
ARTANUJI

ნატალია
ჩიხიშვილი

ხიდები

შუა საუკუნეების საქართველოში

თბილისი 2023

NATALIA
CHITISHVILI

Bridges

IN MEDIEVAL GEORGIA

TBILISI 2023

გამოიცა შოთა რუსთაველის საქართველოს ეროვნული სამეცნიერო ფონდის მხარდაჭერით
(SP-22-607)

This work was supported by Shota Rustaveli National Science Foundation of Georgia
(SP-22-607)

მომზადდა ახალგაზრდა მკვლევართა ცენტრის „უცნობი საქართველო“ თანადგომით

Prepared with the help of Center of Young Scholars “Unknown Georgia”

Editorial-Publishing Group:
Natia Natsvlishvili
Buba Kudava
Eter Baidoshvili
David Nioradze

Translated from Georgian by:
Manana Rusieshvili

English text edited by:
Katie Ruth Davies

Design by:
Maka Tsomaia

ISBN 978-9941-504-54-9

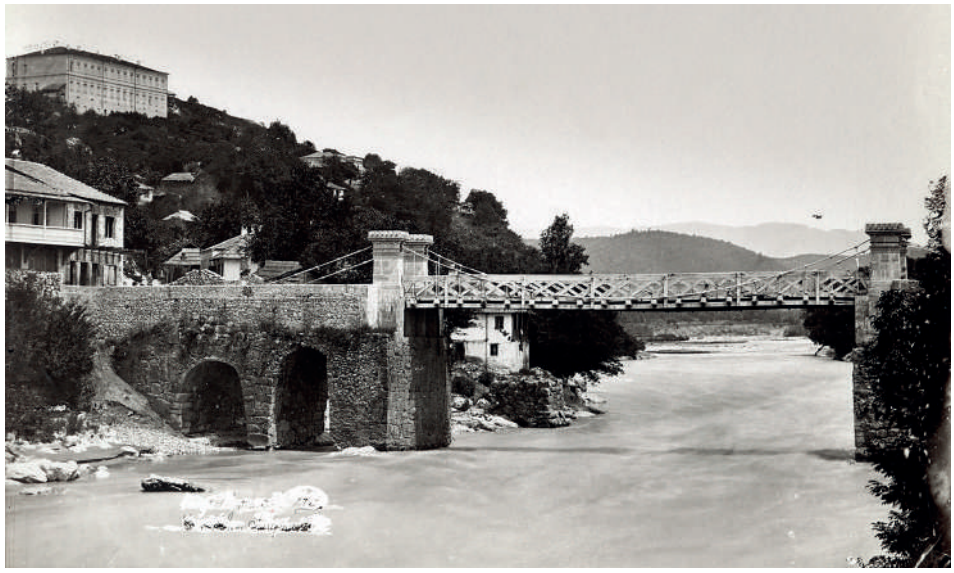
PREFACE

The present book is mostly based on previous publications in Georgian and Russian languages, which are cited in the footnotes. Of these publications, the most important ones are by Nikoloz (Niko) Kvezereli-Kopadze (1888-1984), especially his book "Sakartvelos dzveli khidebi" [Old Bridges of Georgia], published in 1972 in Georgian. Kvezereli-Kopadze conducted thorough research and made the most important observations (on which the present book relies on) concerning the construction of bridges in Medieval Georgia. In the present book, most of the necessary information regarding the measurements and dates of the bridges is given according to Kvezereli-Kopadze. Some of the bridges, written about and studied by him, no longer exist. Therefore, his publication remains to this day one of the main guidelines regarding the study of bridges in medieval Georgia. The book is mainly intended for foreign readers interested in the history of Medieval bridges in Georgia.

I would like to thank the late professor Dimitri Tumanishvili (1950-2019) for his kind aid and very helpful comments while I was writing the Georgian text on the Medieval Bridges in 2018.

The construction of bridges in Georgia has a centuries-old history, unsurprising when we consider how rich the country is in water resources. Today, around 100 medieval bridges or remains of bridges are preserved on the territory of historical Georgia. Unfortunately, the majority of them are in ruins. A significant number of the mentioned 100 medieval bridges are preserved in the south-western part of Georgia, in Adjara, as well as in historical Georgian territory Tao-Klarjeti (at present in Turkey). The types of bridges in Georgia vary: Some are stone arch-vaulted bridges, and others had wood used as a roadway held up by stone piers. In addition, in the Middle Ages, various types of wooden bridges - suspension bridges, beam bridges, and beam-cantilever bridges - were also actively used.

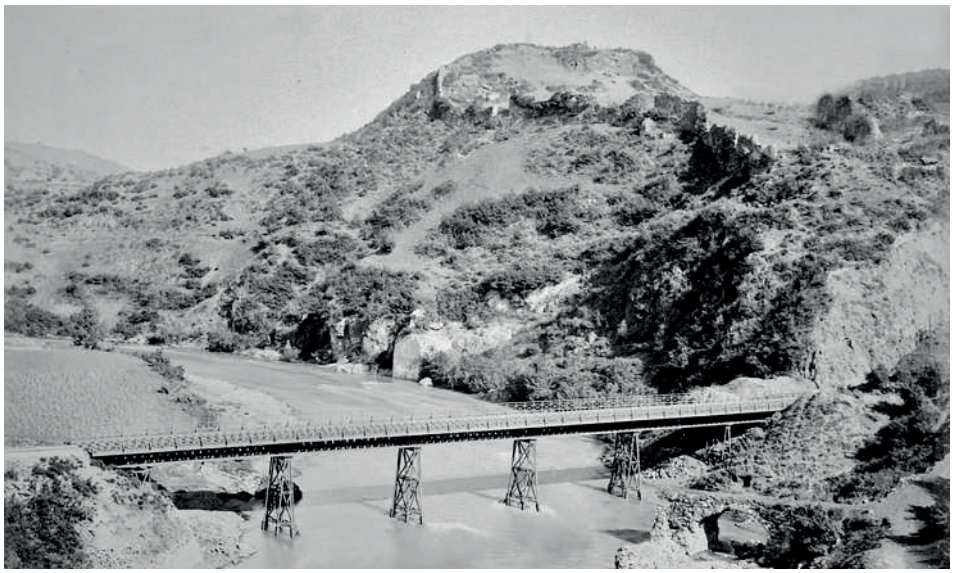
1. Bridge in Mtskheta, built by the architect Termini



2. Jatchvi bridge and the abutment of the old bridge behind

Due to Georgia's natural geographical location, there are more than 26,000 rivers in the country, most of which are located in western Georgia (the Bzipi, the Kodori, the Rioni, the Tskhenistskali, the Kvirila, the Enguri) and flow into the Black Sea basin. Rivers in eastern Georgia (the Liakhvi, the Ksani, the Lekhura, the Aragvi, the Iori, and the Alazani) join the Caspian Sea basin. The River Mktvari, which starts in Turkey, enters Georgia from the southwest, and crosses southern Georgia and the central part of the country, flows into the Caspian Sea from Kvemo Kartli via Azerbaijan. 400 km of the Mtkvari is located in Georgia.

In addition to this, Georgia is rich in relief forms. Mountains dominate the plains and consequently, there are large, small, narrow and relatively wide valleys, where abundant and, in many cases, very strong and fast rivers flow. Many villages and towns have grown on such rugged terrain, and it has long been crossed by trade routes connecting different countries. The natural geographical relief and abundant-in-water environment have naturally led to the tradition of building bridges in Georgia since ancient times, many interesting and important specimens of which have reached us today.



3. The new bridge of Shorapani and the remnants of the old bridge in front

Most of the surviving medieval bridges are made of stone, while only a very small number of wooden bridges belonging to the late Middle Ages have reached us due to the short life-span of the construction material. Depending on the nature of the river to be crossed, it may not have been necessary to build a special structure across it, and a simple wooden log would allow one to cross to the other side. Sometimes, stones specially planted in the riverbed performed the same function. Such an interesting old passage was left, for example, on the River Tavparavani, near the village of Khorenia (Javakheti, south-west Georgia). Here, across the entire width of the river, which is about 20-25 meters, flat stone slabs protruded from the water, on which a person could easily move from one bank to another without getting his feet wet. According to George Chubinashvili, these "stepping stones" were likely put in the Middle Ages, "after the 10th century"[1].

Most of the bridges or their ruins preserved in historical Georgia today belong mainly to the high and late Middle Ages, dating from the 10th-

1 N. Kvezereli-Kopadze, *Sakartvelos dzveli khidebi*, Tbilisi, 1972, p. 170.

4. Purtio Bridge

11th centuries to the end of the 18th century. Information about bridges of the ancient period is preserved in written sources and some relevant archaeological material found in different regions of the country. For example, in the late 20th century, when the excavation of Urbnisi (an ancient city in Shida Kartli, eastern Georgia) started, remains of a pier of an old bridge were found on the Mtkvari to the west of the old town. The remains were dated to late antiquity[2].

Medieval bridges throughout Georgia, with their forms of thin, light, and delicate arches, quality of structure, and building technique, have always attracted the attention of Georgian and foreign visitors[3]. These bridges

2 P. Zakaraia, *Nakalakar urbnisis khurotmodzgvreba*, Tbilisi, 1965, pp. 47-48.

3 On different aspects of bridge constructions outside of Georgia see selected bibliography: S.E. Rigold, Structural Aspects of Medieval Timber Bridges, *Medieval Archaeology,* 19, 1975, pp. 48-91; D. Partov, M. Maślak, R. Ivanov, M. Petkov, D. Sergeev, A. Dimitrova, The Development of Wooden Bridges through the Ages – A Review of Selected Examples of Heritage Objects. Part 1 – The Milestones, *Technical Transactions, Civil Engineering,* 2-B, 2016, pp. 94-105; A. Cooper, *Bridges, Law and Power in Medieval England 700-1400*, Boydell Press, 2006; D. Harrison, The Bridges of Medieval England, Transport and Society 400-1800, Oxford, 2007; M. Geaney, Timber Bridges in Medieval Ireland, *The Journal of Irish*

5. Phurtio Bridge

were repeatedly described by Georgian and foreign travellers of the late period in their diaries. For example, the four-span "Broken Bridge" and the construction quality of that bridge was described in detail in the late 17th century by Jean Chardin, in the late 18th century by Johann Antonn Güldenstädt, and in the 1820s and 1830s by Jacques François Gamba and Frederic Dubois de Montperreux. Jacques François Gamba saw and described many bridges during his travels in Georgia. On the way to Barakoni (Racha, western Georgia), he became fascinated by the bridge on the River Rioni. Gamba wrote: "Tout ce canton est montagneux et couvert de rochers. Ici le Phase, qui n'a pas plus de trente à quarante pas de largeur, est encaissé, et ses bords sont tellement élevés, que le pont de bois qu'on y a établi ressemble au pont du Diable en Suisse"[4].

Archaeology, vol. 25, 2016, pp. 89-104; G. Fingarova, Late Byzantine Bridges as Markers of Imagined Landscapes, *Levant, The Journal of the Council for British Research in the Levant,* vol. 51, N. 2, 2019, pp. 151-168.

4 J. F. Gamba, *Voyage dans la Russie méridionale, et particuliérement dans les provinces situées au-delà du Caucase, fait depuis 1820 jusqu'en 1824*, tome premier, Paris, 1826, p. 285.

6. Phurtio Bridge

* * *

The earliest information about the bridges in Georgia, on the territory of two ancient kingdoms, Colchis and Iberia, can be found in the works of ancient authors. One of the authors who writes about these bridges is the Greek historian and geographer Strabo.

In his "Geography", describing the Kingdom of Colchis, Strabo (64/63 BC - c. 24 AD) mentions one of the largest rivers in Colchis, the Phasis (Rioni), and writes: "Four passes lead into their country; one through Sarapana, a Colchian stronghold, and through the narrow defiles there. Through these defiles, the Phasis, which has been made passable by one hundred and twenty bridges because of the windings of its course, flows down into Colchis with a rough and violent stream, the region being cut into ravines by many torrents at the time of the heavy rains" [5].

The information provided by Strabo of those 120 bridges on the Rioni is precisely repeated by the Roman author Pliny the Elder (1st century AD) in his "Naturalis Historia" (Natural History): "This River [Phasis]

5 Strabo, XI, 3.4.

7. Purtio Bridge

riseth out of the Moschian Mountains... having over it 120 Bridges"[6].

