

MYSTERY OF THE OLD TOWER OF VADUL-RASHKOV. ARCHITECTURAL, TOPONYMICAL AND CARTOGRAPHICAL ARGUMENTS

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Abstract. *The article is devoted to studying the unique architectural complex in the center of the ancient village Vadul-Rashkov, which was an urban settlement in the Middle Ages and New Time. Historic-cartographical and toponymical studies confirm the conclusions of architectural analysis that the complex is based on the remnants of a defensive structure, dating back to the late antique Roman castrum.*

Key words: Vadul-Rashkov, architecture, toponymy, cartography, historical geography

Introduction

The village of Vadul-Raşcov (Vadul-Rashkov) of the Sholdaneshty county of the Republic of Moldova (former town; historical names – *Rashkov, Vadrashkov, Vadorashkov*) is situated on the right bank of the Dniester River, where the riverbed forms a bend, and the banks are approaching, with preserved traces of a ford. Military and strategic position of Vadorashkov entrenched in the very name of the town: “vad” means “ford” – *Rashkov Ford (The Ford of Rashkov)*, where Rashkov is a strategically more important defense system, located on the left bank.

The special terrain with preserved monuments unique to Moldavia gave rise to various legends, one of which, according to the preliminary assumption, is that these are components of the *Vadorashkov Castle*, the time of origin of which is unknown. These, as a rule, include the surviving *tower* with an arched passage (fig. 1), *the castle courtyard*, where there is a *cult and vault structure* and *part of the foundation of Nikolskaya church* (according to the legend – wooden one), built before the 18th century, as well as *tombstones* of the 18th century, the inscriptions on which partly shed light on the history of these places, among which is a mention of the priest Vasily “former vicar of VadoRashkov”, but the plates lie on the ground (and had apparently been moved) [3; 1].

The residents of Vad-Rashkov call this place *Biserica Veche (Old Church)*, remembering the church which used to be located in the yard. At the same time, none of the old residents caught it operating, because it happened “really long time ago”. Burials are rare and have never been made in the memory of residents, the yard is not called a cemetery, and the rural cemetery is located half a kilometer to the west.



Fig. 1. Lookout (gate) tower of Vadorashkov Castle. View from the yard and the street

Methods, discussion and results

There are all grounds to believe that this yard, fenced off the village, was a part of the defense and fortress complex. One of the clues is the tower, whose role is still unknown, but judging by the arched passage, it served as an entrance tower, and at the same time, as an observation tower, because there is also an upper open tier. The execution of the primarily observation and defensive roles of the tower is confirmed by the *topography*: the structure is located strictly opposite the *Ruxanda Castle* with the ancient Intercession Church in the yard in Rashkov, on the opposite left bank of the Dniester River, the view of which is perfectly provided by the view from the eastern arched aperture of its upper tier. Protecting the western part of the ford, Vad-Rashkov is in a less favorable position for observation than the left-bank Rashkov, which is located on the bend of the Dniester river, and provides for the panoramic view of the transportation along the river. The builders of the Vadorashkov Complex compensated for the lack of river view by placing its components on the high marks of the main bank.

The presumptive location of another tower located to the south, near the bridge over a deep ravine that limits the southern side of the settlement, as well as several strategic points and areas apparently used as fortifications (towers, walls, ditches) were revealed.

In front of the gate tower there is the village's main street, whose level of modern street pavement is much higher than the level of the inner yard of the supposed castle, and to reach the driveway of the tower one has to go several steps down. Obviously, the level of the yard is also raised by cultural layers because the entrance arched aisles of the driveway are so low that they were unlikely to have let riders and horse crews enter in ancient times.

The purpose and time of the construction of the gate tower over the years has caused controversy and discussion: whether it is the tower of a possible disappeared castle, or the bell tower of an old church. D.G. Makary, wrote about it in the 80s of the 20th century, believed that the tower was a bell tower in a rural cemetery [4]. Indeed, the analysis of its architecture does not contradict this conclusion, but it refers only to the last stage of use of the structure. The reconstruction is evidenced not only by the driveway arches of the entrance, which have gone into the ground, but also by the exaggerated internal height of the space for the bell, the difference between masonry at the bottom of the building and masonry at the top of the walls, and, as mentioned above, the use of this area as a cemetery is questionable.

