faceted apses find the analogues in a number of monuments of this period, such as the Church of Sergius and Bacchus, Church of St.Irina in Constantinople (Figure 1 d) and finally Sofia of Constantinople. As for the western cells, their “three-petal sockets” are akin to solving the corner rooms of the cathedral in Bosra in Syria, dating from the beginning of the VI century (Figure 1 c). The relations with Syria, both as confessional and cultural, as known, are illustrated by many Transcaucasian monuments due to the Syrian preachers arrival to Laziku from Antioch in V century.

Much less common is the technique of “cutting off” the incoming corners of a spatial cross. Indeed, the Church of Santa Maria dei Cerei in Rometta, dating back to the V-VI centuries and presumably having originally the function of the baptistery, is characterized by a rectangular plan (the narthex is lost) with the partitions corners cut off, like in Dranda, in a under-domed square [7], the side of which is two times inferior to Dranda. Moreover, its plan, in comparison with the Abkhaz monument, is characterized by the utmost archaic simplicity (Figure 1 b). The octagonal drum rises slightly above the
cubic base. The cross sleeves are overlapped with cylindrical arches and the corner cells are overlapped with the cross. Considering the two buildings remoteness which is excluding the direct influence, it is only hypothetically possible to suggest the existence of the now-lost Byzantine temple of the close layout, which became the prototype for both of them.

In the figurative and symbolic aspect it should be noted the quite harmonious and logical correlation in the planning and in the volumetric spatial composition of a square (cube) of the Dranda Temple - a symbol of the Earth and a man, a circle (sphere) - a symbol of heaven and the divine infinity, the cross - the Christianity symbol and the octahedron - an immortality symbol. The architectural solution of this monument, as we see it, is located at “the junction” of the inscribed cross and octagon composition types, the hint of which is given by the cut corners of the under-domed square.

When we compare the temples of Dranda and Jvari in Mtskheta (590-604), it should be noted that they belong to the different, though related, architectural traditions. Jvari is known to be an inscribed tetracronch made of stone, not brick. The central quadrate is covered with a hemispherical dome on an octahedral drum the dome coating is curvilinear octagonal skat. The internal space hierarchy: the dome is the drum- its cubic base is trihedral completions of the cross branches– the corner pastophorias are separated from them by the niches is clearly expressed in the external forms of the temple. In the inner space the cross sleeves are the semi-circular outlines. In the west-east direction, they are complemented by the rectangular elevations (wimas), which lengthen the main axis (Fig. 1e). Small, circle three-quarters rooms without windows adjoin to the corners of the central quadrate, the narrow passages which lead to the corner rooms, that are square in the plan, covered with the cross vaults, with the flat niches on all sides and the rectangular outer outlines. The transition from the central square to the octahedron is solved with the help of the stepped niches (trompe) placed in three tiers. The facades abound in the reliefs, among which are the founders (ktitors) images, the Cross and the Ascension. The planning solution, the spatial composition and the facades decoration of Jvari are more complex and detailed than in the Dranda Temple, at the same time the latter is characterized by the composition, which is in the formation process, the search for the optimal solution. This, like the Byzantine features of the temple noted above, makes it possible to date its construction to the second half of the VI century, that is, to relate it to the period preceding Jvari.

![Figure 1](image1.png)

**Figure 1.** The plans of the temples: a) in Dranda; b) in Rometta; c) in Bosra; d) of St. Irina in Constantinople; e) Jvari in Mtskheta

### 1.2. Ninotsminda

The stone was a building material during the construction of this temple, which is characteristic of the Transcaucasian medieval tradition, which has been formed, however, under the Syria influence. The Ninotsminda Cathedral, which dates back to the third quarter of the VI century, is considered in a line with the development of the ideas of tetracronch of Dzveli Gavazi (Figure 2c), which was erected a
little earlier [7, p. 306]. The temple is in a ruined state, because it was destroyed in the first half of the XIX century due to the earthquake. Maybe the temple dome restructuring, which was undertaken in the middle of the XVIII century, became an indirect cause of cave-in. The eastern part of the building is preserved to this day; the plan of which is reconstructing as octaconch, which can be called “free”, by analogy with the “free cross”, considering that conchs is not covered here by the rectangle of the walls, as a result, the plan outline has a multi petal character (Figure 2d). The length in the interior along the axis of west-east is 18.1 m.