The reference of these ancient authors to the number of bridges over the river was likely exaggerated. However, the characterization of the River Rioni by Strabo, in describing its outline and speed, is detailed, and bridges would indeed have been built to cross the river in ancient times, serving the locals and the trade routes in this direction.

Further reference, which mentions the bridge in Mtskheta, in the capital city of the Kingdom of Iberia, belongs to the Greco-Roman historian of the 2nd-3rd centuries, Dion Cassius. Dion Cassius tells the story of the numerous armies of the Romans invading the Kingdom of Kartli in 65 BC, under the command of Gnaeus Pompeius Magnus (Pompey). Pompey's campaign in the Kingdom of Kartli was part of the wars waged by the Roman State to extend

6 Pliny the Elder, *The Naturalis Historia*, VI, 4.

8. Tskhaltsitela Bridge

its rule in Asia. As a result of this expedition, the influence of the Romans in the Kartli Kingdom was established for a certain period[7].

It was so unexpected for Artoces, King of the Iberians, when Pompey invaded Kartli and approached the capital, that he was no longer able to defend Mtkheta: "Thus Artoces, panic-stricken, had no chance to array his forces, but crossed the river, burning down the bridge; and those within the fortress, in view of his flight and also of a defeat they sustained in battle, surrendered. Pompey, after making himself master of the pass, left a garrison in charge of it and, advancing from that point, subjugated all the territory this side of the river"[8].

The territory on which the ancient capital of Mtskheta was situated covered both banks of the river, and a bridge connected the two parts of the city. In addition, the main Caucasian highway passed through this place,

7 D. Braund, *Georgia in Antiquity. A History of Colchis and Transcaucasian Iberia, 550 B.C. – A.D. 562*, Oxford, 1994; D. Rayfield, *Edge of Empires, A History of Georgia,* London, 2012.

8 Dio Cassius, *Roman History,* XXXVII, 1.

9. Tchvani Bridge

connecting the North Caucasus through the Dariali Gorge to the southern borders of the country and also the Black Sea coast to the Caspian Sea.

As can be inferred from the text of Dion Cassius, the bridge that Artoces burned to prevent the enemy from invading the other part of the city was a wooden structure attached to stone piers.

A similar strategy - causing deliberate damage to a bridge – for instance was employed during the Battle of Aspindza in the 18th century. This battle took place in 1770 between the Georgians, with the Russians (led by General Totleben) by their sides, and the Ottomans. Despite the subsequent betrayal of the Russians, the Georgians managed to defeat the Ottoman army and win the war. During this battle, the Georgian king, Erekle II (1720-1798), employed the following military tactic: near the Aspindza Fortress (Samtskhe-Javakheti, south-western Georgia), where the battle took place, a wooden bridge was built on stone piers over the River Mtkvari. By order of the king, the main beam of the Aspindza bridge was secretly sawn at by the Georgians in a way that the damage would be invisible to the casual onlooker. The next day, when the battle

10. Tchvani Bridge

took place, Erekle II trapped the adversary's units so that the only escape route for them was to cross the bridge. When the Ottomans tried to cross the bridge, it collapsed, and the soldiers fell into the river[9]. Similar combat tactics have been used many times in different countries since ancient times.

Notably, despite the measures and negotiations tried by King Artoces, within which the Iberian king had to rebuild the very bridge he had burned in Mtskheta, Pompey in any case managed to cross the river by other means[10] and the Iberian King was forced to leave the city and flee.

9 V. Macharadze, *Aspindzis brdzola*, Tbilisi, 1957, p. 67.

10 The crossing of the Mtkvari by Pompey was described by the Greek historian Appian (100-180), who wrote that *"Pompey, gaining knowledge of the ambush, bridged the river and drove the barbarians into a dense forest"* (Appian, *Historia Romana, The Mithridatic Wars,* 15.103). Having observed that the bridge was burned by Artoces, Pompey moved to another section of the Mtkvari, and, via a temporary bridge he had built there, managed to cross the river. However, it is not known in which section of the Mtkvari Pompey had it built. After this, Artoces was obliged by Pompey to reconstruct the original bridge.

11. Dandalo Bridge, Drawing by Rusudan Mepisashvili and Ana Gogelia

The bridge mentioned in the writings of Dion Cassius is referred to in historical sources as the Bridge of the Magi[11], and from the late period as the Bridge of Pompey. The bridge, built long before the invasion of Pompey, underwent various forms of restoration over time.

The capital's bridge was under constant attack over the centuries, being repeatedly demolished and rebuilt. Information about the renovation of the bridge in the 5th century is preserved in the chronicle "Kartlis Tskhovreba". According to the chronicler, King Vakhtang Gorgasali of Kartli (ca. 442-502), while preparing for war with the Persians, widened the bridge to "60 *mkharis*"[12] so that his army could easily cross the River Mtkvari[13].

A map drawn by Georgian geographer, historian and cartographer

11 The bridge was located in a district of Mtskheta named the Magi, hence the name of the bridge.

12 *Mkhari* was a unit of linear measure used in Medieval Georgia. The 60 *mkharis* mentioned by the chronicler equals to approximately 120 meters, which is an obvious exaggeration, or a mistake of a scribe.

13 Juansher Juansheriani, The Life of Vakhtang Gorgasali, in: *Kartlis Tskhovreba, A History of Georgia*, Editor-in-Chief S. Jones, Tbilisi, 2014, p. 94.

12. Dandalo Bridge

Vakhushti Batonishvili (1696-1757), reveals that defensive towers were erected on the bridge on both sides of the Mtkvari. This crucial construction over the river was under constant surveillance and protection, with a customs patrol seeing that a toll was collected by those crossing. In his work "Kalmasoba," Ioane Bagrationi (1768-1830) tells how King Erekle II of Kartli-Kakheti (1744-1762) restored the towers on both sides of the Bridge of the Magi to protect the country, as a strategic location, from continuous invasions. Indeed, after King Erekle rebuilt the towers and deployed soldiers there, there was a considerable reduction in Lezgin raids. Erekle II imposed a bridge tax to pay for the keep of the guards, "a *shauri*[14] per cart, and a *chanakhi*[15] of flour," which was given in full to the bridge guards[16].

Today, there is nothing left of this old bridge. In the 19th century, since the bridge was in poor condition and could not withstand heavy traffic, it was demolished. Descriptions and sketches are preserved, however, which

14 A monetary unit in late medieval Georgia.

15 A unit of mass measurement, used to measure grain in East Georgia in the Middle Ages.

16 Ioane Batonishvili, *Kalmasoba,* ed. R. Loladze, I, Tbilisi, 1990, p. 104.

13. Dandalo Bridge

show the shape of the old stone bridge in Mtskheta before 1839. In 1839-41 a new four-arch stone bridge was built in its place, the builder of which was engineer, Colonel Termin[17] (Fig. 1). This bridge existed until 1926. When the Upper Avchala Hydropower Plant (Zahesi) was built during the Soviet period, the riverbed rose significantly, and the bridge was covered with water[18].

Bridges of state and strategic importance were always well-protected and fortified, and bridges similar to the toll Bridge of the Magi, with its defensive towers, were seen in other regions of the country as well.

Archaeological excavations carried out in the 1970s near the town of Zhinvali (Dusheti district, eastern Georgia) on the River Aragvi, unearthed the right piers of the bridge and ruins of a fortress dating back to the

17 The towers around the bridge were also demolished.

18 In 1926, a new iron bridge, still functioning today, was built near the 19th century bridge.

14. Makho, Lower Bridge

12th-century[19]. The pier of the bridge was built on a rocky abutment. The watchtower on the left bank of the river had the function of a gate for those who wanted to cross the bridge. On the second floor of the tower, there was a room, presumably for the duty-collecting guards[20].

The ruins of a tower on the right bank of the Mtkvari near the Akhaldaba Bridge (Samtskhe-Javakheti, southwestern Georgia) have also been found. It seems that, in the past, this defensive tower protected the bridge and the road leading to it. According to an oral tradition, a second tower existed on a high cliff on the left bank of the river[21].

Of bridges of the early Middle Ages, only written references or ruins have reached us. For example, Iakob Tsurtaveli, a 5th-century author,

19 Ts. Lomidze, Jinvalis karibtchisa da khidiskuris kvlevis shedegebi, in: *Jinvalis ekspeditsia (pirveli sametsniero sesiis mokle angarishi)*, Tbilisi, 1975, pp. 45-47.

20 N. Bogomolov, Albanskie vorota, *Kavkaz*, 8/11, №11, 1850. In 1985, the area, including many secular and church buildings, was flooded by the Zhinvali dam.

21 N. Kvezereli-Kopadze, *Sakartvelos dzveli khidebi*, p. 50.

15. Makho, Lower Bridge

describes the life and torture of Queen Shushanik, the wife of Varsken, ruler of Kvemo Kartli. In his account, he mentions a "fortress bridge" built in the town of Tsurtavi (Kvemo Kartli, eastern Georgia). The 8th-century hagiographer Ioane Sabanisdze, in his "The Martyrdom of the Holy and Blessed Habo", mentions a bridge located in Tbilisi over the River Mtkvari, at the foot of the Metekhi rock. According to N. Kvezereli-Kopadze, in this place, a bridge would have existed much earlier due to the convenient layout of the rock slopes, which undoubtedly attracted the attention of builders from the very beginning as an easy crossing point for a bridge connecting one of the oldest districts of Tbilisi, Kala, with Isani Fortress. There are numerous important historical references to this bridge, which was repeatedly demolished and rebuilt over time[22].

In Kutaisi (Imereti, western Georgia), on the right bank of the River Rioni, near the Chain Bridge, are the remains of the abutment of an old

22 N. Kvezereli-Kopadze, *Sakartvelos dzveli khidebi*, pp. 7-15.

16. Makho, Lower Bridge

bridge, made up of three rows of large well-hewn blocks. Until the 1900s, six or seven rows of the abutment were preserved. These can be seen in a photo taken by Ermakov (Fig. 2). Based on the remains, it was suggested that the bridge was built in the 5th-6th cc[23]. The main piers of the existing bridge, on which wooden beams were originally placed, were built in the 1770s, and it was named the "Archiel Bridge". In the 1850s, the wooden truss of the bridge was hung on chains, and thereafter it was called the "Chain Bridge" (Fig. 2). The state of the bridge deteriorated quickly, however, and it was rebuilt in 1884-1885, with the wooden truss being replaced by a metal truss made in England[24]. The present-day bridge was built in 1995, using the old, 18th-century stone piers.

23 O. Lanchava, *Kutaisis arkeologia,* Kutaisi, 2015, p. 200.

24 *Kutaisi, Old Georgian Cities and Towns,* eds. M. Bulia, M. Janjalia, Tbilisi, 2006, p. 119.

17. Makhuntseti Bridge

* * *

Like elsewhere, bridges were built in pre-selected places in medieval Georgia, whether it was a strategically important point or the best place to build a bridge based on the natural conditions. The bridge over the River Kvirila was built in a strategically important location, near the Shorapani Castle[25]. Being a trading city, Shorapani was one of the most important defensive fortresses in antiquity and the Middle Ages, and the road from the Kingdom of Colchis to the Kingdom of Iberia (from western Georgia to eastern Georgia) passed through this place. Strabo writes that this was the point where the navigable route ended and the land route began[26]. The Shorapani guardians could close the passage between these two points and therefore prevent the enemy from moving from one region to another. Due to its strategic importance, the Shorapani Fortress was kept

25 V. Jaoshvili, Tsikhe-kalaki shorapani, *Dzeglis megobari*, N52, 1979, pp. 31-35.

26 Strabo, XI, 3.4.

18. Makhuntseti Bridge

in successful function, alternatively by both natives and conquerors, for centuries.

The fortress-town of Shorapani had two gates: One leading to the northeast and the other to the west of the country. Ruins of an old bridge connecting the left bank of the river to the right were found close to the western gate. During the construction of a new bridge on the Kvirila in 1970, a 60-square-meter dock was found under the old bridge[27], although no further research was carried out.