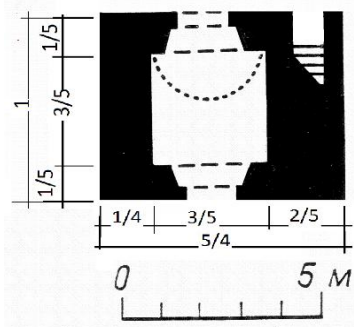


Fig. 2. Plan of the gate tower with the bell tower. D. Makar's measurements, analysis of T. Nesterova proportions

The two-tiered prismatic tower is covered with a hipped roof, rectangular in plan, with a drivethrough on the first level and a high room with openings in the outer walls on the second level. Communication between the tiers is carried out by a narrow and steep staircase arranged in the thickness of the northern wall, entrance to which is from the yard, and the lower steps have also grown into the ground. Above the entrance arch from the street side is a square hollow, designed either for an icon of the church, or for a heraldic sign, or an inscription about the time of construction.

The *analysis of architectural proportions* of the tower plan indicates the simultaneous construction of all components of the lower tier [6; 1]. The proportions of the plan are important for determining the purpose of the tower because there are known regularities of determining the size of the structural elements to ensure the stability and static balance of the construction. The

thickness of the walls of towers is determined by a graphic method called "quadrature", the essence of which consists in a sequential rotation and fitting of one or two squares into the original square, the side of which is equal to the width of the building. When you fit and rotate only one square, the width of the inner room is considered optimal for conventional stone buildings (with a wall thickness of 0.207 of width, conditionally accepted as a unit), with a sequential fitting and rotation two squares the width of the inner room is half the width of the outer room, and the thickness of the walls is equal to 0.25 of the width of the building.

For the tower in Vad-Rashkov (Fig. 2) proportions are calculated differently: at the ratio of the outer sides of the plan of the tower, having the dimensions of 4.83×6.1 m, which are in a ratio of 4:5, the inner part of the passage takes $3/5 \times 3/5$ of the width of the tower, the thickness of the eastern and western walls is equal to $1/5$ of the width of the building, the southern wall is equal to $1/4$, or 0.25, tel. i.e., it is the same proportion used to determine the wall thickness of defense and fortress towers, in this case it is the gate and lookout tower of a certain, but yet historically unknown complex.

The thickness of the northern wall of the Vadorashkov Tower, inside which a staircase is arranged, was also found based on a graphical calculation and is $2/5$ or 0.4 of the outer width, which is more than the thickness of walls of conventional towers. But even with such large coefficients, the tower is low-powered, the three walls of which do not reach 1.0 m (0.97 m). It is visible that the gate tower has an intermediate position in terms of structural strength between an ordinary bell tower and a combat tower, which was probably built before artillery and firearms appeared.

The presumptive location of the second tower to the southwest of the gate tower, at a fairly long distance, from which the gate tower may have been connected by a curtain wall, following the configuration of the horizontals, resembles the fortresses of Northeast Europe from the 12th to the 14th century, especially in Grodno (Belarus), Zrinski (Poland), Ryshnov (Romania), etc., which are characterized by irregular plans that correspond to the features of the relief.



Fig. 3. Reconstructions of the towers of Roman limes Fig. 4. Zhidova Castrum (archaeological monument, Romania)

Nevertheless, Vad-Rashkov is an unusual village. The streets in it are straight, laid out in a mutually perpendicular way, in many places are paved, including carefully laid with large limestone slabs, which cannot be accidental. Preliminary visual study of the street network and comparison of metric parameters of well-readable fragments with well-known architectural monuments leads to the conclusion that there is an ancient castrum – military camp, and the tower with an observation tier – one of the ancient towers, probably rebuilt in the early medieval times. Its high location, heroic-scale parameters testify to it. This is eloquently proven by comparison of the tower in Vad-Rashkov with the towers of Roman limes in Western and Central Europe (fig. 4), and also by comparison of the Castrum in Zhidova in neighboring Romania (fig. 4).

Detailed analysis of topographic data proves that the whole Middle-Dniester historical and geographical landscape is characterized by extremely high concentration of revealed and protected heritage monuments [2]. In the absence of direct written evidence of the construction of certain religious and even more defensive structures, special historical, cartographic and toponymic studies are of great importance.