The conchs, which are oriented on the cardinal points, are complemented by the elevations (wimas) and slightly exceed the size of the “petals”, placed between them. The eastern conch corresponding to the apse and is cut through by three windows, even more is highlighted with size, its external shape forms a pentahedral outside and a semicircle inside, while the other three have a semicircular outline in the plan of the outside and inside. The small conchs are devoid of wimas, however, their internal rectangular in the plan rooms are expanded by the semicircular niches, which are oriented with the deviations up to 25˚ to the west and east. All conchs - both small and large, with the exception of the east - have the entrance openings. The main western entrance was once stood out by a columned portico [11, p. 309].

The powerful semi-cylindrical pillars, which are adjoining to the partitions between the conchs and bearing the auxiliary arches in the sinus of the vaults of which, the miniature arches are placed, the allocated stepped niches (trompes) are also combined by the arches of the openings which are leading in the conchs. The gaps between the auxiliary arches and the arches of the openings are filled with the vertical partitions. The eastern pillars are complicated by the narrow arched niches. Eastern and northeastern, western and northwestern large and small conchs are also united in pairs by openings, the archivolts of which rely on the poles well below the main openings’ arches. As a result, the interior of the temple is not only expanded by the conchs’ addition, but it also becomes integral and at the same time multidimensional character on “the petals” shape and sizes ranging account united by the arches with a central dome space. The auxiliary arches archivolts are supplemented with “the shelves”.

Many buildings of the early Byzantine period, including the church of Sergius and Bacchus in Constantinople and the “golden temple” of Ephesus which is not extant have the plans in the form of octagon of various modifications. However, “free octaconch” among them almost never occurs. From Byzantine buildings that could be a source of the inspiration when the composition of Ninotsminda was being created, it could be highlighted only known the martyr’s description in Nisa in IV century (Figure 2a). The crosswise-rectangular in the plan cells and the conchs adjoin to its octagonal central core. The church St. Euphemia (V century), which was rebuilt from the palace hall and adjoined to the Constantinople hippodrome (Figure 2b), should also be noted; in the base of the plan it is hexagonal, however, in the imaginative attitude it is near of kin to the temple in question.

We can assume that not least, the desire to materialize the sacral idea which is laid in the Christian symbolism of the number eight the most clearly, could become the studied composition source. The eight is following the seven which is completing the cycle and starts a new one and therefore becomes a symbol of rebirth (resurrection). The Resurrection of Christ, which came on the eighth day after the Entry into Jerusalem, it is also interpreted as the eighth day of the creation, putting the beginning of eternity. In number eight four are summarized-terrestrial, corporeal number, the triple is a heavenly number, symbolizing the soul, and a unit which is meaning divine spirit. Perhaps the “key” to understanding just such composition symbolism is given by the reliefs on the stones. Ninotsminda is with the image which is inscribed in the circles and formed by interlaced ribbons of three-petal, four-petal and eight-petal rosettes.

The form of the “free octaconch” in the Transcaucasian churches planning further almost never occurs, giving the way to a tetraconch line with the angular niches of the Jvari type and to the dome rotundas. The internal composition of eight-apse no longer manifests itself so clearly in the external volume. Among the exceptions is the Ohtdrnivank church VII century near the village of Mohrenis (Figure 3a) in Caucasian Albania (now Nagorny Karabakh) and Georgian temple in Kvetera X century (Figure 3b). In Armenia, the closest analogue of Ninotsminda is the Zoravar (Voevoda) church in
Yeghvard (666-685), it is also preserved in ruined state, and the church of St. Gevorg in Irinda (the last third of the VII century). Eight conchs of the temple Zoravar of which the apse, supplemented by wima, exceeds the rest in size, surround the under-dome space which is round in the plan. The conchs (except for the east pentahedral shape) have a trihedral shape outside, a semicircular shape on the inside (Figure 3c). There are the trihedral niches between them, in which the three-quarter columns are inscribed. The three-quarter columns of the interior are corresponded to them, adjoining to the piers and visually supporting the archivolts of the arches. The drum which has twelve facets outside forms a circle in the plan inside. In the church in Irinda, the western conch is replaced by a room, square in the plan, and the apse is supplemented with two aisles (Figure 3d). The composition of the temple Zoravar, which was built a century later Ninotsminda, has the kinship with this cathedral, and probably has arose not without its influence. Thus, the Cathedral of Ninotsminda can be considered the first in time of creation of the “free octaconch” of Transcaucasia.