The old bridge was built at the confluence of the Kvirila and Dzirula rivers. Unfortunately, although only small parts of this three-span arch bridge have survived (Fig. 3), there is a description of the bridge from 1894, revealing that it must have been in bad condition even then: "There are two piers left in the remains of this old bridge. When the river cut off the riverbed and the land slid down, the top of the western pier collapsed, and a huge part of it is

27 N. Jaoshvili, Tsikhe-kalaki shorapani, p. 31.

19. Makhuntseti Bridge

still in the Kvirila river. The eastern abutment, built on the Shorapani rock, has one remaining arch. Next to this abutment, a wall stretches from west to south, approximately three or four *sazhens*[28] long... This was not just a wall, but a whole military tower, built to prevent enemies coming from the west from crossing the bridge and blocking boats from sailing up the river. This was a remnant of something like an old customs fortress"[29]. The description shows well the strategic importance of both the Shorapani Fortress and of the nearby bridge.

28 *Sazhen* – system of measure used in Imperial Russia.

29 Mgzavri, Mgzavris shenishvnebi, *Kvali*, N32, 1894, p. 6.

20. Makho, Upper Bridge

* * *

In ancient times, builders often had to build bridges in difficult hydrological and topographic conditions. To prevent the rapid and strong flow of the river current from washing away the ground around bridge piers, the builders tried to select a bank of the river where it would be possible to use natural rock slopes as the bases for the abutments. Most bridges in medieval Georgia were built with this factor in mind. A similar approach was likely used in constructing the Shorapani Bridge, as one of its abutments was built on rock.

When building bridges with several spans, the builders always tried to find a place where the internal piers in the river could be erected on a rock. The reason for this was that sometimes the distances between the bridge spans were different from each other, as were the bridge shapes.

An interesting example is the "Chobani Bridge"[30] near the village of

30 *Chobani* [*çoban*] means *shepherd* in the Ottoman Turkish language.

21. Makho, Upper Bridge, Steps

Hasan-Kala, in Basiani, a region of historical Georgia (currently located on the territory of Turkey, north of Erzurum). Vakhushti Batonishvili mentions this bridge and writes that a caravan route passed over it: "There is a bridge close to Asankala over the Rakhsi, and caravans move [on it], and that was the only route to Araz"[31]. The axis of the seven-span bridge deviates from a straight course due to the lack of a straight line of rock supports in the river[32].

A rock base is employed as a support for the middle pier of the two-span bridge built on the Murghulistskali (Chorokhi Gorge)[33]. The Skhalta Bridge (the "Purtio Bridge"), dating to the 11th-12th centuries, is also based on rock on both banks (Figs. 4-7). Another interesting example of a medieval bridge can be found on the River Tskaltsitela near the Gelati Monastery (Fig. 8). The bridge abutment is built on a rock on the left bank of the river, and its next

31 Vakhushti Bagrationi, *Agtsera sameposa sakartvelosa (sakartvelos geographia),* eds. T. Lomouri, N. Berdzenishvili, Tbilisi, 1941, p. 139.

32 N. Kvezereli-Kopadze, *Sakartvelos dzveli khidebi*, p. 169.

33 N. Kvezereli-Kopadze, *Sakartvelos dzveli khidebi*, pp. 124-127.

22. Samshvilde Bridge

pier is built directly on a rock standing in the river. Unfortunately, for various reasons, only the piers of the bridge have survived.

A similar construction can be seen in the "Tchati" two-span bridge over the River Tchorokhi in the village of Duzkoi (historical Georgia, but currently on the territory of Turkey): The middle abutment of the bridge was built on a boulder[34].

The aforementioned 17th century "Broken Bridge" over the River Khrami is characterized by spans of various sizes, a detail noticed by Jean Chardin and even mentioned in his diary. Chardin writes: "On les a faites d'une forme irrégulière à cause de deux grandes masses de roche qui se sont trouvées dans le fleuve, sur lesquelles on a fondé autant d'arches"[35]. Chardin,

34 Sh. Mamuladze, Tshorokhis kvemodinebis (maradid-borchkhis monakvetis) sagzao, sasimagro nagebobebi da dzveli gzebi, in: *Batumis Shota Rustavelis sakhelmtsipo universitetis krebuli,* N8, Batumi, 2014, p. 128.

35 *Voyages du Cheva Chevalier Chardin, en Perse, et autres lieux de L'Orient,* Tome deuxième, Paris, 1811, p. 141.

23. Tchapala Bridge

fascinated by the bridge, adds "Je n'ai point vu de plus beau pont ni de plus beau caravanserai en toute la Géorgie"[36].

Different types of stone were used as construction materials while building the bridges of medieval Georgia, most commonly those of volcanic origin (basalt, andesite, tuff) that could withstand the constant flow of water. Cobblestone was also actively employed in the process. Later, brick was also used as a building material, as seen in the "Broken Bridge," although here, in the most critical places, namely at cutwaters, well-hewn stones were employed. Brick was less frequently used in the bridges of the early period, being mainly found in those built from the 16th century onwards, when brick was actively used in the construction of both secular and ecclesiastical architecture[37]. A high-quality lime mortar

36 *Voyages du Cheva Chevalier Chardin...*, p. 142.

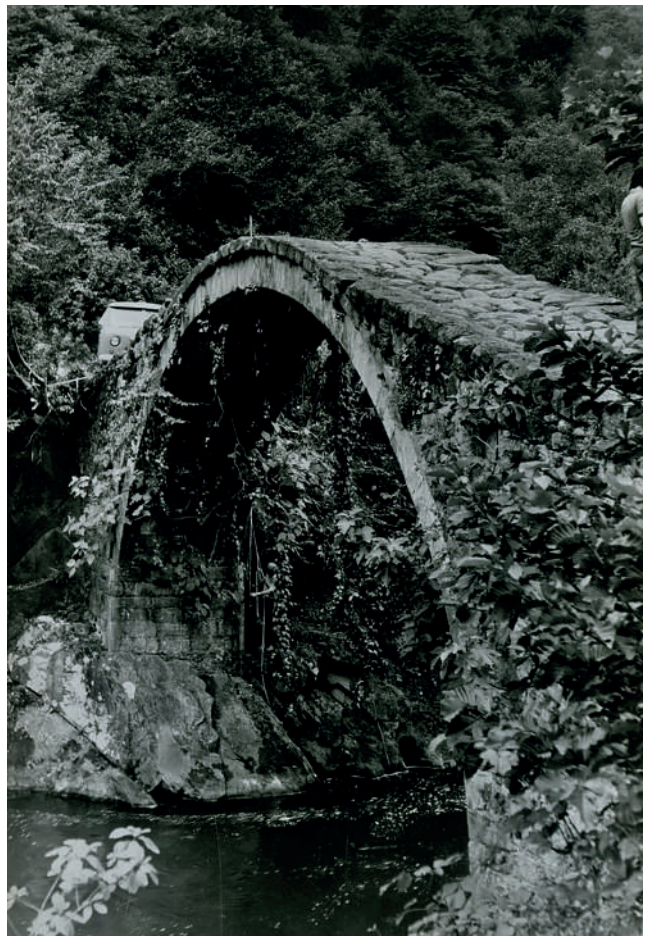
37 Brick as a construction material has been known in Georgia since Antiquity. For more about construction materials see: D. Tumanishvili, N. Natsvlishvili, D. Khoshtaria, *Mshenebeli ostatebi shua saukuneebis sakartveloshi*, Tbilisi, 2012, pp. 203-242, sp. pp. 210-214.

24. Tskhemvani Bridge

obtained by burning limestone[38] was employed as a bonding solution. The so-called "slaked lime" obtained after burning was dissolved in water and then mixed with various inert materials to receive lime mortar. Lime mortar was used to build various structures in Georgia in the Middle Ages, among them churches, monasteries, fortresses, palaces and bridges.

To create the arches of the bridges, it was necessary to erect the appropriate falsework former, on which the bridge arch would be placed and dried. Traces of falsework formers are still visible on some bridge arches. These rectangular hollows are usually placed on either side of the heel of the arch and fit into a wooden structure of the appropriate shape to form various types of arch curve (semicircular, pointed, parabolic, etc.). Such hollows for falsework (the number of cavities in one row varies from two to five) are still

38 S. Bedukadze, Kiris damzadeba da misi gamokeneba msheneblobashi*, Sakartvelos sakhelmtsifo muzeumis moambe*, XX-B, 1959, pp. 267-268; D. Tumanishvili, N. Natsvlishvili, D. Khoshtaria, *Mshenebeli ostatebi shua saukuneebis sakartveloshi,* p. 223.



25. Varjanauli Bridge

visible on the arches of the bridges of Skhalta, Purtio (Fig. 7), Tchvani (Figs. 9-10), Dandalo (Figs. 11-13), on the "Broken Bridge," and on many others. In some cases, these are single-row, rectangular hollows, as visible on Purtio, Tchvani, Korena, and Lower Sakara bridges. There may also be two rows of holes, as seen on the Dandalo and Elisu bridges. The highest number of cavities is arranged in three rows, as left on the longest span of the arch of the "Broken Bridge." Only one row of cavities was required to make a relatively small arch on the same bridge, and the other two, much smaller spans, reveal no traces of falsework hollows at all. Further, no falsework hollows are

26. Varjanauli Bridge

visible on the bridges of Lower Makho (Figs. 14-16), Makhuntseti (Figs. 17-19), or Tskhemlari (Adjara, western Georgia). This is particularly interesting given that, in the case of the Makhuntseti Bridge, the length of the span is an impressive 20 metres. The size of the span in the lower part of the Makho Bridge is around 6 metres, for which falsework was likely not necessary, yet surely the 20-metre span of the Makhuntseti Bridge, or the 19-metre span of the Tskhemlari Bridge, would have necessitated the use of falsework. I. Sikharulidze correctly assumes that, since there are no traces of hollows on the inner surface of the bridge arch, it is therefore probable that "temporary falsework with scaffolding was installed in the river during the construction of the bridge" [39]. As such, while in some cases the falsework would be inserted directly into special hollows in the bridge walls, in others, a special structure would be erected in the river and the falsework would rest on it.

Medieval bridge builders built special, semicircular or triangular cutwaters into the structure to prevent the bridge flooding or gradually

39 I. Sikharulidze, *Atcharis materialuri kulturis dzeglebi*, Batumi, 1962, p. 38.

27. Gandzani Bridge

collapsing in the strong currents. In addition, at places where water levels were expected to rise, bridge builders, having explored the nature of the river, took their research into account and made additional openings in the bridge. This happened in the case of the "Bridge of the Magi" and the "Broken Bridge". The floodwaters passed through these hollows, and, thus, the wall of the bridge was not damaged.

To ease the force of the water and protect the abutments, the builders built sloping walls following the flow of water. Such walls were likely erected also to reduce the danger of the constant flow washing the ground away from around the piers. This method was applied in the construction of the medieval bridge over the upper part of the Makhostskali, located in the village of Makho (Adjara, western Georgia), whose abutments are the only remains left today (Figs. 20, 21).

A wooden beam structure is thought to have been laid on the Makhostskali piers, which would have provided access over the bridge. The abutments are constructed of coarsely-hewn rock stones held together using a solution of lime mortar, while the corners are made of smoothly-hewn basalt stones.

28. Cholaburi Bridge

The wall of each abutment creates a blunt angle which softens the water flow around the support pier and thus protects the wall from damage or destruction. The same approach was taken in building the left pier of the 17th-century Tchishura Bridge. The wall placed in front of the abutment also forms a blunt angle, while a cutwater was built to protect the left abutment.

In the construction of bridges in Medieval Georgia, different types of arches were used, mainly semi-circular, parabolic, segmental, three-centred and pointed arches. As for the number of spans, one can commonly see single-span bridges, such as the Besleti Bridge (Abkhazeti, western Georgia, occupied by Russia since 1992), the Samshvilde Bridge (Lower Kartli, eastern Georgia) (Fig. 22), the Tchapala Bridge (Fig. 23), the Dandalo, Tskhemvani (Fig. 24), Purtio and Varjanauli (Figs. 25-26) bridges (Adjara, western Georgia), Tchishura, Korena (Imereti, western Georgia), and many others.

Two-span bridges can be found in the Shertuli Bridge (Imerkhevi Gorge, Turkey); the Mukhuri Bridge over the River Khobistskali; the bridge in the village of Gandzani (Javakheti) (Fig. 27). Three-span bridges can be seen in the bridge over the River Cholaburi (Fig. 28); no longer existing bridges in the villages of Khidistavi and Akhaldaba, and in the ruins over the River Tskhaltsitela. Four-span bridges (Broken Bridge, Vere Bridge, Kushi Bridge –

29. Kushi Bridge

Fig. 29) and five-span bridges are much harder to find. A five-span 72.2 m x 4 m bridge was built close to the village of Tontio (Kaurma, Javakheti) (Figs. 30-33). An inscription in the Asomtavruli alphabet is known to have existed on the bridge until 1893[40], but today no trace can be found, and its content is unknown. The bridge was rebuilt during Ottoman rule in the 18th century. One of the central roads leading to Byzantium (later from Turkey) to eastern Georgia passed through this place.