The presumptive existence of a system of fortifications (castle, fortress) in the structure of the Vadorashkovsky complex is confirmed by the corresponding mapping on *ancient geographic maps* in 1652–1774 (fragments are presented in fig. 5 in chronological order). On the maps of 1652 and 1772 we can determine with a high degree of reliability the features of fortification plans

of the left bank of Rashkov as they were made with a high degree of topographical accuracy because they were created for these purposes as such [1].



Fig. 5. Ancient geographical maps of the North-Western Black Sea region and Moldova (1652-1774) The **toponymic data** extracted from those maps are also invaluable. There are at least six toponyms, which marked the modern Vadul-Rashkov or its parts in the 18th century: *Pestere* (*Pester*) in 1716, *Kreminetzow* in 1740, *Otak* in 1745 and 1772, *Pestur* (*Pesthur*) in 1769, *Wad* (*Wadu*) in 1770 and 1774, *Vadorashkov* in 1784. The etymology of toponyms is quite transparent. *Pesthere* (*Peshtur*) is undoubtedly associated with the northern part of the Socola, where the largest cave complex has been preserved, which gave its name to the settlement, the archaeological traces of which were found in the southern part of modern Vad-Rashkov (“*pesthere*” in Moldavian means “caves”). *Kreminetsov* and *Otak* testify to the leading fortification function of the settlement: “*kremenets*” – Slavic “*kremlin*, stone fortification”, in this case, perhaps, “upper town”; “*otak*” – “camp” from the Turks. “*attack; otak*” in the meaning “hem; tent, camp. [5] – “lower town”. *Vad* (ford) – the basis of the modern name, was the most stable. Thus, toponymic evidence obtained from ancient geographical and written references, in turn, also speaks of the antiquity of the studied objects of architecture, which have not lost completely cult and defensive features.

Conclusions and recommendations

Ancient Rashkov ford on the Dniester, which gave its name to Vad-Rashkov, was attractive at all times and has been used for many centuries. The preserved complex in the center of the village, consisting of an enclosing section with an entrance tower and some remnants of religious buildings, which at a later stage was a religious defensive complex of unknown time, appeared, apparently, on the remnants of a late antique military camp that became the basis of the settlement structure. Historic-cartographical and toponymical analysis allows us to trace the evolution of the area recorded in these important documents, which is especially important in the absence of detailed written sources, to identify heritage sites and their original purpose.

The defense, fortress, and cult monuments of history and architecture in Rashkov and Vad-Rashkov that have been identified and preliminarily studied within the framework of comprehensive studies of the historic-geographical landscape of the Middle Dniester are of enormous scientific and public interest. We definitely need to raise the protective status of heritage objects, carry out further research and conservation and restoration work, and give the historical and cultural reserve an official status of national importance. Unique ancient monuments of the village of Rashkov are of great scientific and public interest. The unique ancient monuments of Vadul-Rashkov village are promising for further interdisciplinary complex research.

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Bibliography

1. Herzen A.A., Nesterova T.P., Paskary E.G., Telnov N.P. *At the crossroads of civilizations: space, time, heritage. Newest historic-geographical researches of some monuments of the North-Western Black Sea Region*. Moscow; Saint Petersburg: Nestor-Istoria, 2019. (In Russ.).
2. Herzen A.A. Cartographic methods for solving historical and geographical problems (on the example of multiscale research of Europe, mediterranean and North-Western Black Sea regions). *InterCarto. InterGIS*. 2020. V. 26. Part 4. P. 266–281. DOI: 10.35595/2414-9179-2020-4-26-266-281 (In Russ.).
3. Herzen A.A. Prirodnoe i kul'turnoe nasledie kak odno iz vazhnejshih geograficheskikh javlenij // *Revista de etnografie*. 2005. № 1. P. 70–85.
4. Makary D.G. Vadul-Rashkov // *Svod pamjatnikov istorii i kul'tury MSSR. Severnaja zona*. Kishinjov, 1987. S. 834.
5. Murzaev E.M. *Slovar' narodnyh geograficheskikh terminov*. 2-e izd. V 2 tomah. M., 1999.
6. Nesterova T. Arhitectura bisericii din Vadul-Raşcov – o provocare de datare și identificare a unui tip necunoscut de clădire // *Patrimoniul cultural: cercetare, valorificare, promovare*. Ediția IX. Chișinău, 2017. P. 113.