Figure 2. The plans of the Cathedral of Ninotsminda and its predecessors: a) martyries in Nisa, b) the church of St. Euphemia in Constantinople, c) DzveliGavazi, d) Ninotsminda

Figure 3. The plans of octaconchs of VII century: a) Ohtdmivank near village Mohrenis, b) the temple in Kvetera, c) Zoravar in Yeghvard, d) St. Gevorg in Irinda

Summary

The study allows to establish the Byzantine architectural culture basic signs presence in the considered serf temples in planning, volume-spatial, constructive-technical and figurative-symbolic aspects.

Thus, both temples belong to the central-domed type what is typical for the early Byzantine period. The burnt brick (plinth) Byzantine masonry is represented in the temple of Dranda, which, in addition, is distinguished by the Byzantine ribbed dome, the shape of the western cells which has Syrian counterparts and the layout of the inscribed cross with the beveled corners, the territorially remote analogue of which (the church in Rometta) suggests the existence of an unknown so far common Byzantine prototype.

Compositionally the Cathedral of Ninotsminda belongs to the octagon type which is also genetically associated with the Byzantine tradition (martyria in Nisa, the Church of St. Euphemia in Constantinople). The term “octaconch” in this case it seems to be more correct than “tetraconch with the corner niches”, as it more fully reflects the volume-spatial organization of the temple with a clear identification of the conch itself in its exterior. Such composition most convincingly visualizes the
symbolism of the number eight, perhaps, that was served as the impetus for its creation and determined its relevance over the next several centuries.  

The dating of the serf temples based on a juxtaposition with the analogues can serve as a basis for determining the construction chronology of the ruined and currently poorly studied fortresses in which they are located.

References
[1] Khrushkova L G 1991 Architectural Links of the Eastern Black Sea Region in the Early Christian time (Byzantine Vremennik) 52 182-191.
[2] Lekvinadze V A 1973 About the Justinian's Buildings in Western Georgia (Byzantine Vremennik) 34 174-179.
[3] Rechulishvili L D 1988 The Dome architecture of VIII - X century in Abkhazia (Tbilisi, Metsniereba).
[4] Tsintsadze V 1979 Dranda, Dzegismegabari (Friends of the culture monuments) 50 35- 42.
[5] Imbesi F 2017 I misteridella Chiesa di Santa Maria deiCerei di Rometta (Recerchestricherchearcheologichenel Val Demone. II convegno) 20 237-257.
[6] Kotelashvili M K, Jacobson A L 1984 The Byzantine church in village of Dranda (Abkhazia) (Byzantine Vremennik) 45 192-206.
[7] Ghazaryan A Yu 1991 The Genesis of Tetraconchs with Corner Niches in Transcaucasia (The abstract of the dissertation, Moscow).
[8] Mosilishvili G D 1990 Regularities in the Formation of the Structure of Georgian Dome Structures of IV - XVII Centuries (The abstract of the dissertation, Tbilisi).
[9] Khashchyan O H 1982 The Eight-Apsidal, Central-Dome Structures of Medieval Armenia (The architectural heritage) 30 60-76.
[10] Mepsisashvili R, Zinzadse W 1977 Die Kunst des alten Georgien (Leipzig, Edition Leipzig).
[11] Vysotsky A M 1978 Early Medieval Architecture of the Transcaucasian Countries and the Antique Tradition (Antiquity and the ancient tradition in the culture and art of the people of the East, Art, Mosocw).
[12] Khashchyan O H 1960 The Construction and the Form in Armenian Architecture of the IV-XIV Centuries (The State Publishing House on construction, architecture and building materials).
[13] Jacobson A L 1959 Early Medieval Chersonesos (Materials and research on the archeology of the USSR) 63 362.
[14] Jacobson A L 1950 Essay on the history of architecture of Armenia V - XVII centuries M.-L. (The State Publishing House on architecture and Urban Planning).
[15] Chubinashvili G N 1948 Monuments of Jvari type. Tbilisi (Publishing House of the Academy of Sciences of the Georgian SSR) 162.
[16] Chubinashvili G N 1966 Architecture of Georgia, General History of Architecture (The Publishing House of Literature on Construction) 3 300-375.

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