The width of the medieval bridges in Georgia varied from 0.7 metres to 6.5 metres, on average. This depended on the type of transport that was to move on the bridge, and also on the importance of the roads crossing them, be they for pedestrians, cattle (horses or donkeys), or carts, or be they of local, rural or state importance. Tcholaburi Bridge (4.5 m), Besleti Bridge (4.7 m), Imerkhevi Bridge (5.3 m) and Erge Bridge on the River Jotcho (6.4) had a width that allowed two-way passage for carts, unlike the bridges Kokoleti (0.7 m), Akhiza (0.7 m), Tchvani (2.16 m), and other bridges, which only pedestrians or well-trained horseriders would be able to cross[41].

40 N. Berdzenishvili, *Sakartvelos istoriis sakitkhebi*, vol. I, Tbilisi, 1964, pp. 73-75.

41 More about these bridges: N. Kvezereli-Kopadze, *Sakartvelos dzveli khidebi*.

30. Tontio Bridge

* * *

The construction of bridges and roads in the Middle Ages, and not only then, was mainly related to the political, economic, social, and cultural strength and power of the state. In 1089, when 16-year-old David IV the Builder ascended to the throne of Georgia (1089–1125), the country was severely ravaged by the Seljuk Turks[42]. Thanks to the right political and military tactics, King David put the crippled country back on its feet, during his 36-year rule, managing to unite the disintegrated and annexed country, ban the Seljuks from Georgia, make Georgia the strongest state in the region, and expand the country's borders from Nikopsia to Daruband. His chronicler describes David's reconstruction work in the following way: "In addition to these, how many churches did he build, how many bridges over violent rivers, how many roads difficult of passage did he pave with stone, how many churches profaned by the heathen did he purify as houses of God?" [43].

The construction of churches and monasteries was one of the main activities in Medieval Georgia, the construction of which exemplified the

42 D. Rayfield, *Edge of Empires, A History of Georgia,* pp. 85-97.

43 *Rewriting Caucasian History, The Medieval Armenian Adaptation of the Georgian Chronicles,* The Original Georgian Texts and the Armenian Adaptation, translated with Introduction and Commentary by R.W. Thomson, Oxford, 2002 (reprinted), pp. 344-345.

31. Tontio Bridge

country's progress and prosperity. The construction of bridges and roads was also directly related to the country's political, cultural, and commercial development, emphasized in the words of King David's chronicler above, and this is why folk tradition attributes most of the bridges built in Georgia to the reign and activities of his descendant Queen Tamar (1166-1213) - the Rkoni Bridge, the Makhuntseti, Dandalo, Purtio and the Cholaburi bridges (although the latter belongs to the late Middle Ages).

Tamar ascended to the throne in 1179 as a co-regent of her father, George III, and ruled the country independently after his death in 1184. Her reign is called the "Golden Age," during which time, Georgia was the most powerful state in the Caucasus, its influence extending to a large area of neighboring countries. In Tamar's time, the country was at the highest political, economic, social, and cultural levels of development[44]. Thus, Tamar's era is still associated with a period of reconstruction among the people, and one will find many places in the country related to her name. Most of the medieval bridges on the territory of historical Georgia are called "Tamar's Bridges" by the locals, and legends about the construction have been preserved.

44 D. Rayfield, *Edge of Empires, A History of Georgia,* pp. 107-117.

32. Tontio Bridge

An old stone arch bridge on the Tchorokhi river, near Artvin (at present in Turkey), was pulled down in 1893 to construct a new bridge. The locals claimed that the bridge was built "in Queen Tamar's time"[45]. The three-span stone bridge between Artvin and Artanuj, at the confluence of the rivers Tchorokhi and Imerkhevi, is also referred to as "Tamar's Bridge". In the newspaper "Sakhalkho Gazeti", there is information about this bridge: "I am being shown a bridge and told that it was built by Queen Tamar... a bridge made at that time could not have been demolished if not by force. Queen Tamar ordered one stone to be cemented to the other, and the stones obeyed her orders"[46].

The name of Queen Tamar is also associated with the construction of the bridge near the Rkoni Monastery (Figs. 34-36). This bridge is not mentioned in any written source, and, therefore, its construction cannot

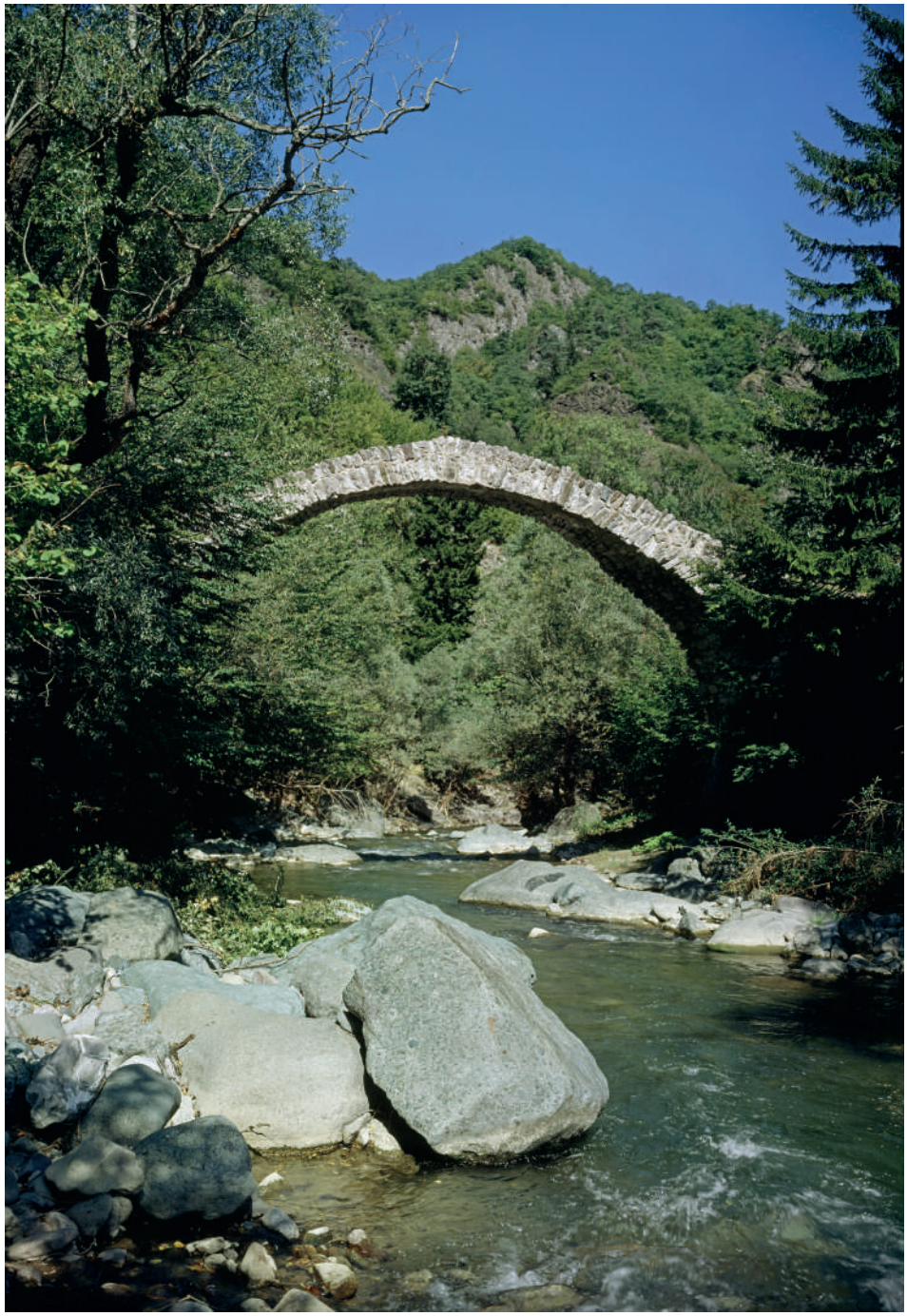
45 *Iveria*, November 8, N237, 1894.

46 *Sakhalkho Gazeti*, January 26, N780, 1917.

33. Tontio Bridge

be directly related to Queen Tamar. However, based on its architecture, character, and quality of construction, it was likely built in the 12th-13th centuries. The bridge is located on the territory of the Rkoni monastery complex (Kaspi district, eastern Georgia), west of the monastery buildings on the River Tedzami. The main buildings of different periods of the monastery complex (churches, monks' dwellings, and refectory) are all located on the left bank of the river, while to the south of the monastery complex, on the right bank of the river, about 400 metres up, is the St. Svimeon's (Simeon Stylites) tower. The bridge most likely was used by the monastery brotherhood. The narrow, single-span 12.5x2 metre bridge was built using crushed stones and lime mortar. The abutments on both banks were built into a natural rock base.[47]

47 N. Kvezereli-Kopadze, *Sakartvelos dzveli khidebi*, p. 24; *Sakartvelos istoriisa da kulturis dzeglta agtseriloba,* vol. 5, 1990, Tbilisi, pp. 188-189, photo and sketch 205.



34. Rkoni Bridge

35. Rkoni Bridge

According to the law book of King Vakhtang the VI, only kings had the right to build bridges over large rivers: "Only the king and not noblemen have the right to build bridges on large waters. In the same way, the noblemen cannot wear the king's garments unless given or ordered to do so by the king"[48]. The governors of the bridge were local noblemen, but, without the permission of the king, no-one had the right to build bridges over large and important rivers. Yet over small rivers and places with no strategic, political, cultural, or commercial significance, not only noblemen but also locals could build simple structures to cross.

A folk tale attributes the construction of the single-span bridge on the River Korena (one of the tributaries of the River Tskaltsitela in the village of Tcholevi, above the Gelati bridge, western Georgia) to an old woman (Figs. 37-39). According to the legend, "in the rainy season, when the river was flooded, the passengers travelling to Okriba had to overcome serious

48 N. Kvezereli-Kopadze, *Sakartvelos dzveli khidebi,* p. 170.

36. Rkoni Bridge

difficulties, especially when crossing the river. The river claimed the lives of several people annually. At the shallow of the river, an older woman begged for alms. When she had collected enough money, she built a stone bridge over the river. In her honour, the bridge was named the 'Old Woman's Bridge'"[49].

A rocky site was selected to support this single-span bridge, on which the supporting abutments were erected. The arch is flat and slightly pointed towards the centre. Crushed stone was used as the building material; rectangular pieces of almost the same size are specially arranged in two rows to shape the arch (Fig. 38). The bridge is thought to have been built in the 17th century and widened later (Fig. 39).

In the Middle Ages, the building of bridges was considered an essential and honourable job, and was even mentioned in the fiction of the period. For example, Avtandil, one of the main protagonists in the epic poem "The Knight in the Panther's Skin", written by Georgian poet Shota Rustaveli

49 N. Kvezereli-Kopadze, *Sakartvelos dzveli khidebi*, p. 101.

37. Korena Bridge

in the 12th century, wishes in his will for his property to be spent on the construction of shelters and bridges: "give part to build orphan homes, part to build bridges".

Special attention was paid to the maintenance of the already built bridges, evidenced by surviving legal texts of the Late Middle Ages. King Vakhtang VI of Kartli (1675-1737) compiled a collection of Georgian state laws in 1707-1709, called *The Book of Law*. This book includes legislative material written in different periods and compiled by Vakhtang VI. Special attention is drawn to the paragraph which mentions the maintenance of roads. According to this paragraph, the care of the bridge in the village of Karsani was entrusted to the Zumbuladzes, and the maintenance of nearby bridges was entrusted to the local population from the villages of Doesi and Kvakhvreli[50]. It is known that the Gedevanishvili family of Mtskheta was assigned care of the Bridge of the Magi in the late Middle Ages.

50 *Sakartvelos samartlis dzeglebi,* texts prepared for publication, research, dictionaries and index by I. Surguladze, Tbilisi, 1970, pp. 532-533.

38. Korena Bridge

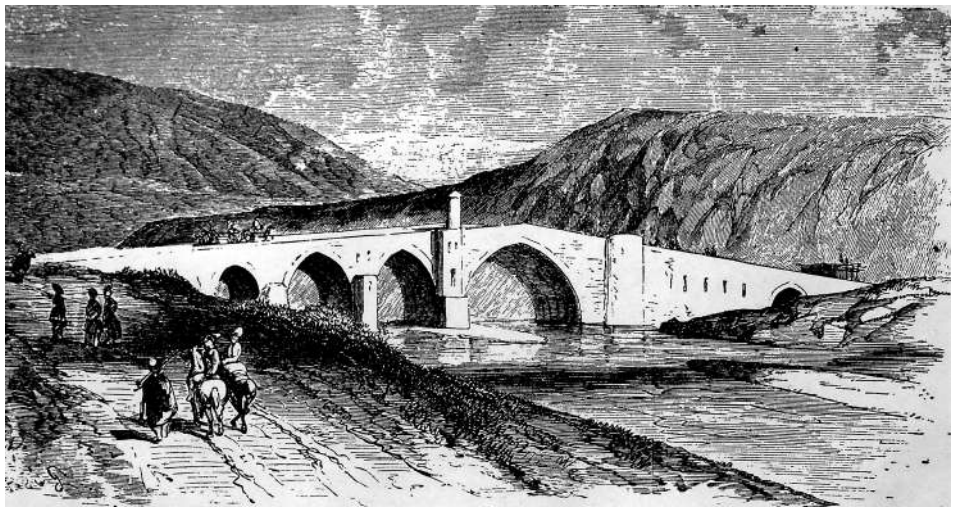
A person or village responsible for the maintenance of a bridge was officially exempt from some taxes. As their duty was to take care of the bridges, repair them in case of damage, and keep them in good condition, money owed to a local nobleman or king was instead spent on maintaining the bridges. Some local legends refer to the maintenance of bridges. A. Merkviladze writes that, according to a legend, in the abutments of the Cholaburi Bridge were buried jugs full of Georgian Tetris to pay for the expenses in case of damage. However, the exact location of the money was not mentioned so as not to tempt the greedy to destroy the bridge in their search for it[51].

The three-span Cholaburi Bridge is located in the village of Tchalatke, on the River Cholaburi (one of the tributaries of the River Kvirila) (Fig. 28). The road connecting Kartli and Imereti passed through there, and

51 Sofeli Tchalatke, Khalkhuri leksebi da gamotsanebi tsarmodgenili Ap. Merkviladzis mier, in: *Akakis tviuri krebuli*, X, October, Kutaisi, 1899, pp. 19-20.

39. Korena Bridge

the bridge also served that highway. Based on the construction and architectural techniques applied, it is thought the bridge was constructed in the 17th century. It is built on a specially selected narrow section of the river, where the banks are the closest to each other. On one side, the arch is built on a rock, while on the other, it rests on a specially built abutment. Both rectangular piers in the central span have semi-circular high cutwaters. The main span of the bridge is much higher than the side spans (2 m), therefore, the bridge is elevated towards the centre and slopes towards the banks. The length of the central span of the bridge is 13.8 m; the right-side span is 6.5 m, and the left span is 5.5 m. The total length of the bridge is



40. Red Bridge, Drawing by Florent Gille

around 40 metres. The width of the bridge carriageway is different in size - it is narrow towards the central part and widens at the banks[52].

Parsadan Gorgijanidze, a contemporary of King Rostom of Kartli (1633-1658), describes the construction of a bridge by the king. He writes: "King Rostom built a bridge over the Upper Debada on the Ganja Road. A village and caravanserai were also built so that travellers would not have to worry about dwelling and ready-made food. The King went to the city with the Queen and the nobles to cross that bridge and see the caravanserai and the village, and stayed there"[53]. Monk Egnatashvili, a Georgian historian of the early 18th century, emphasised the construction work carried out by King Rostom: "And he built the Holy Catholic Church, the dome of Mtskheta and some other churches, and rebuilt the Broken Bridge"[54].

The construction known as the "Broken Bridge" (or the Red Bridge) was built in the 17th century (most probably between 1640-1653), approxi-

52 More about the bridge in N. Kvezereli-Kopadze, *Sakartvelos dzveli khidebi.*

53 S. Kakabadze, Parsadan gorgijanidzis istoria, *Saistorio moambe*, II, 1925, p. 262.

54 Beri Egnatashvili, *Akhali kartlis tskhovreba*, ed. by I. Javakhishvili, Tbilisi, 1940, p. 183.

41. Red Bridge

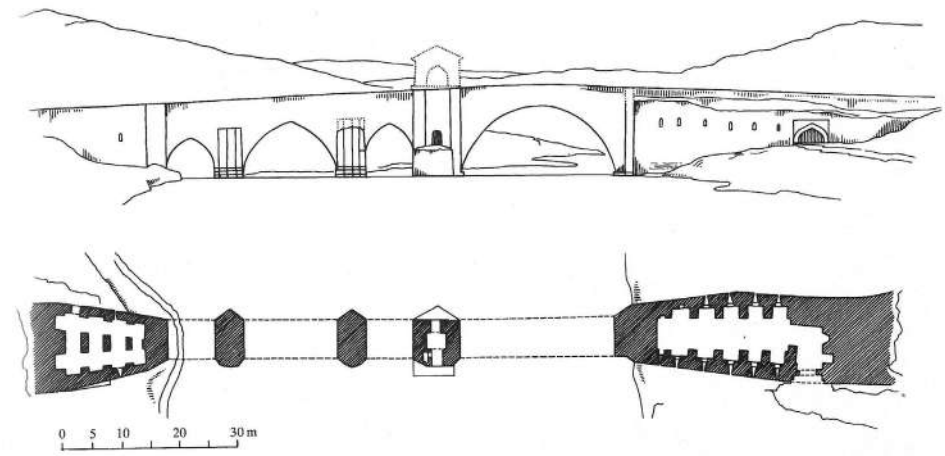
mately 57 km southeast of Tbilisi (Figs. 40-43)[55]. It is built on an old historical road, an important trade and strategic highway that connected Georgia with Armenia, Azerbaijan, and Iran[56]. Some 100 metres from this 17th c. bridge stands a stone bridge, an older one, with the remains of piers on both sides of the river. The surviving remnants of the piers are about 70 metres apart, which indicates that this bridge had at least three spans[57]. Presumably, this old bridge, which was likely demolished during the Arab invasion in the 8th century[58], was called the "Broken Bridge," and, later, the

55 N. Kvezereli-Kopadze, *Sakartvelos dzveli khidebi*, p. 14; R. Mepisaschwili, W. Zinzadze, *Georgien, Kirchen und Wehrbauten*, Leipzig, 1987, s. 73, pl. 109, 110; I. Tsitsishvili, *Kartuli khelovnebis istoria*, Tbilisi, 1995, p. 129; V. Beridze, *Kartuli khurotmodzgvrebis istoria*, vol. 1, Tbilisi, 2014, pp. 432-433; vol. 2, Tbilisi, 2014, pp. 35-36, pic. 449-450; L. Mikiashvili, Tsiteli (gatekhili) khidis aghtseriloba da misi punktsia XIX saukunis evropel mogzaurta nashromebis mikhedvit, in: *Between East and West, Iranian and French Authors about 19th Century Georgia,* Tbilisi 2018, p. 129.

56 V. Beridze, *Kartuli khurotmodzgvrebis istoria*, pp. 432-433.

57 These remnants were still visible in the 1860s. Although, later, the pier situated on the territory of Azerbaijan was demolished due to the construction of a restaurant. The abutment in the Georgian territory was also partially covered due to construction works - N. Kvezereli-Kopadze, Antikuri khanis ori khidi sakartveloshi, *Dzeglis megobari*, N27-28, 1971, p. 40.

58 N. Kvezereli-Kopadze, Antikuri khanis ori khidi..., p. 40.



42. Red Bridge, by R. Mepisashvili, V. Tsintsadze

same name was given to the newly-built 17th c. bridge as well. In the 19th c. the new bridge was named the "Red Bridge" by the Russians, because of the red bricks employed as a building material[59]. The "Broken Bridge" consists of four arches of flat Georgian bricks (22 x 22 x 4 cm). Carved tiles of andesite (so-called Algeti stone) were used to pave the piers. The carriageway of the bridge is 4.3 metres wide in the centre, and towards the entrances, it widens to 12.4 metres. The largest span of the bridge is 26.1 metres, followed by a 16.1 metre span, while the length of the other two spans is around 8 m. The total length of the bridge is 173 metres[60].

Additionally, the bridge had the function of a caravanserai. The caravanserai rooms were located at the edges of the bridge, close to the left and right abutments. There was also a small room with a dome and a fireplace on the middle pier. This room would have had wooden balconies on both sides of the bridge (today, only hollows are left, in which the wooden pillars were placed). Muqarnases were abundantly used to decorate the room, which could be reached from the carriageway of the bridge via a winding stone staircase. The relatively small domed room would likely have been inhabited by a watchman or customs

59 N. Kvezereli-Kopadze, Antikuri khanis ori khidi..., p. 40.

60 N. Kvezereli-Kopadze, *Sakartvelos dzveli khidebi*, p. 14.

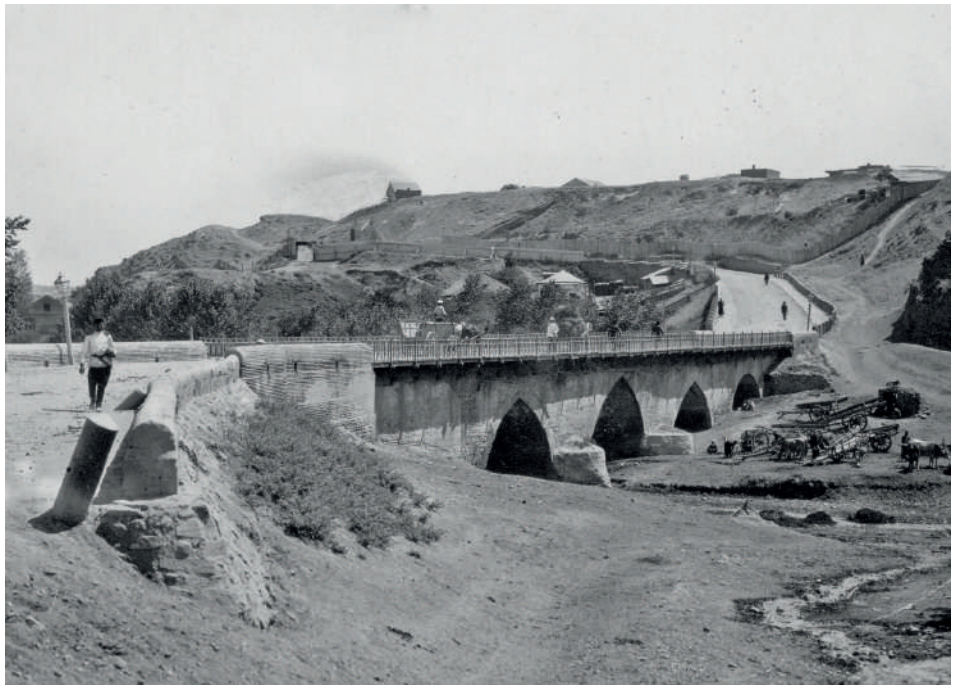
43. Red Bridge

officer, while the rooms located in the abutments would have been utilized as a caravanserai[61]. The bridge has survived with minor damage, and its original appearance can be seen on an engraving created by Florent Gille in 1857.

The construction of the bridge over the River Vere is also attributed to King Rostom's reign[62]. Currently, the bridge is in ruins. Located then outside Tbilisi's borders, the bridge was built in the 1740s by Khoja

61 N. Kvezereli-Kopadze, *Sakartvelos dzveli khidebi,* pp. 13-14; I. Tsitsishvili, *Kartuli khelovnebis istoria*, p. 129.

62 N. Kvezereli-Kopadze, Tbilisis dzveli kvis khidi mdinare vereze, *Dzeglis Megobari*, N37, 1975, pp. 14-26.



44. Vera Bridge

Behbud (Fig. 44), the Governor of the Mint, *Zaraptukhutsesi,* of Rostom, on an old caravan road. According to the charter of the Tbilisi Sioni dated to 1289, King Demetre II the Self-Sacrificer (1279-1289) built a caravanserai in the place and donated it, together with other villages, to the Tbilisi Sioni Cathedral[63]. That first bridge is thought to have been functional until the 17th century, and was rebuilt during the reign of King Rostom. His bridge was four-span, three of which had a pointed arch, while the fourth was rebuilt in 1863 and was semicircular. The total length of the bridge was 70 m., and its width was 5.7 m. All four spans were of different sizes and heights; the largest span was 9.5 metres long, the side spans were 7.8 m, and the semicircular span was 5.9 m[64].

63 T. Zhordania, *Kronikebi da skhva masala sakartvelos istoriisa da mtserlobisa,* vol. II, Tiflis, 1897, p. 167.

64 N. Kvezereli-Kopadze, Tbilisis dzveli kvis khidi..., pp. 14-26.

45. Besleti Bridge

The Vera Bridge was built of brick and quarry stone. In the central arch of this bridge were two parallel arched spaces with a purely structural function. In this way, the weight of the span cover and its impact on the wall was lightened. The Vera Bridge in Tbilisi was partially rebuilt in 1856, and then a new bridge was built near it in 1932 which led to the old bridge losing its function. Finally, in 1981, a large part of it was demolished during the reconstruction of Heroes' Square.

In the 16th-17th centuries, Georgia divided into separate kingdoms was under constant attack by Iran and Turkey, both of whom sought to establish their dominance in the region, with Georgia the arena of their struggle[65]. During this period, many churches, palaces and fortresses were built in the kingdoms of Kartli and Kakheti which bear apparent

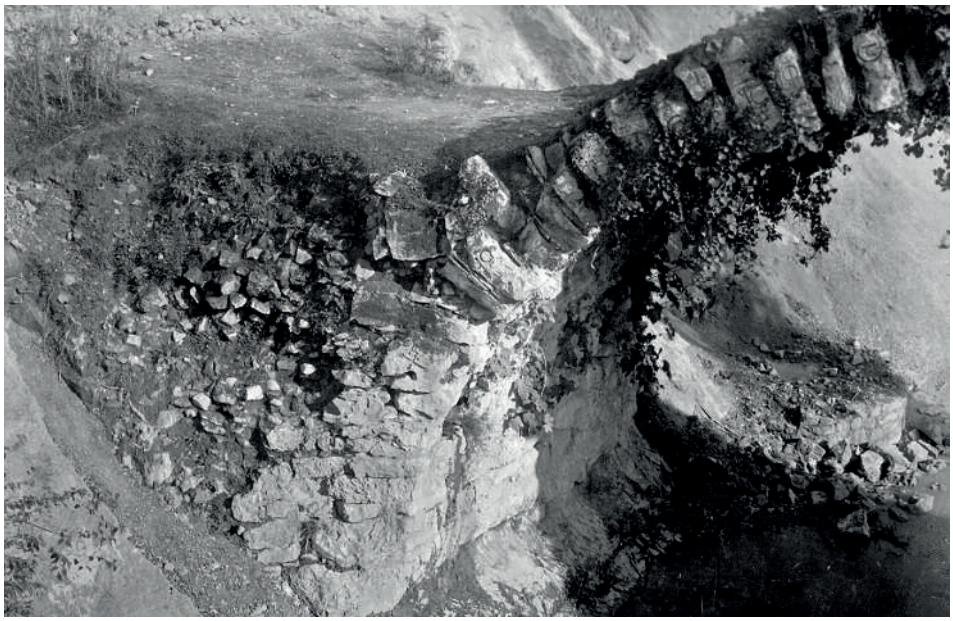
65 D. Rayfield, *Edge of Empires, A History of Georgia,* pp. 164-206.

46. Besleti Bridge

traces of the influence of Iranian architecture[66]. This influence was evident not only in architecture, but also in other fields of art[67]. "Although the Muslim Georgian kings were involved in national cultural activities, the construction and restoration of Christian churches, Iran still influenced Georgia both politically and culturally. Georgian poetry and book illumination of the period reveal traces of this influence (although, the opposite attitude is also seen), the indicator of which was the translation and diffusion of Iranian poetry (for instance, "Rostomyani"), the establishment of Persian customs in the royal family and aristocratic circles, and the acceptance of Persian clothes among society. Western Georgia, however, was mainly influenced by Turkey. As such, the Iranian

66 G. Chubinashvili, Iranskie vlianie v pamiatnikax arkhitektyri Gruzii, *III mejdunarodnih kongress po iranskomy iskusstvy i arkheologii*, Moscow-Leningrad, 1939; V. Beridze, XVI-XVIII saukuneebis khurotmodzgvreba, Tbilisi, 1983; V. Beridze, XVI-XVIII saukuneebis kartuli saeklesio khurotmodzgvreba, Tbilisi, 1994.

67 I. Khuskivadze, *Kartuli saero miniatura, XVI-XVIII saukuneebi,* Tbilisi, 1976; I. Khuskivadze, *Islam in Georgian Fine Arts and Architecture,* Tbilisi, 2018.



47. Besleti Bridge

influence should not be overestimated, as it was also territorially limited and only reached the lives of a certain social strata, their homes, and art products intended for them alone"[68].

Due to the political situation in Kartli and Kakheti, local art was indebted to the Iranian arts, a fact that was reflected in both ecclesiastical and secular architecture. The Iranian influence was particularly evident in the architecture of palaces, baths and caravanserais. In the aforementioned design of the "Broken Bridge," the impact of Iran is also apparent. In this period, brick was actively used as a building material, and this is "clearly related to the influx of Iranian influence in the construction works led by high society"[69]. The "Broken Bridge" is strongly related to the Iranian bridges in its architectural design: "As well as pointed arches, decorative motifs and the use of bricks as a building material, combination of the functions of a bridge

68 V. Beridze, *Kartuli khurotmodzgvrebis istoria*, vol. 1, p. 382.

69 V. Beridze, *Kartuli khurotmodzgvrebis istoria*, vol. 1, p. 432.

48. Tchishura Bridge

and an inn too came from Iran. In the time of the Safavids, such bridges (only on a much larger scale) were widespread in Iran"[70]. Thus, the Iranian bridges were likely used as a model by the builder of the "Broken Bridge." [71]

* * *

There are only two surviving medieval bridges in Georgia on which contemporary-to-the-period construction inscriptions are visible. These bridges are over the rivers Besleti and Tchishura.

The Besleti Bridge is built on the River Besleti which flows between the villages of Kvemo Birtskha and Besleti, about 8 kilometres northeast of Sukhumi (Abkhazeti, western Georgia, occupied region by Russia since 1992) (Fig. 45-47)[72]. It is a single-span bridge built of various sizes of rough-

70 V. Beridze, *Kartuli khurotmodzgvrebis istoria*, vol. 1, p. 433.

71 V. Beridze, *Dzveli kartuli khurotmodzgvreba*, Tbilisi, 1974, p. 186.

72 L. Rcheulishvili, N. Chubinashvili, XI-XII saukuneebis khidi mdinare besletze, in: *Shota rustavelis epokis materialuri kulturis dzeglebi,* Tbilisi, 1938, pp. 267-282; R. Mepisaschwili, W. Zinzadze, *Georgien, Kirchen und Wehrbauten*, s. 73, pl. 113.

49. Tchishura Bridge

hewn stone held together with limestone mortar. Between the outer edge stones of the arch, bricks are also used as a building material. Stones of about 1 metre high and 30-35 cm wide are used in the semicircular arch of the bridge. The length of the bridge span is 13.30 m, while the total distance of the construction equals 35 m. The width of the bridge carriageway is 4.7 m[73]. Both bridge abutments extend towards the banks of the river, creating a blunt angle to the direction of the current, which reduces the pressure of the water on the piers.

A one-line inscription in the Asomtavruli alphabet was placed along the entire length of the arch of the bridge (Fig. 46). The letters are carved on stones of one-meter size placed in the arch. The last part of the inscription is missing, and its content cannot be fully restored, but, from the context, it is clear that it must have mentioned a high-ranking person. Based on a paleographic analysis, Teimuraz Barnaveli concludes that the inscription

73 V. Beridze, *Dzveli kartuli khurotmodzgvreba*, p. 167.

50. Tchishura Bridge

was made at the turn of the 10th-11th centuries, namely during the reign of the first king of the Kingdom of Georgia, King Bagrat III (975-1014). Accordingly, the damaged inscription reads as follows[74]:

Christ, [Lord] of all, glorify [invincible] [king of kings Bagrat] in both earthly and heavenly worlds.

The assessment of the Besleti Bridge (authored by V. Marsov in the early 20th century) notes that, "The bridge is very strong. Not only could it be safely loaded with carts, but its strength also exceeds modern norms"[75]. According to the calculation, "an uninterrupted line of eight-ton vehicles can be transported on the bridge"[76]. The high-quality construction technique

74 T. Barnaveli, Besletis khidis tarigisatvis, *Matsne,* N6, 1970, pp. 139-144, fig. 1; *Dasavlet sakartvelos tsartserebi*, vol. I (9th-13th cc), compiled and prepared for publication by V. Silogava, Tbilisi, 1980, p. 73, fig. 50; L. Akhaladze, *Apkhazetis epigrapika, rogorts saistorio tskaro,* I, Tbilisi, 2005, pp. 180-182.

75 V. Beridze, *Kartuli khurotmodzgvrebis istoria*, vol. I, p. 206.

76 L. Rcheulishvili, N. Chubinashvili, XI-XII saukuneebis khidi mdinare besletze, pp. 269, 276.

51. Tchishura Bridge

and engineering calculations of the Besleti Bridge testify to the excellent engineering experience of bridge builders in Georgia.

The second bridge on which an inscription is still intact was built on the River Tchishura, near the village of Nagarevi (Imereti, western Georgia) (Figs. 48-51)[77]. This inscription reveals the name of the person who ordered the bridge and the exact date of the construction. The donor inscription is located at the top of the central rectangular pier, placed on two stone slabs (Fig. 51); the upper slab has an arched frame at the top and a three-line Asomtavruli inscription. The lower stone, of a relatively large area, carries a six-line inscription in Mkhedruli[78]:

God bless Gedeon of Genati, and whoever forgives him, may God also forgive you, Amen.

77 R. Mepisashvili, XVII saukunis khidi mdinare tchishuraze, *Sabtchota khelovneba,* N8, 1964, pp. 78-80; V. Beridze, *Kartuli khurotmodzgvrebis istoria*, vol. I, pp. 433-434.

78 R. Mepisashvili, XVII saukunis khidi mdinare tchishuraze, p. 80.

52. Khabelashvilebi Bridge

By the order of God, I, Gedeon Lortkipanidze of Genati, built this bridge for the salvation of my soul. Koronikon TNV (=1667).

Thus, it is known from the inscription that the bridge was built in 1667 by the order of the Archbishop of Gelati, Gedeon Lortkipanidze. In addition, from another historical document, it is revealed that the construction of another bridge, on the River Tskaltsitela, was begun on the same archbishop's initiative. However, he was unable to complete the task due to internal unrest[79].

The Tchishura Bridge is built of larger, rough-hewn local limestone. It is a two-span bridge consisting of one large, semicircular, slightly concave arch (of 8.1 m span length) and a small semicircular arch. Water would flow through the large span, and also through the small span if the water level rose. The central rectangular pier, located longitudinally to the flow, has a triangular cutwater on the downstream side. The bridge is still functioning today.

79 T. Zhordania, Kronikebi da skhva masala, p. 485

53. Khabelashvilebi Bridge

Discussing the significance of the Tchishura Bridge, Vakhtang Beridze notes: "This bridge is also important as a model for the strengthening of the tradition of national architecture in this field of construction. If all the bridges of eastern Georgia at that time (the Gochalu and Akhkerpi bridges, and not only the 'Broken Bridge') more or less reveal the Iranian influence, in that case, the ancestors of the Tchishura Bridge are Georgian bridges, which belong to the high medieval period, including the well-known Besleti Bridge located near Sukhumi. The building material, the outline and proportions of the middle span, the overall curved profile of the bridge, and the character of the masonry (not to mention the quality), have analogues there. This is an impressive example of the durability of types and construction techniques in bridge-building throughout the Middle Ages"[80].

80 V. Beridze, *Kartuli khurotmodzgvrebis istoria,* vol. I, p. 434.

54. Khabelashvilebi Bridge

* * *

As mentioned, wooden bridges were also built in Medieval Georgia. However, since wooden constructions cannot survive the severe hydrological conditions, the few remaining wooden bridges preserved in Georgia date only from the late Middle Ages. Some wooden bridges which survived to the mid-20th century no longer exist today, and remain only in sketches by various artists. In some cases, only their stone abutments have survived (as in the Makho Bridge discussed above), while not even a trace of the wooden crossing structure is visible or identifiable. In the 1930s, a wooden bridge was unearthed by archaeologist Boris Kuftin during excavations in the vicinity of Ochamchire (Abkhazeti, western Georgia, occupied by Russia since 1992); during the works, wooden piles belonging to the old bridge were also revealed[81].

81 B. Kuftin, *Materiali k arkheologii Kolkhidi, Arkheologicheskie iziskania v Rionskoi nizmennosti i na chernomorskom poberejie 1935 i 1936 godov*, vol. 2, Tbilisi, 1950, p. 260.

55. Khabelashvilebi Bridge

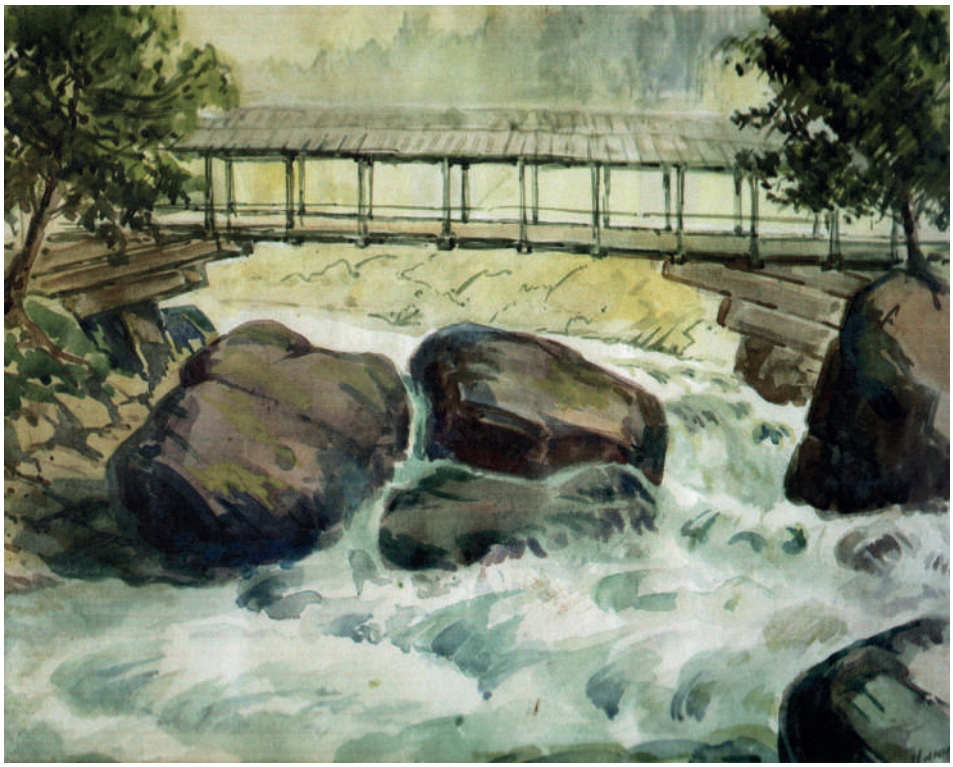
As suggested by Mikheil Garakanidze, wooden bridges were built by ordinary people, the rural population, and this tradition was passed down from generation to generation without any careful calculation. He also notes that "in each case, the practical usefulness of the construction concept seems to have been repeatedly tested on specially created models."[82]

One of the best examples (if not the only) of a surviving beam-console-type, covered wooden bridge is located in the village of Khabelashvilebi (Adjara, western Georgia) (Figs. 52-56). The bridge was likely built in

82 M. Garakanidze, *Grusinskoe dereviannoe zodchestvo*, Tbilisi, 1959, p. 107.

56. Khabelashvilebi Bridge

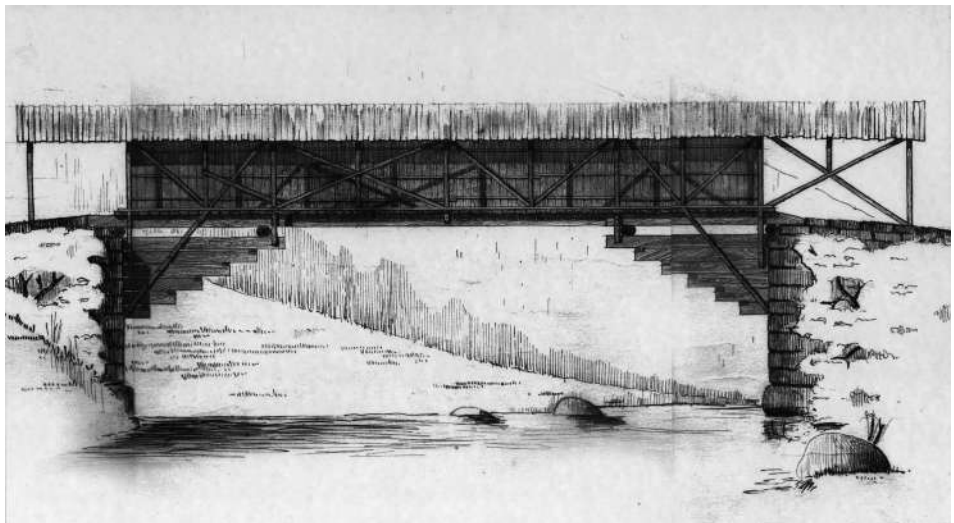
the 18th century and later repaired several times. In 2017, the bridge was restored, and the local population still uses it to cross the Naghvarevi River. The corners of the stone abutments are made of cleanly-cut blocks, while the walls are constructed using relatively rough-hewn stones, with lime mortar used as the bonding solution. A wooden (chestnut and yew) structure (Figs. 54-55) is built into the stone abutments. In order to artificially reduce the passage span, contributing to the safety and stability of the bridge, a system of gradual advancement towards the middle of the bridge of three horizontally fixed beams (consoles) is applied, seeing each inserted into the piers at four levels. The upper part of the bridge rests on the four-level consoles. Three large logs are used for the bases. Initially, alongside these three large logs, following damage, other, relatively smaller, wooden logs were inserted as well. On this structure, a wooden floor was arranged (Fig. 56). From the outset, for the roofing of the bridge, arched wooden beams were used, and parts of this old structure are still preserved.



57. Bridge in Kintrishi valley, Drawing by Valerian Iliushin

Several examples of wooden bridges were preserved until the 1960s and 70s. However, we can only discuss them based on surviving sketches. A painting by Valerian Iliushin shows a covered bridge in the Kintrishi Gorge (Adjara, western Georgia) (Fig. 57). The carriageway leans on diagonal, square-cut logs arranged in three rows, and is protected by a gable roof.

A sketch of a covered bridge that was located in the village of Zeraboseli (Adjara, western Georgia), made by A. Epitashvili in 1961, can be considered a close parallel to the Khabelashvilebi Bridge (Fig. 58). In this case, a six-story system of wooden consoles embedded in stone abutments was employed. The picture shows that the gable roof was made of wood. One longitudinal side of the Zeraboseli Bridge had wooden boards, while the other side was left open. There was also a covered wooden beam-console type wooden bridge in the Merisi Valley,



58. Zeraboseli Bridge, A. Epitashvili

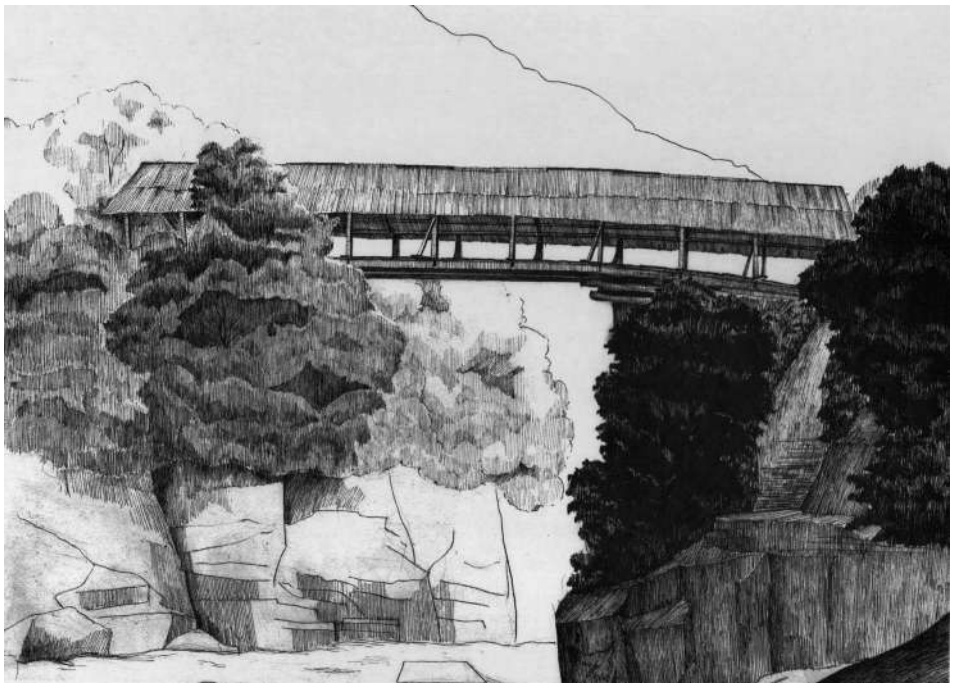
visible in a painting by V. Poplavskaya in 1959 (Fig. 59).

Construction of a wooden bridge is mentioned in correspondence, dated 1795, between the wife of King Erekle II of Kartli-Kakheti, Queen Darejan (1734-1807), and the Court Administrator (*Sakhltukhutsesi*[83]) Ioseb Korghanashvili[84]. According to the letter, Korghanashvili was instructed by Darejan to build a wooden bridge, and he periodically reported to her on its progress. The description provided by Korghanashvili shows that a console-beam wooden bridge was under construction, but from the correspondence, it is unclear which bridge they were constructing.

Besides such bridges, suspension bridges were also widespread in west and east Georgia. Vakhushti Bagrationi describes a bridge of this type in Odishi, Megrelia. According to the author, because of an unpredictable river, neither a stone nor wooden bridge could survive the rising waters, and so the local people wove a pedestrian bridge from a grapevine to connect one bank of the river to the other. The handrails were also made of vine. Because

83 A high official at the court of a King or a nobleman in Late Medieval Georgia, who carried out economic, financial, and administrative functions.

84 *Sakartvelos sidzveleni,* ed. E. Takaishvili, vol. III, Tiflis, 1910, pp. 356-362.



59. Bridge in Merisi valley, V. Poplavskaia

the bridge was suspended, it shook when the locals walked on it. Vakhushti Bagrationi mentioned that such bridges were quite common in Odishi, and were referred to as "*bondi*"[85].

As can be seen, the few specimens of medieval stone or wooden bridges that remain show that Georgia had a developed culture of bridge-building. This is not surprising, seeing as, since ancient times, Georgian builders had been using wood and stone for various purposes and, as such, seem to have been well-versed in the properties of these building materials and to have mastered sophisticated processing techniques. This fact is clearly evidenced by the solidly-built arches of the currently functioning bridges, built in the 10th-12th centuries in Adjara, discussed above. Georgia's medieval stone bridges are distinguished by the elegance and strength of their thin arches, which so often surprised foreign travellers and explorers. The surviving

85 Vakhushti Bagrationi, *Agtsera samefosa sakartvelosa (sakartvelos geographia),* p. 148.

medieval structures, be they stone or wooden bridges or aqueducts[86], are distinguished by sophisticated engineering and architectural solutions, and clearly show the continuous and long-standing tradition of construction of this type of structures in Georgia, as well as the high level of architectural thinking and construction traditions which were passed down from generation to generation.

86 There are two interesting examples of hydraulic engineering structures, of which only one has survived to this day in a more or less complete form. These are aqueducts built in the Late Middle Ages. One of the aqueducts, only a part of which is preserved (some 180 m), is located near the village of Ivlita, on the left bank of the River Potskhovi, 3 km northwest of Akhaltsikhe (south-west Georgia). Samtskhe-Saatabago was annexed by the Ottoman Empire in the 16th c., and in 1628, the Akhaltsikhe Pashalik was formed there. The centre of the Pashalik was Akhaltsikhe, with the Citadel and the so-called Rabat, a district of merchants and craftsmen. The aqueduct, which supplied drinking water to Rabat and the citadel of Akhaltsikhe, was built in the middle of the 18th century by order of Haji Ahmed-Pasha Jakeli (1745-1758), Beglarbeg of Akhaltsikhe (M. Brosset. *Rapports sur une voyage archéologique dans la Géorgie et dans l'Arménie*, *exécuté en 1847-1848,* IIe livraison, 2e rapport, St. Pétersbourg, 1851, pp. 139, 149). The aqueduct was 10 km long, of which only 180 meters of the wall is left close to the village of Ivlita (the aqueduct is up to 2 m wide and has a maximum height of 2.5 m high) (N. Gambashidze, G. Mindiashvili, *Comprehensive Technical Report on Archaeological Investigations at Site IV-238 Ivlita, KP 231, Akhaltsikhe District*, 2007).
The Akhaltsikhe aqueduct is an example of Ottoman architecture, unlike the second aqueduct, located in the village of Khovle (Kaspi district, eastern Georgia), the main construction of which has reached us in full. The aqueduct is built with crushed stone on a rocky slope. The aqueduct is 30 meters long, 9 meters high and 1.1 meters wide. The Zeskhevi Tskali flows through the middle of the pointed arch, which is 4.3 meters high (G. Bagrationi, Akveduki anu belghari "kvakhida" – sofel khovlestan, *Dzeglis megobari*, N1, 1992, pp. 51-53). On either side of it are arched openings of various sizes, which have a constructive, discharging function. Ceramic water pipes were laid on the upper part of the aqueduct, and at the beginning and end of the aqueduct, water jars for sedimentation were buried. According to G. Bagrationi, the architectural forms, building quality and construction technique find similarities with other late medieval Georgian bridges, such as the "Broken Bridge," Cholaburi Bridge, Gochule Bridge over the river Mashavera, and so on. Based on this, Bagrationi dates the Khovle aqueduct to the 17th-18th centuries. It seems to have been one of the main parts of the water supply system of the local noblemen, the Javakhishvili family (G. Bagrationi, Akveduki anu belghari "kvakhida", pp. 51-53).

PHOTOGRAPHIC CREDITS

George Chubinashvili National Research Centre for Georgian Art History and Heritage Preservation – Figs. 17, 18, 34, 41

National Agency for Cultural Heritage Preservation of Georgia – Figs 5, 12, 34, 46 (Photo by I. Gingeldorf), 47 (Photo by I. Gingeldorf)

Digital Library Iverieli – Figs. 1 (Dimitri Ermakov), 2 (Dimitri Ermakov), 3 (Dimitri Ermakov), 9, 25

Teimuraz Barnaveli Archive – Fig. 45

Natalia Chitishvili – Figs. 8, 14, 16, 19, 20, 21, 31, 32, 33, 36, 37, 38, 39, 48, 50, 51, 52, 53, 54, 55, 56.

Giorgi Patashuri – Figs. 6, 7, 10

Goga Chanadiri – Figs. 4, 15, 23, 24, 26, 35

Buba Kudava – Fig. 22

Giorgi Barisashvili – Figs. 13, 49

Kukuri Metreveli – Figs. 27, 29, 30

Neli Chakvetadze – Fig. 43

Florent Gille – Fig. 40

Valerian Iliushin– Fig. 57

A. Epitashvili – Fig. 58

V. Poplavskaia – Fig. 59

Rusudan Mepisashvili, Ana Gogelia – Fig. 11

R. Mepisaschwili, W. Zinzadze, *Georgien, Kirchen und Wehrbauten*, Leipzig, 1987, pl. 109 – Fig. 42

BIBLIOGRAPHY

Akhaladze L., *Apkhazetis epigrapika, rogorts saistorio tskaro*, I, Tbilisi, 2005.

Vakhushti Bagrationi, *Agtsera sameposa sakartvelosa (sakartvelos geographia)*, eds. T. Lomouri, N. Berdzenishvili, Tbilisi, 1941.

Barnaveli T., Besletis khidis tarigisatvis, *Matsne*, N6, 1970, pp. 139-144.

Ioane Batonishvili, *Kalmasoba*, ed. R. Loladze, I, Tbilisi, 1990.

Bedukadze S., Kiris damzadeba da misi gamokeneba msheneblobashi, *Sakartvelos sakhelmtsifo muzeumis moambe*, XX-B, 1959, pp. 259-271.

Berdzenishvili N., *Sakartvelos istoriis sakitkhebi,* vol. 1, Tbilisi, 1964.

Beridze V., *Dzveli kartuli khurotmodzgvreba*, Tbilisi, 1974.

Beridze V., *Kartuli khurotmodzgvrebis istoria*, vols. 1-2, Tbilisi, 2014.

Beridze V., *XVI-XVIII saukuneebis kartuli saeklesio khurotmodzgvreba*, Tbilisi, 1994.

Beridze V., *XVI-XVIII saukuneebis khurotmodzgvreba*, Tbilisi, 1983.

Bogomolov N., Albanskie vorota, *Kavkaz*, 8/11, №11, 1850.

Braund D., *Georgia in Antiquity. A History of Colchis and Transcaucasian Iberia, 550 B.C. – A.D. 562,* Oxford, 1994.

Chubinashvili G., Iranskie vlianie v pamiatnikax arkhitektyri Gruzii, *III mejdunarodnih kongress po iranskomy iskusstvy i arkheologii,* Moscow-Leningrad, 1939.

Cooper A., *Bridges, Law and Power in Medieval England 700-1400,* Boydell Press, 2006.

Dasavlet sakartvelos tsartserebi, (9th-13th cc), vol. 1, compiled and prepared for publication by V. Silogava, Tbilisi, 1980.

Beri Egnatashvili, *Akhali kartlis tskhovreba*, ed. I. Javakhishvili, Tbilisi, 1940.

Fingarova G., Late Byzantine Bridges as Markers of Imagined Landscapes, *Levant, The Journal of the Council for British Research in the Levant*, vol. 51, N. 2, 2019, pp. 151-168.

Gamba J. F.*, Voyage dans la Russie méridionale, et particuliérement dans les provinces situées au-delà du Caucase, fait depuis 1820 jusqu'en 1824*, tome premier, Paris, 1826.

Garakanidze M., *Grusinskoe dereviannoe zodchestvo*, Tbilisi, 1959.

Geaney M., Timber Bridges in Medieval Ireland, *The Journal of Irish Archaeology*, vol. 25, 2016, pp. 89-104.

Harrison D., *The Bridges of Medieval England, Transport and Society 400-1800,* Oxford, 2007.

Iveria, November 8, N237, 1894.

Jaoshvili V., Tsikhe-kalaki shorapani, *Dzeglis megobari*, N52, 1979, pp. 31-35.

Juansher Juansheriani, The Life of Vakhtang Gorgasali, in: *Kartlis Tskhovreba, A History of Georgia,* Editor-in-Chief S. Jones, Tbilisi, 2014.

Kakabadze S., Parsadan gorgijanidzis istoria, *Saistorio moambe*, II, 1925.

Khuskivadze I., *Kartuli saero miniatura, XVI-XVIII saukuneebi*, Tbilisi, 1976.

Khuskivadze I., *Islam in Georgian Fine Arts and Architecture,* Tbilisi, 2018.

Kuftin B., Materiali k arkheologii Kolkhidi, *Arkheologicheskie iziskania v Rionskoi nizmennosti i na chernomorskom poberejie 1935 i 1936 godov,* vol. 2, Tbilisi, 1950.

Kutaisi, Old Georgian Cities and Towns, eds. M. Bulia, M. Janjalia, Tbilisi, 2006.

Kvezereli-Kopadze N., Antikuri khanis ori khidi sakartveloshi, *Dzeglis megobari*, N27-28, 1971, pp. 37-41.

Kvezereli-Kopadze N., *Sakartvelos dzveli khidebi*, Tbilisi, 1972.

Kvezereli-Kopadze N., Tbilisis dzveli kvis khidi mdinare vereze, *Dzeglis Megobari*, N37, 1975, pp. 14-26.

Kvezereli-Kopadze N., *Tbilisis khidebi,* Tbilisi, 1961.

Lanchava O., *Kutaisis arkeologia*, Kutaisi, 2015.

Lomidze Ts., Jinvalis karibtchisa da khidiskuris kvlevis shedegebi, in: *Jinvalis ekspeditsia (pirveli sametsniero sesiis mokle angarishi)*, Tbilisi, 1975.

Macharadze V., *Aspindzis brdzola*, Tbilisi, 1957.

Mamuladze Sh., Tshorokhis kvemodinebis (maradid-borchkhis monakvetis) sagzao, sasimagro nagebobebi da dzveli gzebi, in: *Batumis Shota Rustavelis sakhelmtsipo universitetis krebuli,* N8, Batumi, 2014, pp. 120-133.

Mepisashvili R., XVII saukunis khidi mdinare tchishuraze, *Sabtchota khelovneba*, N8, 1964, pp. 78-80.

Mepisaschwili R., Zinzadze W., *Georgien, Kirchen und Wehrbauten*, Leipzig, 1987.

Mgzavri, Mgzavris shenishvnebi, *Kvali*, N32, 1894.

Mikiashvili L., Tsiteli (gatekhili) khidis aghtseriloba da misi punktsia XIX saukunis evropel mogzaurta nashromebis mikhedvit, in: *Between East and West, Iranian and French Authors about 19th Century Georgia*, Tbilisi, 2018, pp. 124-135.

Partov D., Maślak M., Ivanov R., Petkov M., Sergeev D., Dimitrova A., The Development of Wooden Bridges through the Ages – A Review of Selected Examples of Heritage Objects. Part 1 – The Milestones, *Technical Transactions, Civil Engineering*, 2-B, 2016, pp. 93-105.

Rayfield D., *Edge of Empires, A History of Georgia*, London, 2012.

Rcheulishvili L., Chubinashvili N., XI-XII saukuneebis khidi mdinare besletze, in: *Shota rustavelis epokis materialuri kulturis dzeglebi*, Tbilisi, 1938, pp. 265-268.

Rewriting Caucasian History, The Medieval Armenian Adaptation of the Georgian Chronicles, The Original Georgian Texts and the Armenian Adaptation, translated with Introduction and Commentary by R.W. Thomson, Oxford, 2002.

Rigold S.E., Structural Aspects of Medieval Timber Bridges, *Medieval Archaeology*, 19, 1975, pp. 48-91.

Sakartvelos istoriisa da kulturis dzeglta agtseriloba, vol. 5, Tbilisi, 1990.

Sakartvelos samartlis dzeglebi, texts prepared for publication, research, dictionaries and index by I. Surguladze, Tbilisi, 1970.

Sakartvelos sidzveleni, ed. E. Takaishvili, vol. III, Tiflis, 1910.

Sakhalkho gazeti, January 26, N780, 1917.

Sikharulidze I., *Atcharis materialuri kulturis dzeglebi*, Batumi, 1962.

Sofeli Tchalatke, Khalkhuri leksebi da gamotsanebi tsarmodgenili Ap. Merkviladzis mier, in: *Akakis tviuri krebuli*, X, October, Kutaisi, 1899.

Tsitsishvili I., *Kartuli khelovnebis istoria*, Tbilisi, 1995.

Tumanishvili D., Natsvlishvili N., Khoshtaria D., *Mshenebeli ostatebi shua saukuneebis sakartveloshi*, Tbilisi, 2012.

Voyages du Cheva Chevalier Chardin, en Perse, et autres lieux de L'Orient, Tome deuxième,

Paris, 1811.

Zakaraia P., *Nakalakar urbnisis khurotmodzgvreba*, Tbilisi, 1965.

Zhordania T., *Kronikebi da skhva masala sakartvelos istoriisa da mtserlobisa*, vol. II, Tiflis, 1897.

ARTANUJI

Artanuji Publishing
5, Chavchavadze Avenue
Tbilisi, Georgia
www.artanuji.ge info@artanuji.ge
☎ 2-25-05-22, 2-91-22-83, 5(93) 25-05-22.
გამომცემლობა არტანუჯი / Artanuji Publishing